

■ *Stormwater Management Report*

Mercer Mall
Lawrence Township
New Jersey

Prepared for:

FR Mercer Mall Fee Owner, LLC
909 Rose Ave., Suite 200
N. Bethesda, MD 20852

112210003

Original - 06/28/2024

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1. EXECUTIVE SUMMARY

FR Mercer Mall Fee Owner, LLC, seeks approval for construction of a convenience store. The purpose of this Stormwater Report is to analyze the existing and proposed drainage conditions on the project located in Lawrence Township, New Jersey.

The subject site, identified as Block 5201, Lots 32, 39, 40, 41.01, and 45.01, is a 45.03-acre parcel located in Lawrence Township, Mercer County, New Jersey; hereafter, referred to as the "Site". The Site has frontage and vehicular access along Quakerbridge Road (public roadway) to the east. The property is bounded by New Jersey State Highway Route 1 to the south and residential lots to the west and north. The property lies within the Highway Commercial (HC) district. The proposed project consists of the construction a 2,200 SF convenience store within the existing parking area of the Mercer Mall shopping center. Proposed site improvements will also include the installation of parking, utilities, landscaping, and stormwater management necessary to support the project.

The proposed development has disturbed one or more acres of land since February 2, 2004 and is therefore classified as a major development. As such, the site is subject to New Jersey Department of Environmental Protection (NJDEP) Rules and Regulations, specifically New Jersey Administrative Code (NJAC) Section 7:8 Stormwater Management, last revised March 2020. The proposed stormwater management system has been designed in accordance with these rules and regulations and the Lawrence Township Ordinance No. 2399-21 – Drainage and Storm Water Management (Storm Water Control Ordinance). The site has been analyzed only within the 38,993 SF Limit of Disturbance (LOD) for the proposed improvements.

The design summarized herein is compliant with NJAC 7:8-5.6 Stormwater Runoff Quantity Standards by meeting the requisite reductions to not exceed the pre-construction runoff hydrographs for the 2-, 10-, and 100-year storm event, at any point in time, with the post-construction runoff hydrographs for the same storm events.

The proposed improvements on the Site are compliant with NJAC 7:8-5.5 Water Quality Standards due to the net decrease in regulated Motor Vehicle Surface Area.

The improvements are compliant with NJAC 7:8-5.4 Groundwater Recharge Standards. The proposed improvements are considered a major development as one or more acres of land have been disturbed since February 2, 2004. The proposed stormwater management system was designed to comply Section 5.4 by recharging 100% of the Site's annual pre-construction groundwater recharge volume, achieved by reducing the total impervious coverage on site in the post-development condition. Please refer to the Groundwater Recharge Analysis provide in the appendix of this report.

2. DRAINAGE CONDITIONS

2.1 - Existing Conditions

The Project Site is located on a previously developed parcel which is bounded by Quakerbridge Road to the east, New Jersey State Highway Route 1 to the south, and residential lots to the west and north. The existing site is a mixed-use shopping center with multiple buildings and associated parking. Existing topography within the LOD generally slopes east to west at approximately 2%. The grades within the LOD range from 98' (NAVD 88) on the northeast side to 96' along the southwest side of the site. On-site runoff sheet flows through the parking area to existing inlets, where it is captured and conveyed through the existing stormwater system.

Refer to Appendix A Hydrologic Parameters. The existing hydrologic parameters and runoff curve number (CN) Value have been calculated based upon the NRCS TR-55 method and can be found within Appendix B Existing Hydrographs.

2.2 - Proposed Conditions

The development is proposing the construction a 2,200 SF convenience store within the existing parking area of the Mercer Mall shopping center. Proposed site improvements will also include the installation of parking, utilities, landscaping, and stormwater management necessary to support the project.

The proposed development will maintain the existing drainage patterns to the maximum extent practicable. The entirety of the LOD will be sheet flow to proposed inlets, which will then discharge into the existing stormwater conveyance system.

Refer to Appendix A Hydrologic Parameters. The proposed hydrologic parameters and runoff curve number (CN) Value have been calculated based upon the NRCS TR-55 method and can be found within Appendix C Proposed Hydrographs.

2.3 - Hydrologic/Hydraulic Analysis

2.3.1 Hydrology Methodology

The pre-development and post-development conditions of the Project Site within the LOD were evaluated in accordance with NJDEP Stormwater Management Rules. The assessment of stormwater runoff was modeled using USDA Soil Conservation Service (SCS) TR-55 Method. The site area was divided into sub-watersheds using requirements set forth in the NJDEP Stormwater Management Regulations. The SCS method developed with TR-55 models the drainage watershed's response to rainfall in the form of a rainfall (runoff) hydrograph. A drainage shed's response is dependent upon the individual parameters which affect runoff. These parameters include:

1. Storm rainfall amount
2. Watershed size and shape
3. Hydrologic soils group
4. Land use and treatment classification

For the Site Stormwater Management analysis, a HydroCAD v10.20 computer program developed by HydroCAD Software Solutions LLC was used. The program is modeled after the SCS, USDA TR-55 Program. The design storm depths were taken from the New Jersey 24 Hour Rainfall Frequency Data from the Engineering Field Handbook NJ Supplement. The NOAA Type C rainfall distribution was used because the Site is in the western portion of New Jersey. Combined with the rainfall distribution, this specifies the cumulative rainfall depth at all times during the storm.

For this study, a NOAA Type C, 24-hour rainfall distribution was used for storm durations for the 2-, 10-, and 100-year storm events. Accordingly, the rainfall amounts for Mercer County are as follows:

Table 2: Rainfall Amounts for Site Location in Mercer County, NJ

Storm Event (Return Period)	NJ 24-Hour Storm Rainfall Frequency Data
2 Year	3.31"
10 Year	5.01"
100 Year	8.33"

A NRCS Soils Map and Web Soil Survey report was generated for the watershed. The site was mapped as having the soil types and SCS hydrologic groups as follows:

Soil Symbol	Soil Series	Hydrologic Group Rating
SacA	Sassafras sandy loam, 0 to 2 percent slopes, Northern Coastal Plain	B
FamA	Fallsington sandy loams, 0 to 2 percent slopes, northern coastal plain	C
GKAWOB	Glassboro and Woodstown sandy loams, 0 to 5 percent slopes	A
FodB	Fort Mott loamy sand, 0 to 5 percent slopes	A

The runoff curve numbers (CN) used in the stormwater analyses were taken from NRCS TR-55 Tables 2-2a and 2-2c and incorporated into HydroCAD v10.20. The existing and proposed hydrologic conditions for the site were modeled based upon the pre- and post-development surfaces and the corresponding hydrologic soil groups.

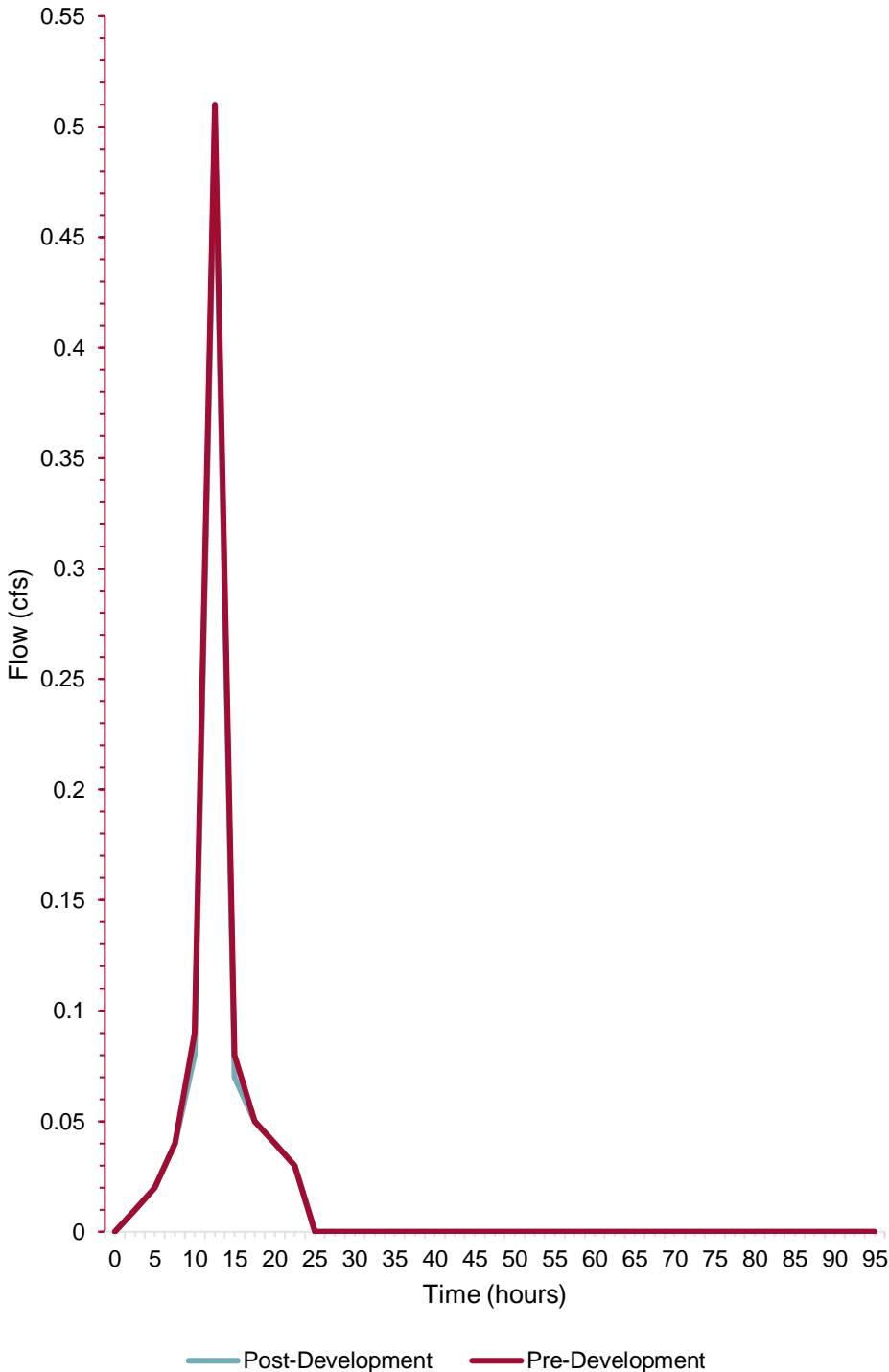
Stormwater Management Methodology

2.3.2 Water Quantity

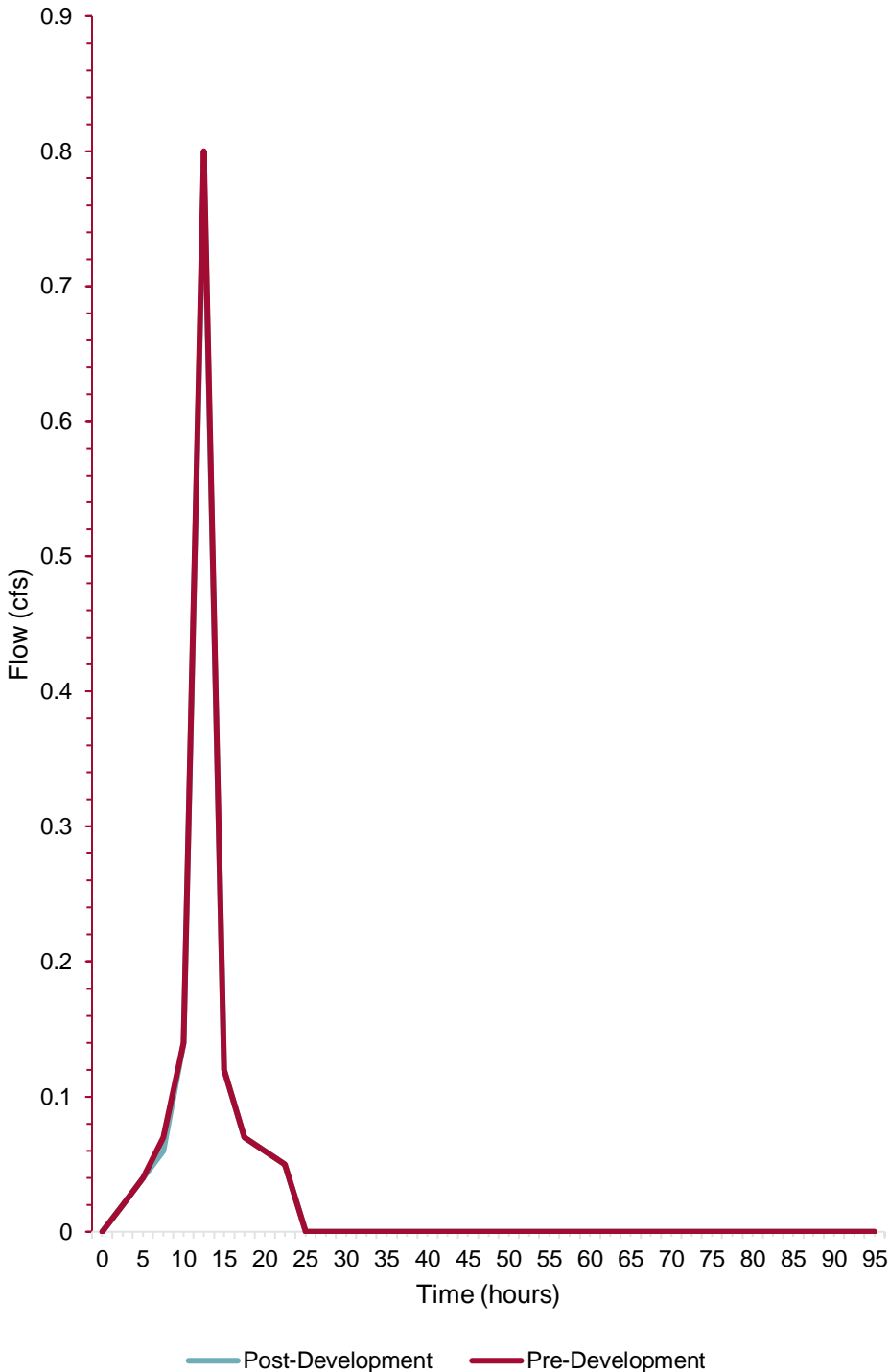
To comply with water quantity standards (NJAC 7:8-5.6), the proposed stormwater system has been designed to not exceed the pre-construction runoff hydrographs for the 2-, 10-, and 100-year storm event, at any point in time, with the post-construction runoff hydrographs for the same storm events.

The pre-development and post-development hydrographs for the analyzed area are as follows:

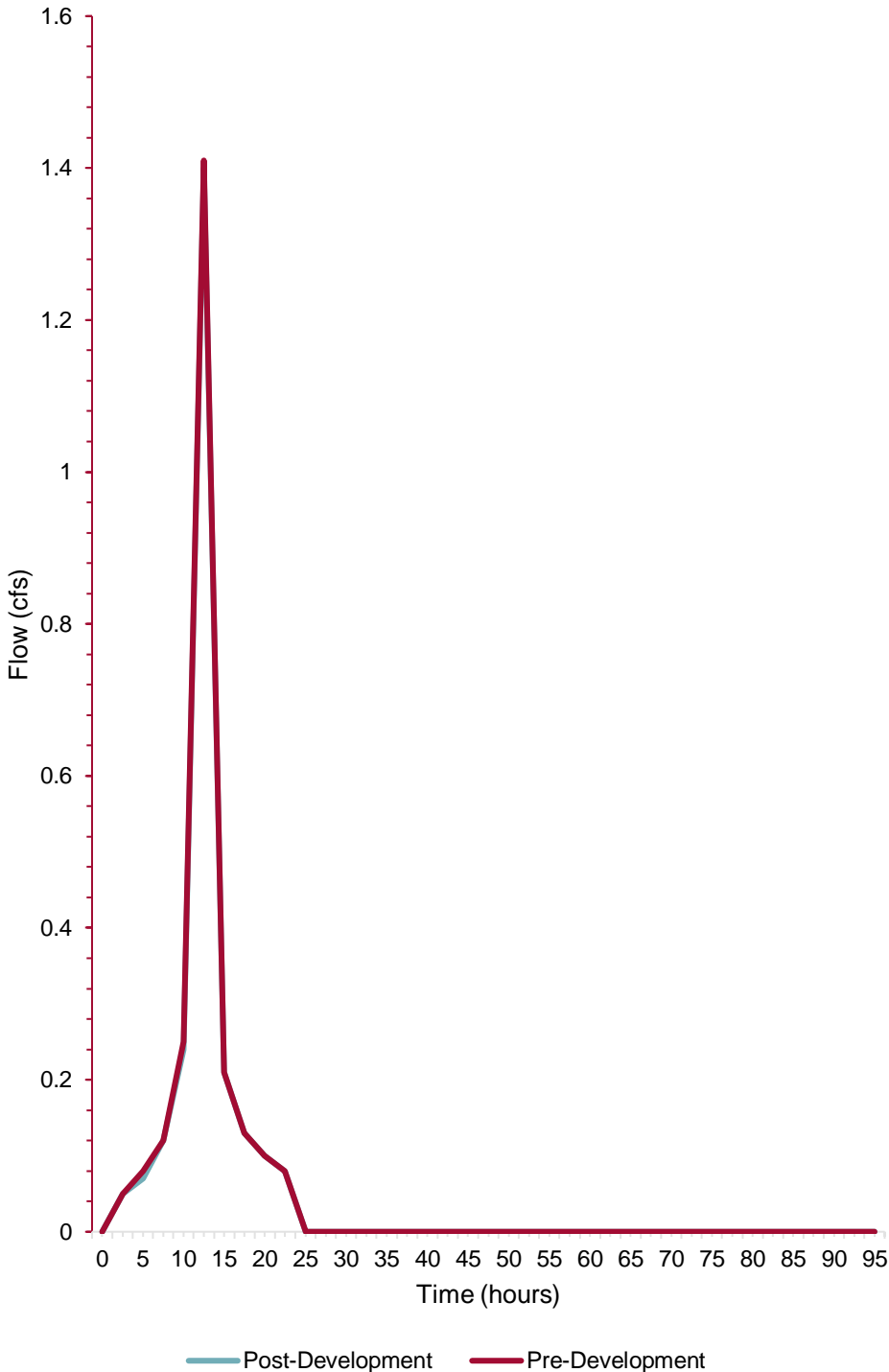
2-Year Storm Hydrographs



10-Year Storm Hydrographs



100-Year Storm Hydrographs



The post-development flows do not exceed the pre-development flows at any point in time and therefore is compliant with NJAC 7:8-5.6.

2.3.3 Water Quality

Per NJAC 7:8-5.5(a), stormwater management measures shall only be required for water quality control if an additional one-quarter acre of Motor Vehicle Surface Area is proposed in the post-construction conditions.

NJAC 7:8-5.5(a) defines Motor Vehicle Surface Area as:

"Motor vehicle surface" means any pervious or impervious surface that is intended to be used by "motor vehicles" and/or aircraft, and is directly exposed to precipitation including, but not limited to, driveways, parking areas, parking garages, roads, racetracks, and runways.

Large portions of the LOD are considered Motor Vehicle Surface area due to the existing parking area, covering an area of approximately 28,591 square feet. The proposed improvements on site will result in a net decrease in Motor Vehicle Surface Area of approximately 6,758 square feet. The total qualifying area including access drives and parking lots totals approximately 21,833 square feet of regulated Motor Vehicle surface in the proposed condition. The proposed improvements on the Site are compliant with NJAC 7:8-5.5 due to this net decrease in regulated Motor Vehicle Surface Area.

2.3.4 Groundwater Recharge

NJAC 7:8-5.4 Groundwater Recharge Standards require that a major development project must include stormwater management measures to prevent the loss of groundwater recharge at the project site. Proposed developments must meet one of the following two requirements:

- (1) Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site - OR -
- (2) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater management runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.

The proposed development is a major development, and the proposed stormwater management system was designed to comply with requirement (1) above. The proposed improvements provide a net decrease in impervious area from the pre-construction conditions, resulting in an increased recharge volume for the site. The proposed design is compliant with the Groundwater Recharge requirements. The Groundwater Recharge Spreadsheet can be found in Appendix D of this report.

3. CONCLUSION

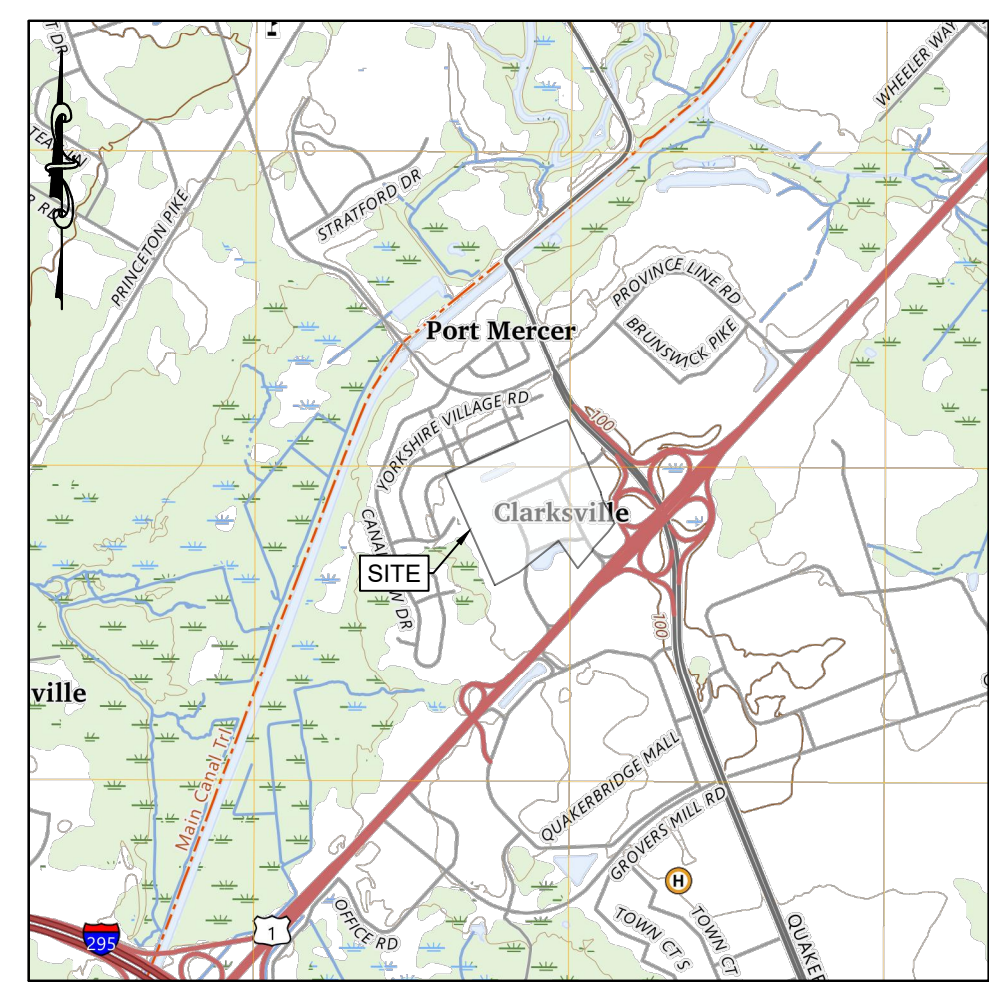
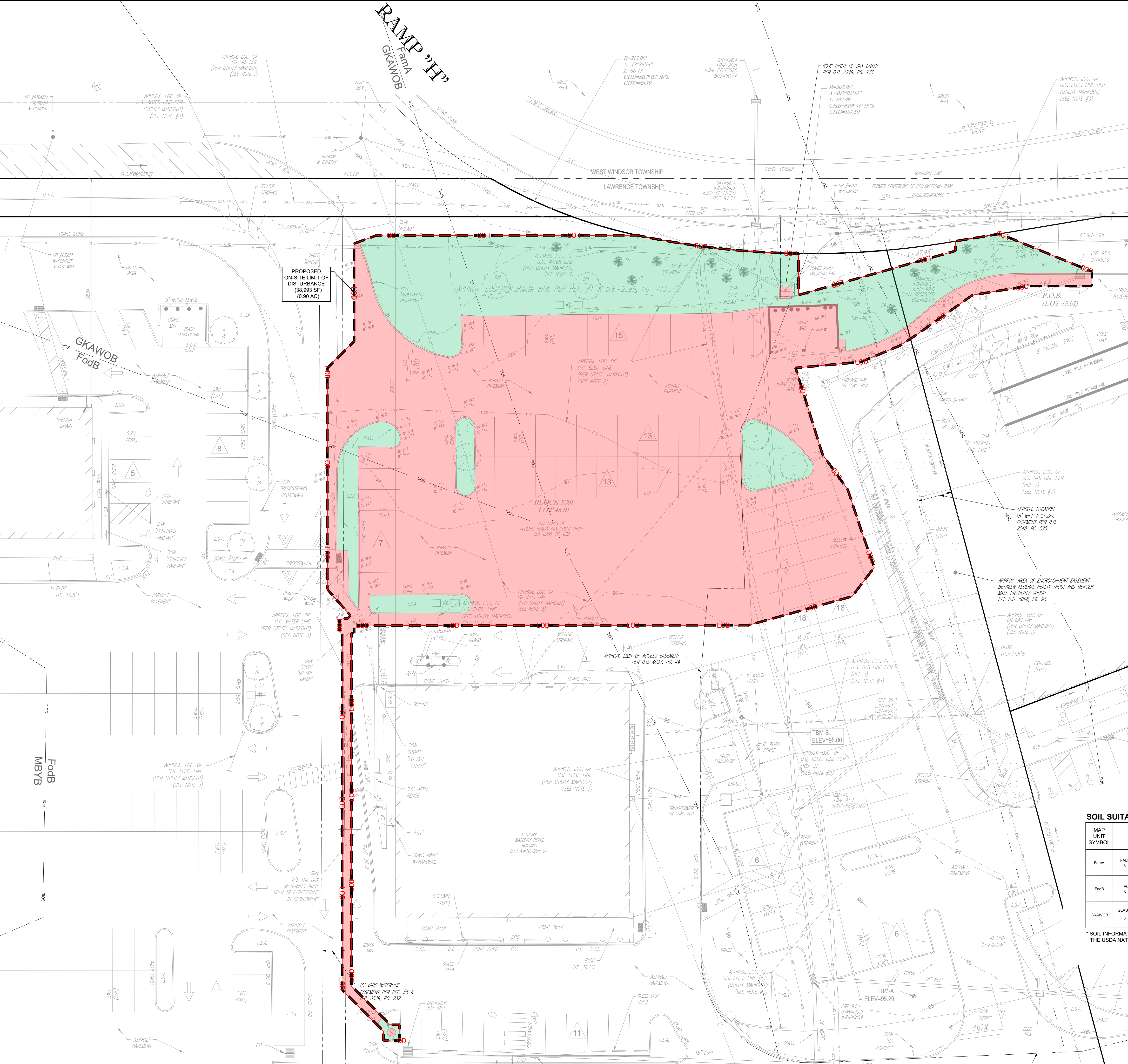
As a result of the proposed development, the existing drainage patterns will be maintained to the maximum extent practicable. The proposed stormwater management system has been designed to manage stormwater runoff in accordance with the rules and regulations set forth by NJAC, NJDEP and Lawrence Township. Specifically, the proposed reduction in impervious area will reduce the peak flow for the 2, 10, and 100-year storm frequencies to rates that meet or exceed the water quantity standards and will meet the groundwater recharge requirements. Water quality requirements are exempt based on a reduction in motor vehicle surface area.



APPENDICES

APPENDIX A – HYDROLOGIC PARAMETERS

This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



USGS MAP (PRINCETON QUADRANGLE)
SCALE: 1"=2,000'



SOILS MAP (USGS SOILS MAP AERIAL IMAGERY)
SCALE: 1"=500'

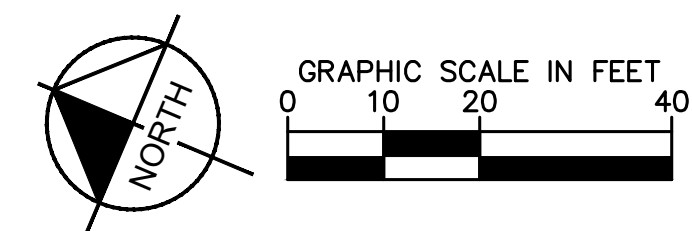
HATCH LEGEND

	DRAINAGE AREA LINE
	PROPOSED LIMIT OF DISTURBANCE
	PERVIOUS COVER
	IMPERVIOUS COVER

SOIL SUITABILITY AND CHARACTERISTICS

MAP SYMBOL	SOIL	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	FOR USE AS ROADFILL	FOR USE AS TOPSOIL	FOR USE AS GRAVEL	FOR USE AS SAND	HYDRIC SOILS	HYDRIC SOIL GROUP
FmA	FALLSINGTON SANDY LOAMS 0 TO 2 PERCENT SLOPES	0 TO 10 IN.	MORE THAN 80 IN.	FAIR	FAIR	POOR	FAIR	YES	CO
FoB	FORT MOTT LOAMY SAND 0 TO 5 PERCENT SLOPES	MORE THAN 80 IN.	20 TO 40 IN.	GOOD	FAIR	POOR	FAIR	N	A
GKAWOB	GLASSBORO AND WOODSTOWN SANDY LOAMS 0 TO 5 PERCENT SLOPES	0 TO 80 IN.	10 TO 90 IN.	FAIR	FAIR	POOR	FAIR	N	AD

* SOIL INFORMATION HAS BEEN OBTAINED FROM THE WEB SOIL SURVEY WHICH IS OPERATED BY THE USDA NATIONAL RESOURCES CONSERVATION SERVICE.



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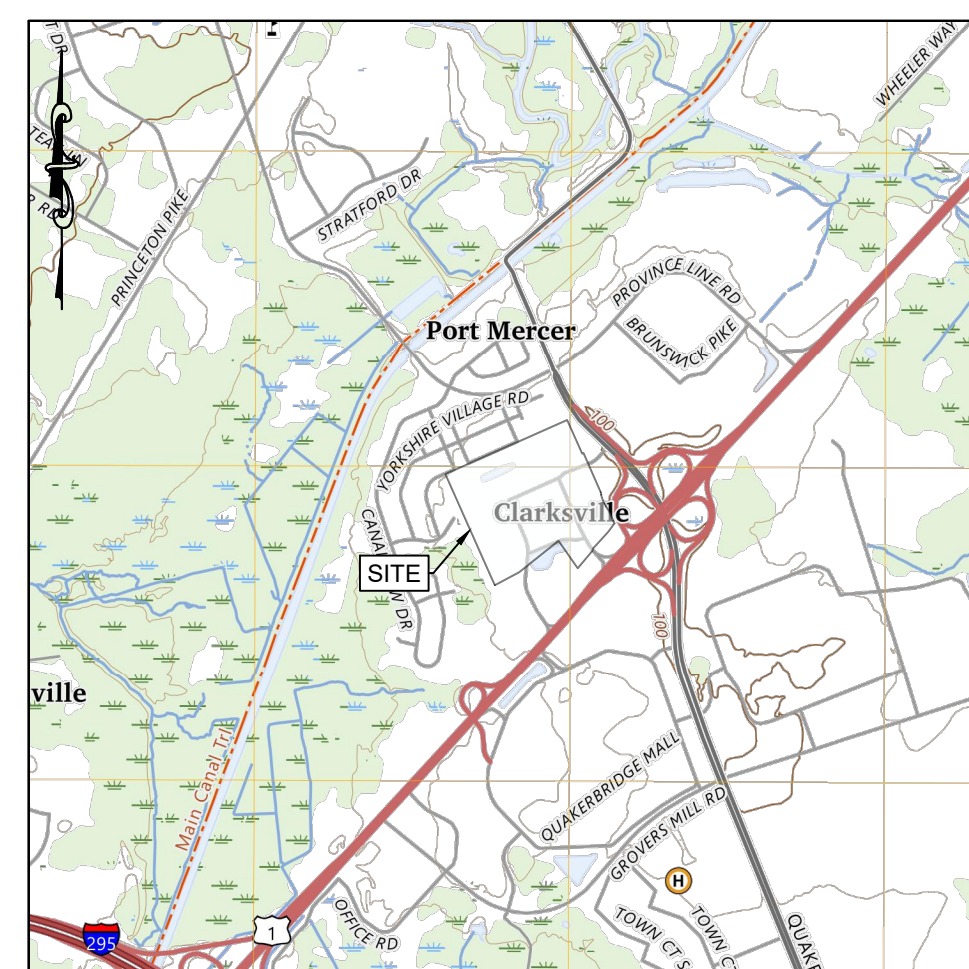
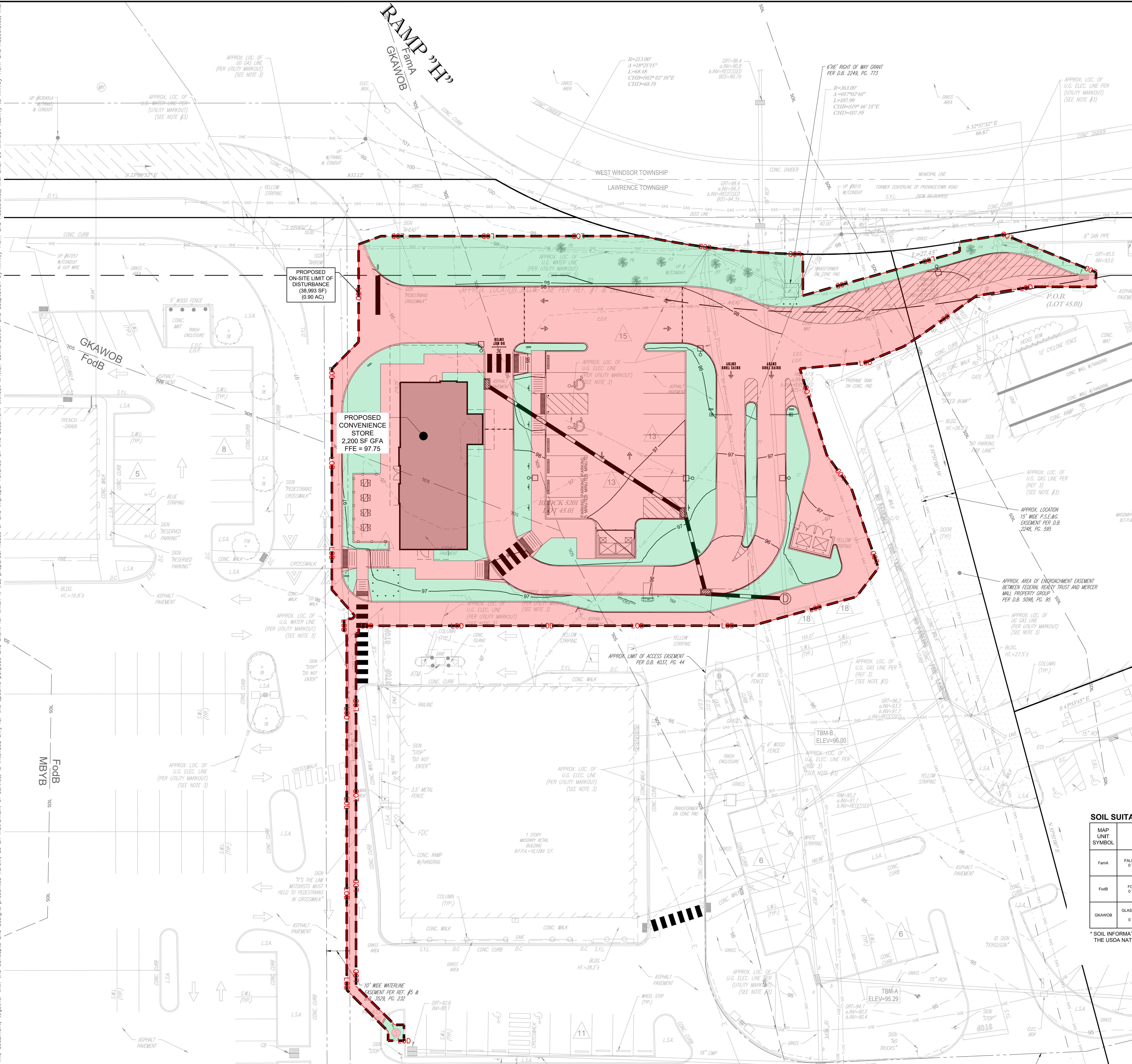
KHA PROJECT	112210003
DATE	12/12/2023
SCALE	AS SHOWN
DESIGNED BY	SLWG
DRAWN BY	JW
CHECKED BY	TMM

PRE-DEVELOPMENT DRAINAGE AREA MAP

PRELIMINARY/FINAL MAJOR SITE PLANS
N.J.S.H. ROUTE 1 & QUAKER BRIDGE ROAD
TAX MAP SHEETS 52.02 AND 52.03
BLOCK 5201, LOTS 32, 39, 40, 41, 01, AND 45.01
LAWRENCE TOWNSHIP NEW JERSEY

SHEET NUMBER
DA-1

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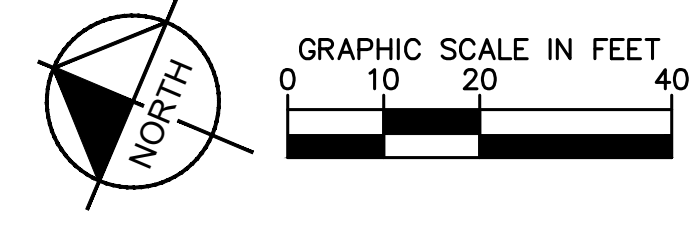
HATCH LEGEND

- LOD
- PROPOSED LIMIT OF DISTURBANCE
- PERVIOUS COVER
- IMPERVIOUS COVER
- DRAINAGE AREA LINE

SOIL SUITABILITY AND CHARACTERISTICS

MAP SYMBOL	SOIL	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	FOR USE AS ROADFILL	FOR USE AS TOPSOIL	FOR USE AS GRAVEL	FOR USE AS SAND	HYDRIC SOILS	HYDRIC SOIL GROUP
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FmB	FORT MOTT LOAMY SAND 0 TO 5 PERCENT SLOPES	MORE THAN 80 IN.	20 TO 40 IN.	GOOD	FAIR	POOR	FAIR	N	A
GKAWOB	GLASSBORO AND WOODSTOWN SANDY LOAMS 0 TO 5 PERCENT SLOPES	0 TO 80 IN.	10 TO 90 IN.	FAIR	FAIR	POOR	FAIR	N	AD

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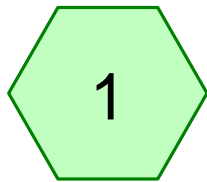
POST-DEVELOPMENT DRAINAGE AREA MAP

PRELIMINARY/FINAL MAJOR SITE PLANS
N.J.S.H. ROUTE 1 & QUAKER BRIDGE ROAD
TAX MAP SHEETS 52.02 AND 52.03
BLOCK 5201, LOTS 32, 39, 40, 41, 01, AND 45.01
LAWRENCE TOWNSHIP NEW JERSEY

SHEET NUMBER
DA-2

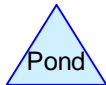
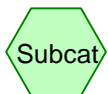


APPENDIX B – HYDROGRAPHS – EXISTING CONDITIONS



PRE-DEVELOPMENT
(INSIDE-LOD)

PRE-DEV



Routing Diagram for 112210003-SWM Design_Rev-1
Prepared by Kimley-Horn & Associates, Printed 6/27/2024
HydroCAD® 10.20-3c s/n 02344 © 2023 HydroCAD Software Solutions LLC

Summary for Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Runoff = 2.43 cfs @ 12.13 hrs, Volume= 7,936 cf, Depth= 2.44"
 Routed to Link PRE : PRE-DEV

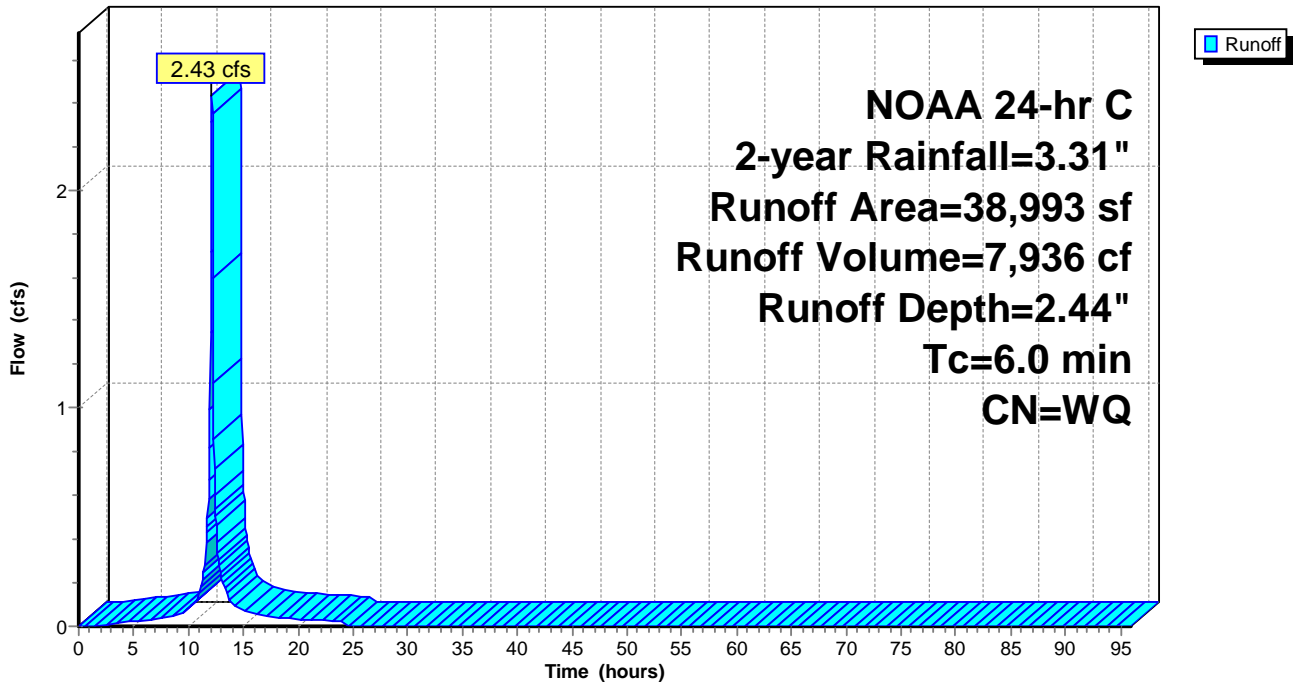
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 NOAA 24-hr C 2-year Rainfall=3.31"

Area (sf)	CN	Description
28,630	98	Paved parking, HSG A
1,367	61	>75% Grass cover, Good, HSG B
5,815	74	>75% Grass cover, Good, HSG C
3,181	39	>75% Grass cover, Good, HSG A
38,993		Weighted Average
10,363		26.58% Pervious Area
28,630		73.42% Impervious Area

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

Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Hydrograph



Hydrograph for Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	54.00	3.31	2.10	0.00
1.00	0.04	0.00	0.00	55.00	3.31	2.10	0.00
2.00	0.07	0.00	0.01	56.00	3.31	2.10	0.00
3.00	0.12	0.00	0.01	57.00	3.31	2.10	0.00
4.00	0.16	0.00	0.02	58.00	3.31	2.10	0.00
5.00	0.21	0.00	0.02	59.00	3.31	2.10	0.00
6.00	0.26	0.00	0.03	60.00	3.31	2.10	0.00
7.00	0.32	0.00	0.04	61.00	3.31	2.10	0.00
8.00	0.40	0.01	0.05	62.00	3.31	2.10	0.00
9.00	0.48	0.03	0.05	63.00	3.31	2.10	0.00
10.00	0.60	0.06	0.09	64.00	3.31	2.10	0.00
11.00	0.79	0.14	0.16	65.00	3.31	2.10	0.00
12.00	1.58	0.64	1.35	66.00	3.31	2.10	0.00
13.00	2.52	1.39	0.23	67.00	3.31	2.10	0.00
14.00	2.71	1.56	0.11	68.00	3.31	2.10	0.00
15.00	2.83	1.66	0.08	69.00	3.31	2.10	0.00
16.00	2.91	1.74	0.06	70.00	3.31	2.10	0.00
17.00	2.99	1.81	0.05	71.00	3.31	2.10	0.00
18.00	3.05	1.86	0.04	72.00	3.31	2.10	0.00
19.00	3.10	1.91	0.04	73.00	3.31	2.10	0.00
20.00	3.15	1.95	0.04	74.00	3.31	2.10	0.00
21.00	3.19	1.99	0.03	75.00	3.31	2.10	0.00
22.00	3.24	2.03	0.03	76.00	3.31	2.10	0.00
23.00	3.27	2.06	0.03	77.00	3.31	2.10	0.00
24.00	3.31	2.10	0.03	78.00	3.31	2.10	0.00
25.00	3.31	2.10	0.00	79.00	3.31	2.10	0.00
26.00	3.31	2.10	0.00	80.00	3.31	2.10	0.00
27.00	3.31	2.10	0.00	81.00	3.31	2.10	0.00
28.00	3.31	2.10	0.00	82.00	3.31	2.10	0.00
29.00	3.31	2.10	0.00	83.00	3.31	2.10	0.00
30.00	3.31	2.10	0.00	84.00	3.31	2.10	0.00
31.00	3.31	2.10	0.00	85.00	3.31	2.10	0.00
32.00	3.31	2.10	0.00	86.00	3.31	2.10	0.00
33.00	3.31	2.10	0.00	87.00	3.31	2.10	0.00
34.00	3.31	2.10	0.00	88.00	3.31	2.10	0.00
35.00	3.31	2.10	0.00	89.00	3.31	2.10	0.00
36.00	3.31	2.10	0.00	90.00	3.31	2.10	0.00
37.00	3.31	2.10	0.00	91.00	3.31	2.10	0.00
38.00	3.31	2.10	0.00	92.00	3.31	2.10	0.00
39.00	3.31	2.10	0.00	93.00	3.31	2.10	0.00
40.00	3.31	2.10	0.00	94.00	3.31	2.10	0.00
41.00	3.31	2.10	0.00	95.00	3.31	2.10	0.00
42.00	3.31	2.10	0.00	96.00	3.31	2.10	0.00
43.00	3.31	2.10	0.00				
44.00	3.31	2.10	0.00				
45.00	3.31	2.10	0.00				
46.00	3.31	2.10	0.00				
47.00	3.31	2.10	0.00				
48.00	3.31	2.10	0.00				
49.00	3.31	2.10	0.00				
50.00	3.31	2.10	0.00				
51.00	3.31	2.10	0.00				
52.00	3.31	2.10	0.00				
53.00	3.31	2.10	0.00				

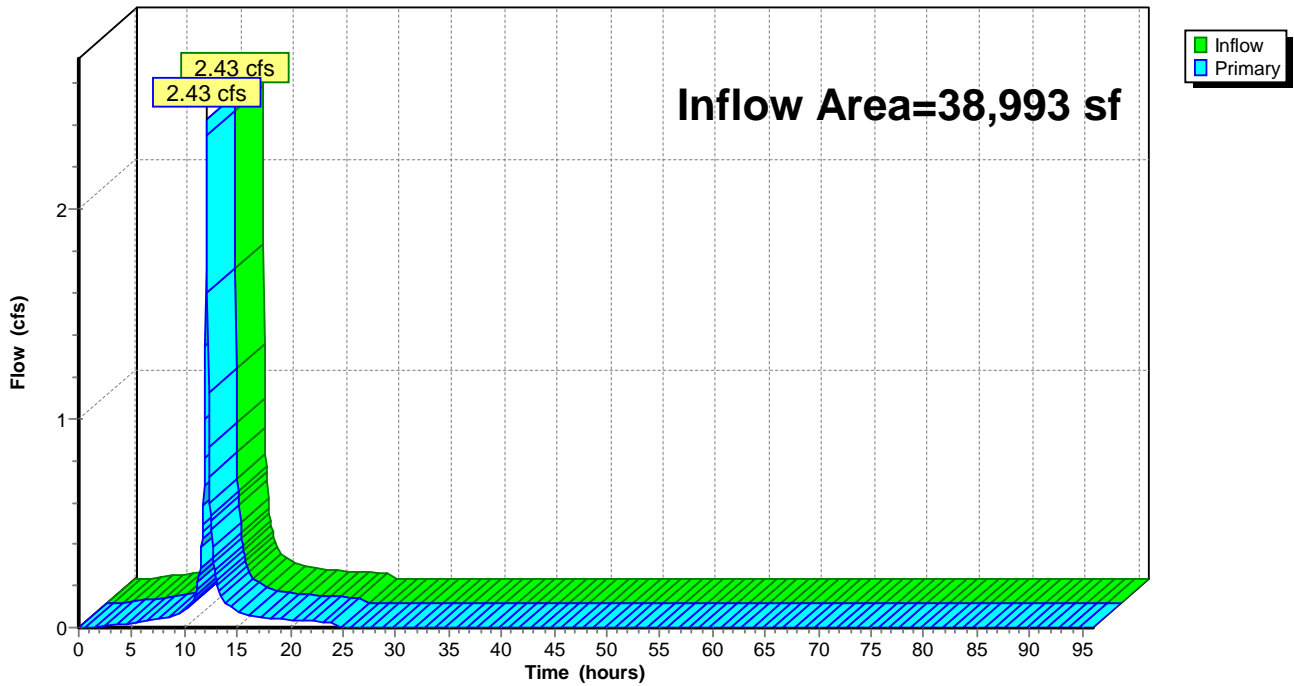
Summary for Link PRE: PRE-DEV

Inflow Area = 38,993 sf, 73.42% Impervious, Inflow Depth = 2.44" for 2-year event
Inflow = 2.43 cfs @ 12.13 hrs, Volume= 7,936 cf
Primary = 2.43 cfs @ 12.13 hrs, Volume= 7,936 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link PRE: PRE-DEV

Hydrograph



Hydrograph for Link PRE: PRE-DEV

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
2.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
4.00	0.02	0.00	0.02	58.00	0.00	0.00	0.00
5.00	0.02	0.00	0.02	59.00	0.00	0.00	0.00
6.00	0.03	0.00	0.03	60.00	0.00	0.00	0.00
7.00	0.04	0.00	0.04	61.00	0.00	0.00	0.00
8.00	0.05	0.00	0.05	62.00	0.00	0.00	0.00
9.00	0.05	0.00	0.05	63.00	0.00	0.00	0.00
10.00	0.09	0.00	0.09	64.00	0.00	0.00	0.00
11.00	0.16	0.00	0.16	65.00	0.00	0.00	0.00
12.00	1.35	0.00	1.35	66.00	0.00	0.00	0.00
13.00	0.23	0.00	0.23	67.00	0.00	0.00	0.00
14.00	0.11	0.00	0.11	68.00	0.00	0.00	0.00
15.00	0.08	0.00	0.08	69.00	0.00	0.00	0.00
16.00	0.06	0.00	0.06	70.00	0.00	0.00	0.00
17.00	0.05	0.00	0.05	71.00	0.00	0.00	0.00
18.00	0.04	0.00	0.04	72.00	0.00	0.00	0.00
19.00	0.04	0.00	0.04	73.00	0.00	0.00	0.00
20.00	0.04	0.00	0.04	74.00	0.00	0.00	0.00
21.00	0.03	0.00	0.03	75.00	0.00	0.00	0.00
22.00	0.03	0.00	0.03	76.00	0.00	0.00	0.00
23.00	0.03	0.00	0.03	77.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	78.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	79.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	80.00	0.00	0.00	0.00
27.00	0.00	0.00	0.00	81.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	82.00	0.00	0.00	0.00
29.00	0.00	0.00	0.00	83.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	84.00	0.00	0.00	0.00
31.00	0.00	0.00	0.00	85.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	86.00	0.00	0.00	0.00
33.00	0.00	0.00	0.00	87.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	88.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	89.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	90.00	0.00	0.00	0.00
37.00	0.00	0.00	0.00	91.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	92.00	0.00	0.00	0.00
39.00	0.00	0.00	0.00	93.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	94.00	0.00	0.00	0.00
41.00	0.00	0.00	0.00	95.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	96.00	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				
52.00	0.00	0.00	0.00				
53.00	0.00	0.00	0.00				

Summary for Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Runoff = 3.86 cfs @ 12.13 hrs, Volume= 12,748 cf, Depth= 3.92"
 Routed to Link PRE : PRE-DEV

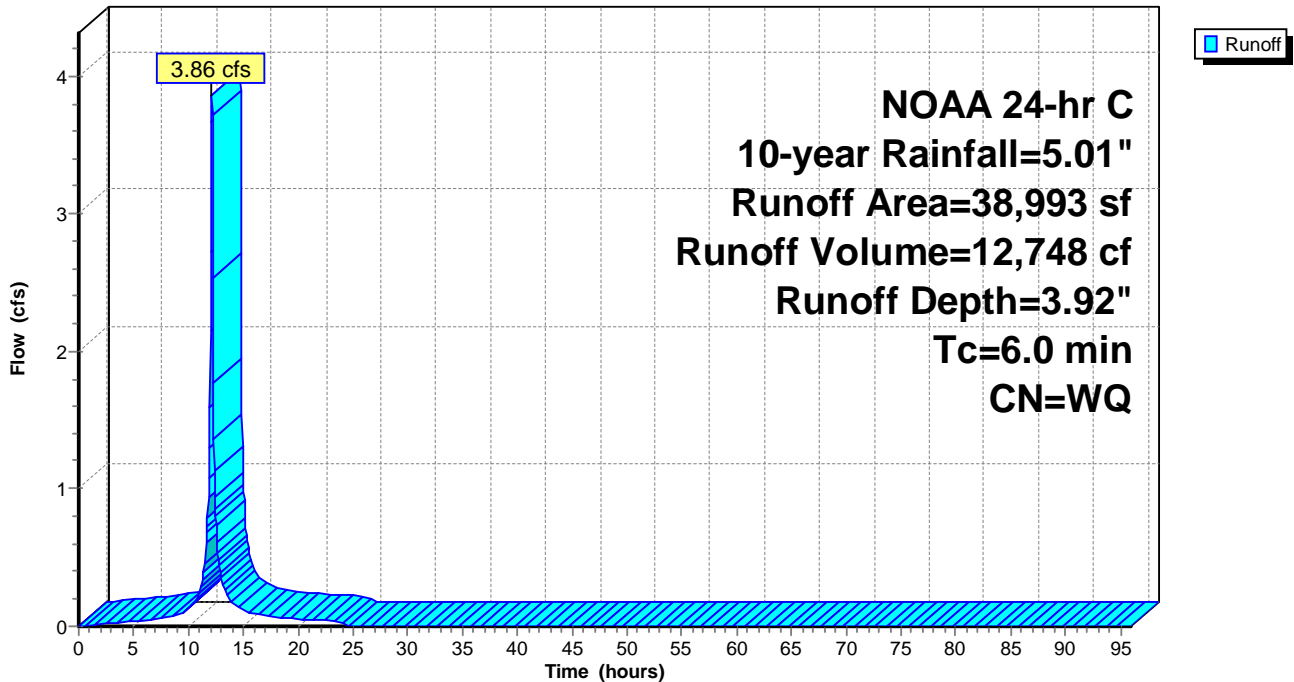
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 NOAA 24-hr C 10-year Rainfall=5.01"

Area (sf)	CN	Description
28,630	98	Paved parking, HSG A
1,367	61	>75% Grass cover, Good, HSG B
5,815	74	>75% Grass cover, Good, HSG C
3,181	39	>75% Grass cover, Good, HSG A
38,993		Weighted Average
10,363		26.58% Pervious Area
28,630		73.42% Impervious Area

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

Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Hydrograph



Hydrograph for Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	54.00	5.01	3.68	0.00
1.00	0.05	0.00	0.00	55.00	5.01	3.68	0.00
2.00	0.11	0.00	0.02	56.00	5.01	3.68	0.00
3.00	0.18	0.00	0.03	57.00	5.01	3.68	0.00
4.00	0.25	0.00	0.03	58.00	5.01	3.68	0.00
5.00	0.32	0.00	0.04	59.00	5.01	3.68	0.00
6.00	0.40	0.01	0.05	60.00	5.01	3.68	0.00
7.00	0.49	0.03	0.06	61.00	5.01	3.68	0.00
8.00	0.60	0.06	0.07	62.00	5.01	3.68	0.00
9.00	0.73	0.12	0.09	63.00	5.01	3.68	0.00
10.00	0.91	0.20	0.14	64.00	5.01	3.68	0.00
11.00	1.20	0.38	0.26	65.00	5.01	3.68	0.00
12.00	2.39	1.29	2.15	66.00	5.01	3.68	0.00
13.00	3.81	2.55	0.37	67.00	5.01	3.68	0.00
14.00	4.10	2.82	0.18	68.00	5.01	3.68	0.00
15.00	4.28	2.99	0.12	69.00	5.01	3.68	0.00
16.00	4.41	3.11	0.10	70.00	5.01	3.68	0.00
17.00	4.52	3.22	0.08	71.00	5.01	3.68	0.00
18.00	4.61	3.30	0.07	72.00	5.01	3.68	0.00
19.00	4.69	3.38	0.06	73.00	5.01	3.68	0.00
20.00	4.76	3.45	0.06	74.00	5.01	3.68	0.00
21.00	4.83	3.51	0.05	75.00	5.01	3.68	0.00
22.00	4.90	3.57	0.05	76.00	5.01	3.68	0.00
23.00	4.96	3.63	0.05	77.00	5.01	3.68	0.00
24.00	5.01	3.68	0.05	78.00	5.01	3.68	0.00
25.00	5.01	3.68	0.00	79.00	5.01	3.68	0.00
26.00	5.01	3.68	0.00	80.00	5.01	3.68	0.00
27.00	5.01	3.68	0.00	81.00	5.01	3.68	0.00
28.00	5.01	3.68	0.00	82.00	5.01	3.68	0.00
29.00	5.01	3.68	0.00	83.00	5.01	3.68	0.00
30.00	5.01	3.68	0.00	84.00	5.01	3.68	0.00
31.00	5.01	3.68	0.00	85.00	5.01	3.68	0.00
32.00	5.01	3.68	0.00	86.00	5.01	3.68	0.00
33.00	5.01	3.68	0.00	87.00	5.01	3.68	0.00
34.00	5.01	3.68	0.00	88.00	5.01	3.68	0.00
35.00	5.01	3.68	0.00	89.00	5.01	3.68	0.00
36.00	5.01	3.68	0.00	90.00	5.01	3.68	0.00
37.00	5.01	3.68	0.00	91.00	5.01	3.68	0.00
38.00	5.01	3.68	0.00	92.00	5.01	3.68	0.00
39.00	5.01	3.68	0.00	93.00	5.01	3.68	0.00
40.00	5.01	3.68	0.00	94.00	5.01	3.68	0.00
41.00	5.01	3.68	0.00	95.00	5.01	3.68	0.00
42.00	5.01	3.68	0.00	96.00	5.01	3.68	0.00
43.00	5.01	3.68	0.00				
44.00	5.01	3.68	0.00				
45.00	5.01	3.68	0.00				
46.00	5.01	3.68	0.00				
47.00	5.01	3.68	0.00				
48.00	5.01	3.68	0.00				
49.00	5.01	3.68	0.00				
50.00	5.01	3.68	0.00				
51.00	5.01	3.68	0.00				
52.00	5.01	3.68	0.00				
53.00	5.01	3.68	0.00				

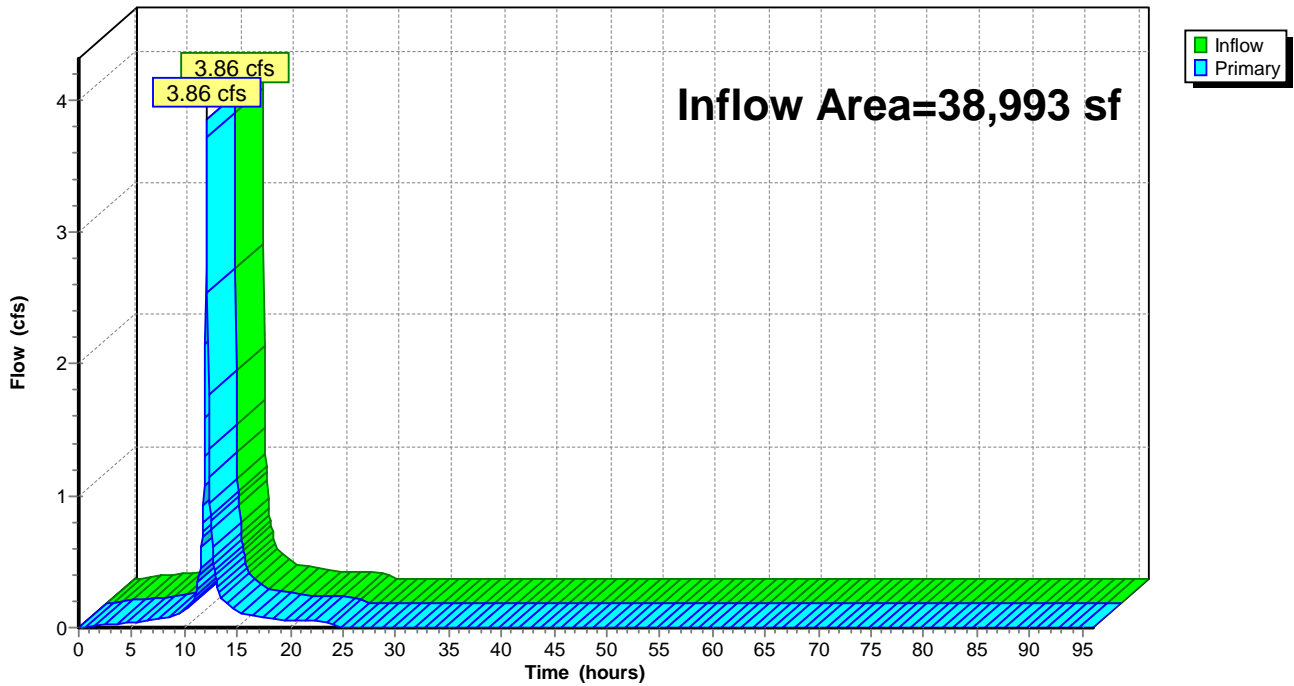
Summary for Link PRE: PRE-DEV

Inflow Area = 38,993 sf, 73.42% Impervious, Inflow Depth = 3.92" for 10-year event
Inflow = 3.86 cfs @ 12.13 hrs, Volume= 12,748 cf
Primary = 3.86 cfs @ 12.13 hrs, Volume= 12,748 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link PRE: PRE-DEV

Hydrograph



Hydrograph for Link PRE: PRE-DEV

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
2.00	0.02	0.00	0.02	56.00	0.00	0.00	0.00
3.00	0.03	0.00	0.03	57.00	0.00	0.00	0.00
4.00	0.03	0.00	0.03	58.00	0.00	0.00	0.00
5.00	0.04	0.00	0.04	59.00	0.00	0.00	0.00
6.00	0.05	0.00	0.05	60.00	0.00	0.00	0.00
7.00	0.06	0.00	0.06	61.00	0.00	0.00	0.00
8.00	0.07	0.00	0.07	62.00	0.00	0.00	0.00
9.00	0.09	0.00	0.09	63.00	0.00	0.00	0.00
10.00	0.14	0.00	0.14	64.00	0.00	0.00	0.00
11.00	0.26	0.00	0.26	65.00	0.00	0.00	0.00
12.00	2.15	0.00	2.15	66.00	0.00	0.00	0.00
13.00	0.37	0.00	0.37	67.00	0.00	0.00	0.00
14.00	0.18	0.00	0.18	68.00	0.00	0.00	0.00
15.00	0.12	0.00	0.12	69.00	0.00	0.00	0.00
16.00	0.10	0.00	0.10	70.00	0.00	0.00	0.00
17.00	0.08	0.00	0.08	71.00	0.00	0.00	0.00
18.00	0.07	0.00	0.07	72.00	0.00	0.00	0.00
19.00	0.06	0.00	0.06	73.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	74.00	0.00	0.00	0.00
21.00	0.05	0.00	0.05	75.00	0.00	0.00	0.00
22.00	0.05	0.00	0.05	76.00	0.00	0.00	0.00
23.00	0.05	0.00	0.05	77.00	0.00	0.00	0.00
24.00	0.05	0.00	0.05	78.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	79.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	80.00	0.00	0.00	0.00
27.00	0.00	0.00	0.00	81.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	82.00	0.00	0.00	0.00
29.00	0.00	0.00	0.00	83.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	84.00	0.00	0.00	0.00
31.00	0.00	0.00	0.00	85.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	86.00	0.00	0.00	0.00
33.00	0.00	0.00	0.00	87.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	88.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	89.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	90.00	0.00	0.00	0.00
37.00	0.00	0.00	0.00	91.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	92.00	0.00	0.00	0.00
39.00	0.00	0.00	0.00	93.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	94.00	0.00	0.00	0.00
41.00	0.00	0.00	0.00	95.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	96.00	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				
52.00	0.00	0.00	0.00				
53.00	0.00	0.00	0.00				

Summary for Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Runoff = 6.78 cfs @ 12.13 hrs, Volume= 22,597 cf, Depth= 6.95"
 Routed to Link PRE : PRE-DEV

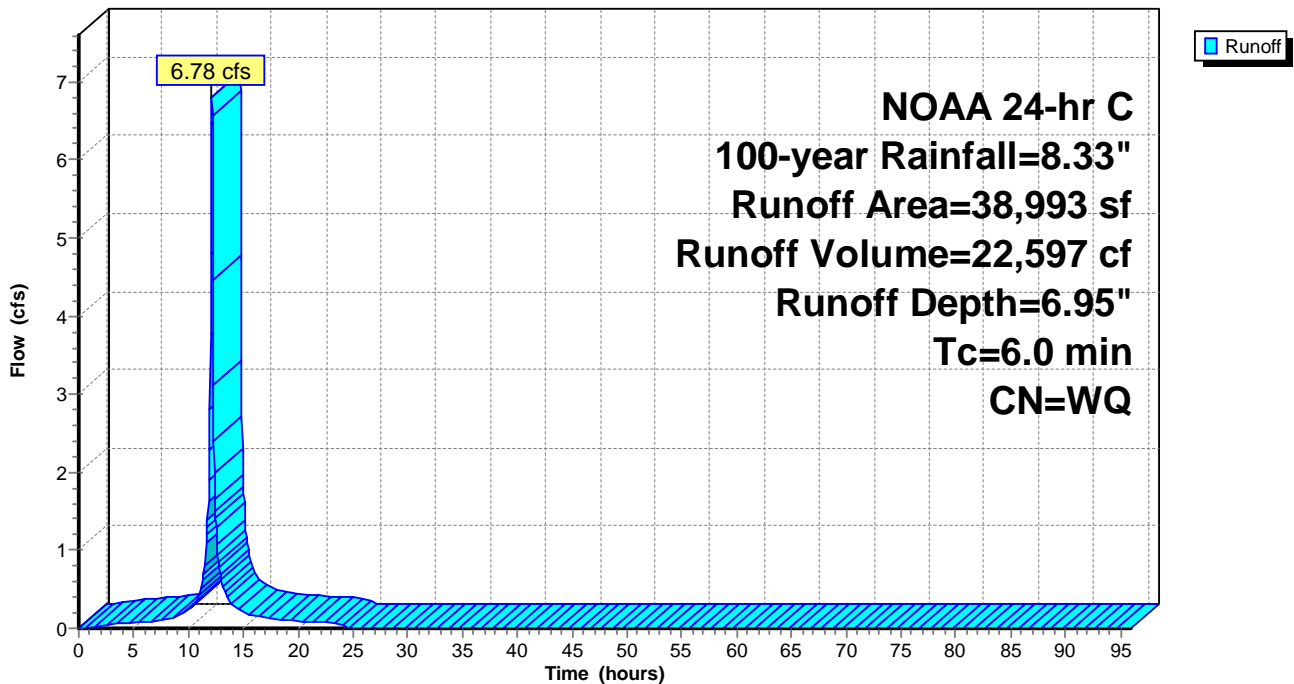
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 NOAA 24-hr C 100-year Rainfall=8.33"

Area (sf)	CN	Description
28,630	98	Paved parking, HSG A
1,367	61	>75% Grass cover, Good, HSG B
5,815	74	>75% Grass cover, Good, HSG C
3,181	39	>75% Grass cover, Good, HSG A
38,993		Weighted Average
10,363		26.58% Pervious Area
28,630		73.42% Impervious Area

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

Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Hydrograph



Hydrograph for Subcatchment 1: PRE-DEVELOPMENT (INSIDE-LOD)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	54.00	8.33	6.89	0.00
1.00	0.09	0.00	0.02	55.00	8.33	6.89	0.00
2.00	0.19	0.00	0.04	56.00	8.33	6.89	0.00
3.00	0.29	0.00	0.06	57.00	8.33	6.89	0.00
4.00	0.41	0.01	0.07	58.00	8.33	6.89	0.00
5.00	0.53	0.04	0.08	59.00	8.33	6.89	0.00
6.00	0.66	0.09	0.08	60.00	8.33	6.89	0.00
7.00	0.81	0.15	0.11	61.00	8.33	6.89	0.00
8.00	1.00	0.25	0.13	62.00	8.33	6.89	0.00
9.00	1.22	0.39	0.16	63.00	8.33	6.89	0.00
10.00	1.52	0.59	0.25	64.00	8.33	6.89	0.00
11.00	2.00	0.96	0.46	65.00	8.33	6.89	0.00
12.00	3.97	2.70	3.78	66.00	8.33	6.89	0.00
13.00	6.33	4.95	0.64	67.00	8.33	6.89	0.00
14.00	6.81	5.41	0.31	68.00	8.33	6.89	0.00
15.00	7.11	5.70	0.21	69.00	8.33	6.89	0.00
16.00	7.33	5.92	0.17	70.00	8.33	6.89	0.00
17.00	7.52	6.10	0.14	71.00	8.33	6.89	0.00
18.00	7.67	6.25	0.12	72.00	8.33	6.89	0.00
19.00	7.80	6.37	0.11	73.00	8.33	6.89	0.00
20.00	7.92	6.49	0.10	74.00	8.33	6.89	0.00
21.00	8.04	6.60	0.09	75.00	8.33	6.89	0.00
22.00	8.14	6.71	0.09	76.00	8.33	6.89	0.00
23.00	8.24	6.80	0.08	77.00	8.33	6.89	0.00
24.00	8.33	6.89	0.08	78.00	8.33	6.89	0.00
25.00	8.33	6.89	0.00	79.00	8.33	6.89	0.00
26.00	8.33	6.89	0.00	80.00	8.33	6.89	0.00
27.00	8.33	6.89	0.00	81.00	8.33	6.89	0.00
28.00	8.33	6.89	0.00	82.00	8.33	6.89	0.00
29.00	8.33	6.89	0.00	83.00	8.33	6.89	0.00
30.00	8.33	6.89	0.00	84.00	8.33	6.89	0.00
31.00	8.33	6.89	0.00	85.00	8.33	6.89	0.00
32.00	8.33	6.89	0.00	86.00	8.33	6.89	0.00
33.00	8.33	6.89	0.00	87.00	8.33	6.89	0.00
34.00	8.33	6.89	0.00	88.00	8.33	6.89	0.00
35.00	8.33	6.89	0.00	89.00	8.33	6.89	0.00
36.00	8.33	6.89	0.00	90.00	8.33	6.89	0.00
37.00	8.33	6.89	0.00	91.00	8.33	6.89	0.00
38.00	8.33	6.89	0.00	92.00	8.33	6.89	0.00
39.00	8.33	6.89	0.00	93.00	8.33	6.89	0.00
40.00	8.33	6.89	0.00	94.00	8.33	6.89	0.00
41.00	8.33	6.89	0.00	95.00	8.33	6.89	0.00
42.00	8.33	6.89	0.00	96.00	8.33	6.89	0.00
43.00	8.33	6.89	0.00				
44.00	8.33	6.89	0.00				
45.00	8.33	6.89	0.00				
46.00	8.33	6.89	0.00				
47.00	8.33	6.89	0.00				
48.00	8.33	6.89	0.00				
49.00	8.33	6.89	0.00				
50.00	8.33	6.89	0.00				
51.00	8.33	6.89	0.00				
52.00	8.33	6.89	0.00				
53.00	8.33	6.89	0.00				

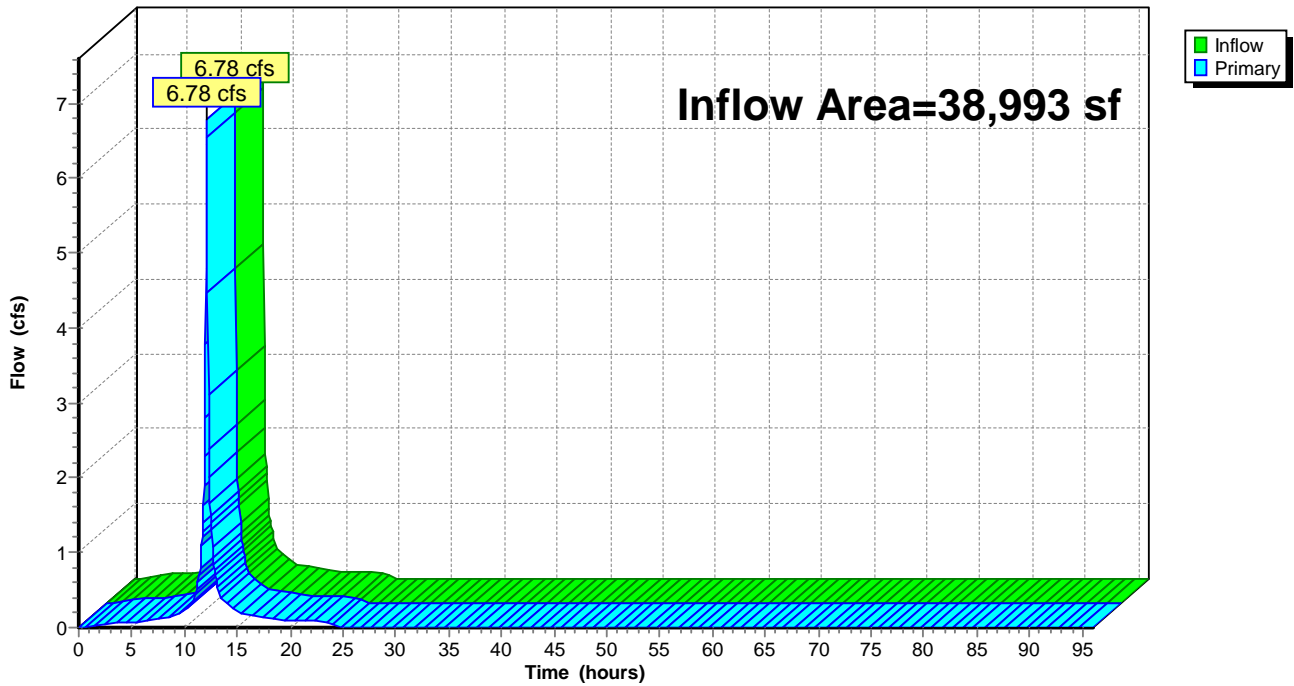
Summary for Link PRE: PRE-DEV

Inflow Area = 38,993 sf, 73.42% Impervious, Inflow Depth = 6.95" for 100-year event
Inflow = 6.78 cfs @ 12.13 hrs, Volume= 22,597 cf
Primary = 6.78 cfs @ 12.13 hrs, Volume= 22,597 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link PRE: PRE-DEV

Hydrograph

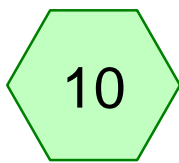


Hydrograph for Link PRE: PRE-DEV

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
1.00	0.02	0.00	0.02	55.00	0.00	0.00	0.00
2.00	0.04	0.00	0.04	56.00	0.00	0.00	0.00
3.00	0.06	0.00	0.06	57.00	0.00	0.00	0.00
4.00	0.07	0.00	0.07	58.00	0.00	0.00	0.00
5.00	0.08	0.00	0.08	59.00	0.00	0.00	0.00
6.00	0.08	0.00	0.08	60.00	0.00	0.00	0.00
7.00	0.11	0.00	0.11	61.00	0.00	0.00	0.00
8.00	0.13	0.00	0.13	62.00	0.00	0.00	0.00
9.00	0.16	0.00	0.16	63.00	0.00	0.00	0.00
10.00	0.25	0.00	0.25	64.00	0.00	0.00	0.00
11.00	0.46	0.00	0.46	65.00	0.00	0.00	0.00
12.00	3.78	0.00	3.78	66.00	0.00	0.00	0.00
13.00	0.64	0.00	0.64	67.00	0.00	0.00	0.00
14.00	0.31	0.00	0.31	68.00	0.00	0.00	0.00
15.00	0.21	0.00	0.21	69.00	0.00	0.00	0.00
16.00	0.17	0.00	0.17	70.00	0.00	0.00	0.00
17.00	0.14	0.00	0.14	71.00	0.00	0.00	0.00
18.00	0.12	0.00	0.12	72.00	0.00	0.00	0.00
19.00	0.11	0.00	0.11	73.00	0.00	0.00	0.00
20.00	0.10	0.00	0.10	74.00	0.00	0.00	0.00
21.00	0.09	0.00	0.09	75.00	0.00	0.00	0.00
22.00	0.09	0.00	0.09	76.00	0.00	0.00	0.00
23.00	0.08	0.00	0.08	77.00	0.00	0.00	0.00
24.00	0.08	0.00	0.08	78.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	79.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	80.00	0.00	0.00	0.00
27.00	0.00	0.00	0.00	81.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	82.00	0.00	0.00	0.00
29.00	0.00	0.00	0.00	83.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	84.00	0.00	0.00	0.00
31.00	0.00	0.00	0.00	85.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	86.00	0.00	0.00	0.00
33.00	0.00	0.00	0.00	87.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	88.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	89.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	90.00	0.00	0.00	0.00
37.00	0.00	0.00	0.00	91.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	92.00	0.00	0.00	0.00
39.00	0.00	0.00	0.00	93.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	94.00	0.00	0.00	0.00
41.00	0.00	0.00	0.00	95.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	96.00	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				
52.00	0.00	0.00	0.00				
53.00	0.00	0.00	0.00				

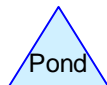
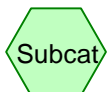


APPENDIX C – HYDROGRAPHS – PROPOSED CONDITIONS



POST-DEVELOPMENT
(INSIDE-LOD)

POST DEV



Routing Diagram for 112210003-SWM Design_Rev-1
Prepared by Kimley-Horn & Associates, Printed 6/27/2024
HydroCAD® 10.20-3c s/n 02344 © 2023 HydroCAD Software Solutions LLC

Summary for Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Runoff = 2.39 cfs @ 12.13 hrs, Volume= 7,790 cf, Depth= 2.40"
 Routed to Link POST001 : POST DEV

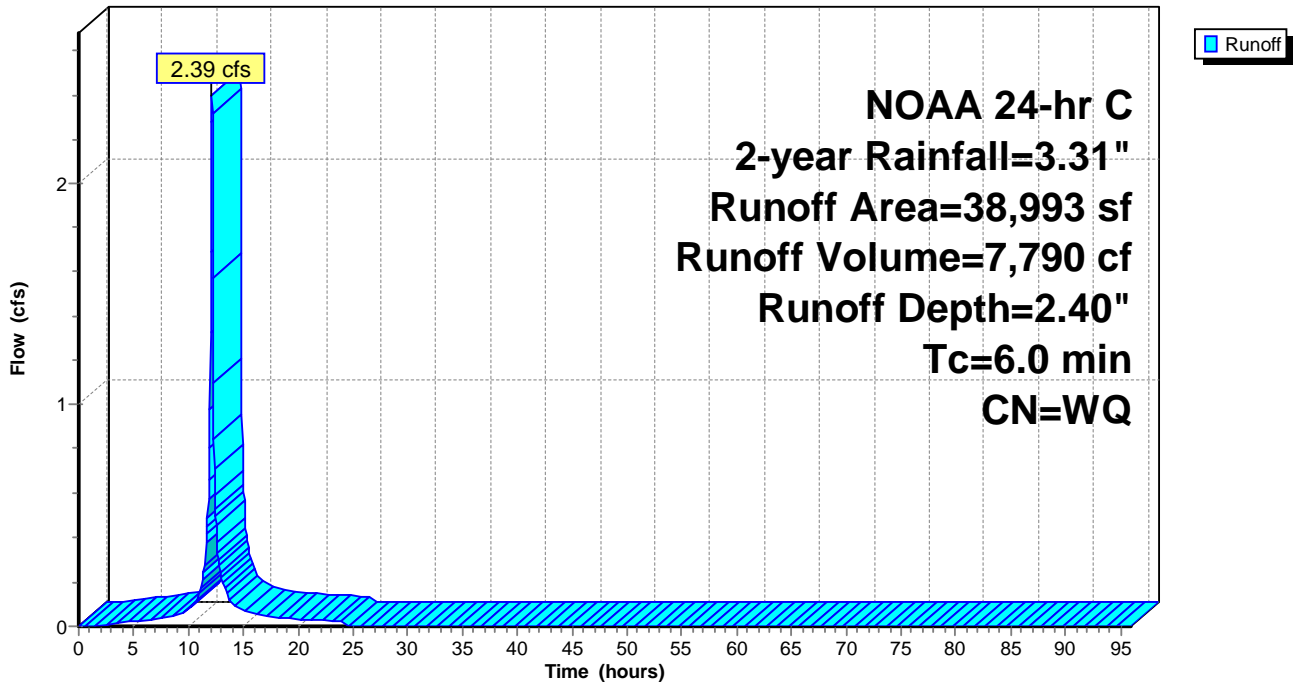
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 NOAA 24-hr C 2-year Rainfall=3.31"

Area (sf)	CN	Description
462	61	>75% Grass cover, Good, HSG B
6,659	74	>75% Grass cover, Good, HSG C
3,972	39	>75% Grass cover, Good, HSG A
27,900	98	Paved parking, HSG A
38,993		Weighted Average
11,093		28.45% Pervious Area
27,900		71.55% Impervious Area

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

Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Hydrograph



Hydrograph for Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	54.00	3.31	2.01	0.00
1.00	0.04	0.00	0.00	55.00	3.31	2.01	0.00
2.00	0.07	0.00	0.01	56.00	3.31	2.01	0.00
3.00	0.12	0.00	0.01	57.00	3.31	2.01	0.00
4.00	0.16	0.00	0.02	58.00	3.31	2.01	0.00
5.00	0.21	0.00	0.02	59.00	3.31	2.01	0.00
6.00	0.26	0.00	0.03	60.00	3.31	2.01	0.00
7.00	0.32	0.00	0.03	61.00	3.31	2.01	0.00
8.00	0.40	0.01	0.04	62.00	3.31	2.01	0.00
9.00	0.48	0.02	0.05	63.00	3.31	2.01	0.00
10.00	0.60	0.05	0.08	64.00	3.31	2.01	0.00
11.00	0.79	0.12	0.16	65.00	3.31	2.01	0.00
12.00	1.58	0.59	1.33	66.00	3.31	2.01	0.00
13.00	2.52	1.32	0.23	67.00	3.31	2.01	0.00
14.00	2.71	1.49	0.11	68.00	3.31	2.01	0.00
15.00	2.83	1.59	0.07	69.00	3.31	2.01	0.00
16.00	2.91	1.66	0.06	70.00	3.31	2.01	0.00
17.00	2.99	1.73	0.05	71.00	3.31	2.01	0.00
18.00	3.05	1.78	0.04	72.00	3.31	2.01	0.00
19.00	3.10	1.83	0.04	73.00	3.31	2.01	0.00
20.00	3.15	1.87	0.04	74.00	3.31	2.01	0.00
21.00	3.19	1.91	0.03	75.00	3.31	2.01	0.00
22.00	3.24	1.95	0.03	76.00	3.31	2.01	0.00
23.00	3.27	1.98	0.03	77.00	3.31	2.01	0.00
24.00	3.31	2.01	0.03	78.00	3.31	2.01	0.00
25.00	3.31	2.01	0.00	79.00	3.31	2.01	0.00
26.00	3.31	2.01	0.00	80.00	3.31	2.01	0.00
27.00	3.31	2.01	0.00	81.00	3.31	2.01	0.00
28.00	3.31	2.01	0.00	82.00	3.31	2.01	0.00
29.00	3.31	2.01	0.00	83.00	3.31	2.01	0.00
30.00	3.31	2.01	0.00	84.00	3.31	2.01	0.00
31.00	3.31	2.01	0.00	85.00	3.31	2.01	0.00
32.00	3.31	2.01	0.00	86.00	3.31	2.01	0.00
33.00	3.31	2.01	0.00	87.00	3.31	2.01	0.00
34.00	3.31	2.01	0.00	88.00	3.31	2.01	0.00
35.00	3.31	2.01	0.00	89.00	3.31	2.01	0.00
36.00	3.31	2.01	0.00	90.00	3.31	2.01	0.00
37.00	3.31	2.01	0.00	91.00	3.31	2.01	0.00
38.00	3.31	2.01	0.00	92.00	3.31	2.01	0.00
39.00	3.31	2.01	0.00	93.00	3.31	2.01	0.00
40.00	3.31	2.01	0.00	94.00	3.31	2.01	0.00
41.00	3.31	2.01	0.00	95.00	3.31	2.01	0.00
42.00	3.31	2.01	0.00	96.00	3.31	2.01	0.00
43.00	3.31	2.01	0.00				
44.00	3.31	2.01	0.00				
45.00	3.31	2.01	0.00				
46.00	3.31	2.01	0.00				
47.00	3.31	2.01	0.00				
48.00	3.31	2.01	0.00				
49.00	3.31	2.01	0.00				
50.00	3.31	2.01	0.00				
51.00	3.31	2.01	0.00				
52.00	3.31	2.01	0.00				
53.00	3.31	2.01	0.00				

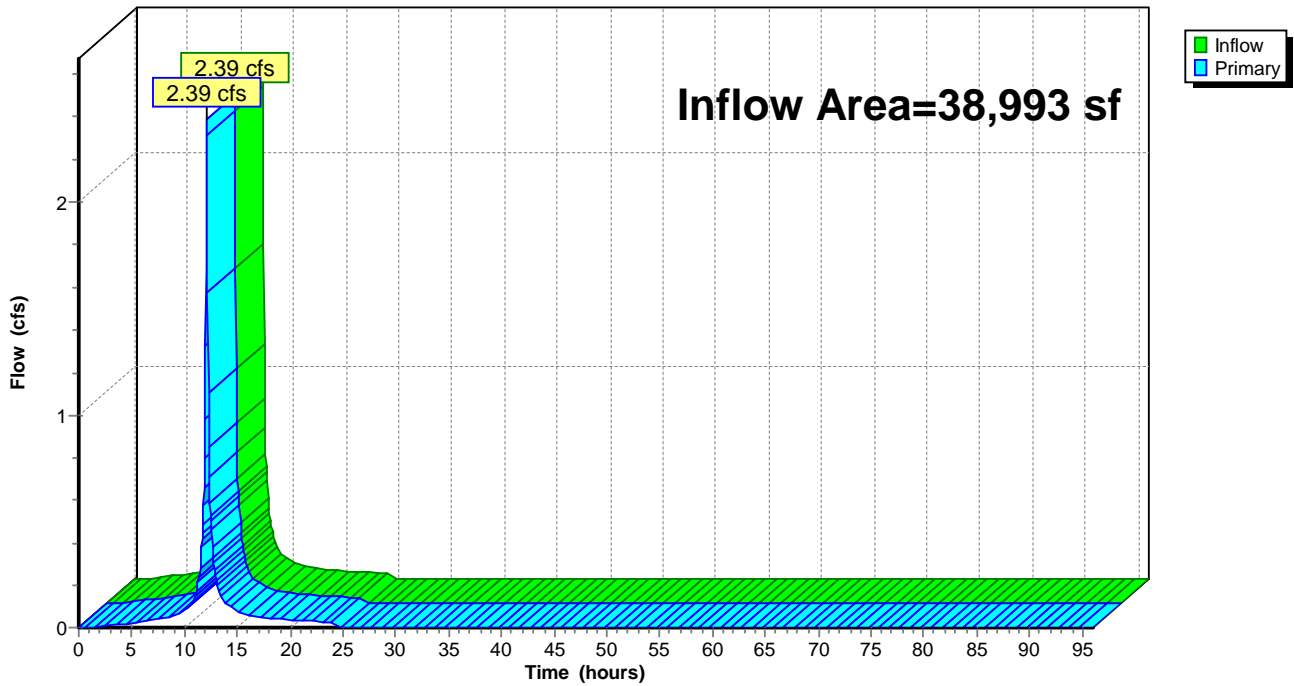
Summary for Link POST001: POST DEV

Inflow Area = 38,993 sf, 71.55% Impervious, Inflow Depth = 2.40" for 2-year event
Inflow = 2.39 cfs @ 12.13 hrs, Volume= 7,790 cf
Primary = 2.39 cfs @ 12.13 hrs, Volume= 7,790 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link POST001: POST DEV

Hydrograph



Hydrograph for Link POST001: POST DEV

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
2.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
4.00	0.02	0.00	0.02	58.00	0.00	0.00	0.00
5.00	0.02	0.00	0.02	59.00	0.00	0.00	0.00
6.00	0.03	0.00	0.03	60.00	0.00	0.00	0.00
7.00	0.03	0.00	0.03	61.00	0.00	0.00	0.00
8.00	0.04	0.00	0.04	62.00	0.00	0.00	0.00
9.00	0.05	0.00	0.05	63.00	0.00	0.00	0.00
10.00	0.08	0.00	0.08	64.00	0.00	0.00	0.00
11.00	0.16	0.00	0.16	65.00	0.00	0.00	0.00
12.00	1.33	0.00	1.33	66.00	0.00	0.00	0.00
13.00	0.23	0.00	0.23	67.00	0.00	0.00	0.00
14.00	0.11	0.00	0.11	68.00	0.00	0.00	0.00
15.00	0.07	0.00	0.07	69.00	0.00	0.00	0.00
16.00	0.06	0.00	0.06	70.00	0.00	0.00	0.00
17.00	0.05	0.00	0.05	71.00	0.00	0.00	0.00
18.00	0.04	0.00	0.04	72.00	0.00	0.00	0.00
19.00	0.04	0.00	0.04	73.00	0.00	0.00	0.00
20.00	0.04	0.00	0.04	74.00	0.00	0.00	0.00
21.00	0.03	0.00	0.03	75.00	0.00	0.00	0.00
22.00	0.03	0.00	0.03	76.00	0.00	0.00	0.00
23.00	0.03	0.00	0.03	77.00	0.00	0.00	0.00
24.00	0.03	0.00	0.03	78.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	79.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	80.00	0.00	0.00	0.00
27.00	0.00	0.00	0.00	81.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	82.00	0.00	0.00	0.00
29.00	0.00	0.00	0.00	83.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	84.00	0.00	0.00	0.00
31.00	0.00	0.00	0.00	85.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	86.00	0.00	0.00	0.00
33.00	0.00	0.00	0.00	87.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	88.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	89.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	90.00	0.00	0.00	0.00
37.00	0.00	0.00	0.00	91.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	92.00	0.00	0.00	0.00
39.00	0.00	0.00	0.00	93.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	94.00	0.00	0.00	0.00
41.00	0.00	0.00	0.00	95.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	96.00	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				
52.00	0.00	0.00	0.00				
53.00	0.00	0.00	0.00				

Summary for Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Runoff = 3.79 cfs @ 12.13 hrs, Volume= 12,534 cf, Depth= 3.86"
 Routed to Link POST001 : POST DEV

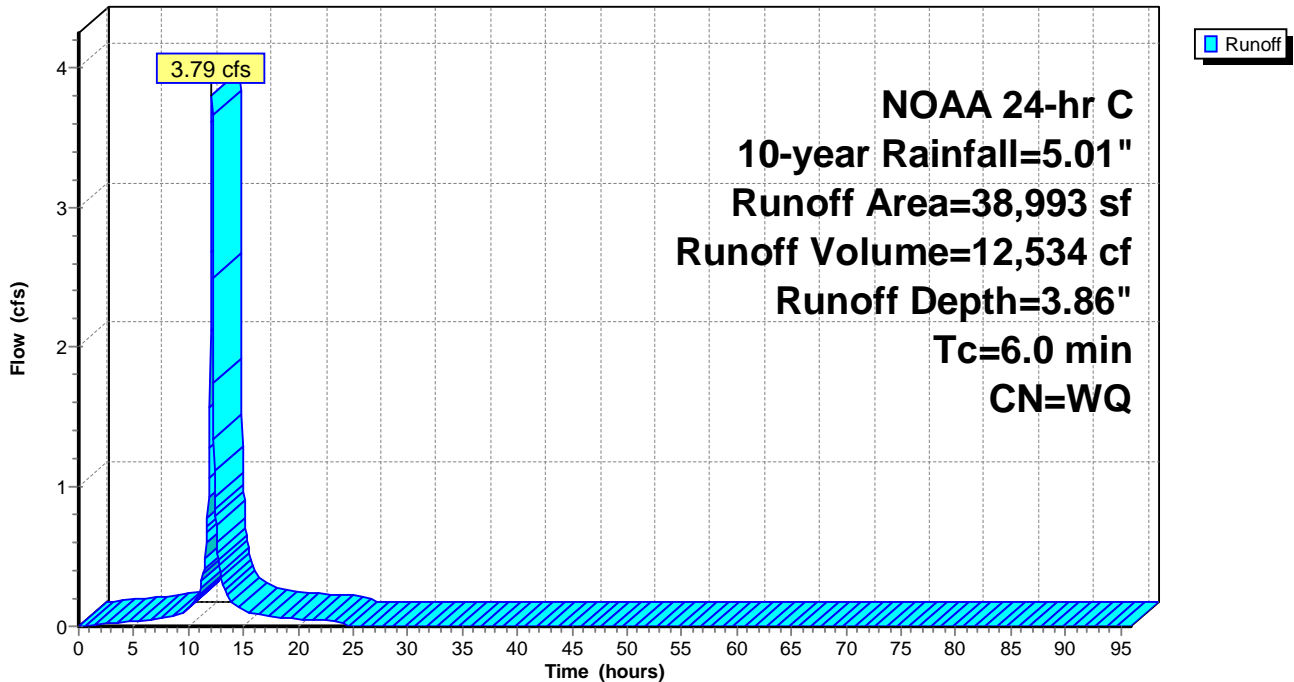
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 NOAA 24-hr C 10-year Rainfall=5.01"

Area (sf)	CN	Description
462	61	>75% Grass cover, Good, HSG B
6,659	74	>75% Grass cover, Good, HSG C
3,972	39	>75% Grass cover, Good, HSG A
27,900	98	Paved parking, HSG A
38,993		Weighted Average
11,093		28.45% Pervious Area
27,900		71.55% Impervious Area

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

Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Hydrograph



Hydrograph for Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	54.00	5.01	3.58	0.00
1.00	0.05	0.00	0.00	55.00	5.01	3.58	0.00
2.00	0.11	0.00	0.02	56.00	5.01	3.58	0.00
3.00	0.18	0.00	0.03	57.00	5.01	3.58	0.00
4.00	0.25	0.00	0.03	58.00	5.01	3.58	0.00
5.00	0.32	0.00	0.04	59.00	5.01	3.58	0.00
6.00	0.40	0.01	0.04	60.00	5.01	3.58	0.00
7.00	0.49	0.02	0.06	61.00	5.01	3.58	0.00
8.00	0.60	0.05	0.07	62.00	5.01	3.58	0.00
9.00	0.73	0.10	0.09	63.00	5.01	3.58	0.00
10.00	0.91	0.18	0.14	64.00	5.01	3.58	0.00
11.00	1.20	0.34	0.26	65.00	5.01	3.58	0.00
12.00	2.39	1.22	2.12	66.00	5.01	3.58	0.00
13.00	3.81	2.46	0.36	67.00	5.01	3.58	0.00
14.00	4.10	2.73	0.18	68.00	5.01	3.58	0.00
15.00	4.28	2.89	0.12	69.00	5.01	3.58	0.00
16.00	4.41	3.01	0.10	70.00	5.01	3.58	0.00
17.00	4.52	3.12	0.08	71.00	5.01	3.58	0.00
18.00	4.61	3.20	0.07	72.00	5.01	3.58	0.00
19.00	4.69	3.28	0.06	73.00	5.01	3.58	0.00
20.00	4.76	3.35	0.06	74.00	5.01	3.58	0.00
21.00	4.83	3.41	0.05	75.00	5.01	3.58	0.00
22.00	4.90	3.47	0.05	76.00	5.01	3.58	0.00
23.00	4.96	3.53	0.04	77.00	5.01	3.58	0.00
24.00	5.01	3.58	0.05	78.00	5.01	3.58	0.00
25.00	5.01	3.58	0.00	79.00	5.01	3.58	0.00
26.00	5.01	3.58	0.00	80.00	5.01	3.58	0.00
27.00	5.01	3.58	0.00	81.00	5.01	3.58	0.00
28.00	5.01	3.58	0.00	82.00	5.01	3.58	0.00
29.00	5.01	3.58	0.00	83.00	5.01	3.58	0.00
30.00	5.01	3.58	0.00	84.00	5.01	3.58	0.00
31.00	5.01	3.58	0.00	85.00	5.01	3.58	0.00
32.00	5.01	3.58	0.00	86.00	5.01	3.58	0.00
33.00	5.01	3.58	0.00	87.00	5.01	3.58	0.00
34.00	5.01	3.58	0.00	88.00	5.01	3.58	0.00
35.00	5.01	3.58	0.00	89.00	5.01	3.58	0.00
36.00	5.01	3.58	0.00	90.00	5.01	3.58	0.00
37.00	5.01	3.58	0.00	91.00	5.01	3.58	0.00
38.00	5.01	3.58	0.00	92.00	5.01	3.58	0.00
39.00	5.01	3.58	0.00	93.00	5.01	3.58	0.00
40.00	5.01	3.58	0.00	94.00	5.01	3.58	0.00
41.00	5.01	3.58	0.00	95.00	5.01	3.58	0.00
42.00	5.01	3.58	0.00	96.00	5.01	3.58	0.00
43.00	5.01	3.58	0.00				
44.00	5.01	3.58	0.00				
45.00	5.01	3.58	0.00				
46.00	5.01	3.58	0.00				
47.00	5.01	3.58	0.00				
48.00	5.01	3.58	0.00				
49.00	5.01	3.58	0.00				
50.00	5.01	3.58	0.00				
51.00	5.01	3.58	0.00				
52.00	5.01	3.58	0.00				
53.00	5.01	3.58	0.00				

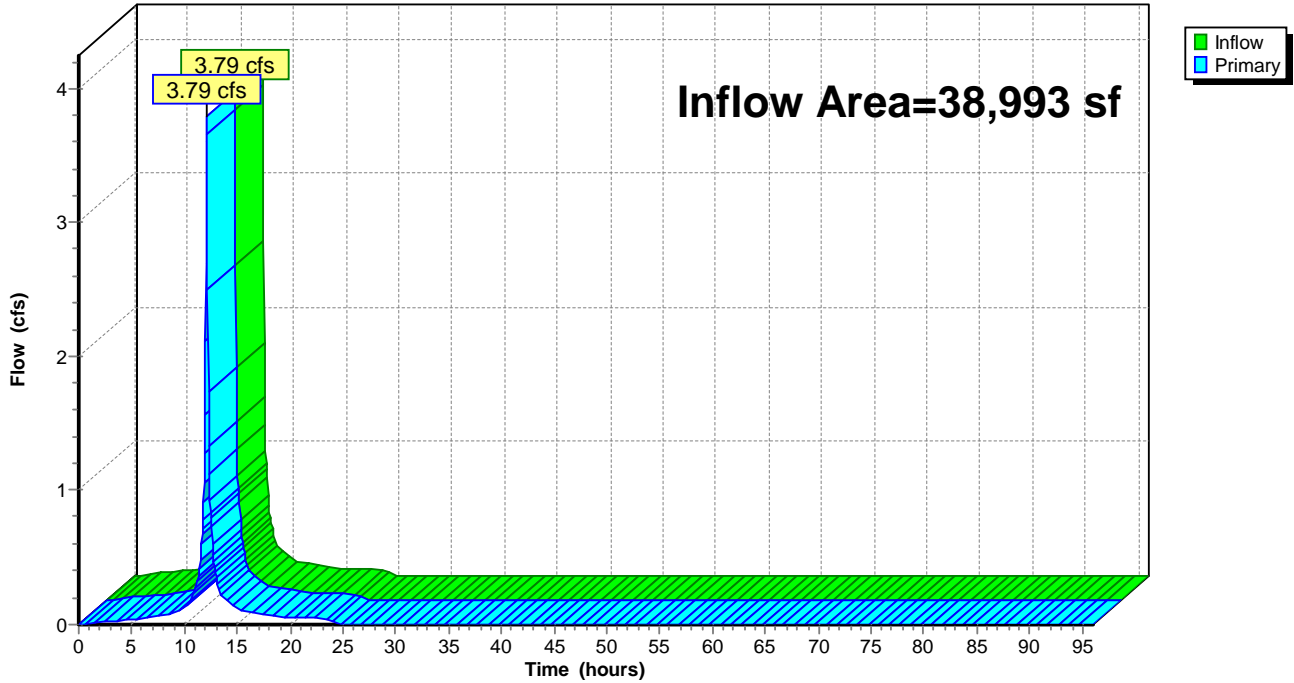
Summary for Link POST001: POST DEV

Inflow Area = 38,993 sf, 71.55% Impervious, Inflow Depth = 3.86" for 10-year event
Inflow = 3.79 cfs @ 12.13 hrs, Volume= 12,534 cf
Primary = 3.79 cfs @ 12.13 hrs, Volume= 12,534 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link POST001: POST DEV

Hydrograph



Hydrograph for Link POST001: POST DEV

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
2.00	0.02	0.00	0.02	56.00	0.00	0.00	0.00
3.00	0.03	0.00	0.03	57.00	0.00	0.00	0.00
4.00	0.03	0.00	0.03	58.00	0.00	0.00	0.00
5.00	0.04	0.00	0.04	59.00	0.00	0.00	0.00
6.00	0.04	0.00	0.04	60.00	0.00	0.00	0.00
7.00	0.06	0.00	0.06	61.00	0.00	0.00	0.00
8.00	0.07	0.00	0.07	62.00	0.00	0.00	0.00
9.00	0.09	0.00	0.09	63.00	0.00	0.00	0.00
10.00	0.14	0.00	0.14	64.00	0.00	0.00	0.00
11.00	0.26	0.00	0.26	65.00	0.00	0.00	0.00
12.00	2.12	0.00	2.12	66.00	0.00	0.00	0.00
13.00	0.36	0.00	0.36	67.00	0.00	0.00	0.00
14.00	0.18	0.00	0.18	68.00	0.00	0.00	0.00
15.00	0.12	0.00	0.12	69.00	0.00	0.00	0.00
16.00	0.10	0.00	0.10	70.00	0.00	0.00	0.00
17.00	0.08	0.00	0.08	71.00	0.00	0.00	0.00
18.00	0.07	0.00	0.07	72.00	0.00	0.00	0.00
19.00	0.06	0.00	0.06	73.00	0.00	0.00	0.00
20.00	0.06	0.00	0.06	74.00	0.00	0.00	0.00
21.00	0.05	0.00	0.05	75.00	0.00	0.00	0.00
22.00	0.05	0.00	0.05	76.00	0.00	0.00	0.00
23.00	0.04	0.00	0.04	77.00	0.00	0.00	0.00
24.00	0.05	0.00	0.05	78.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	79.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	80.00	0.00	0.00	0.00
27.00	0.00	0.00	0.00	81.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	82.00	0.00	0.00	0.00
29.00	0.00	0.00	0.00	83.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	84.00	0.00	0.00	0.00
31.00	0.00	0.00	0.00	85.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	86.00	0.00	0.00	0.00
33.00	0.00	0.00	0.00	87.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	88.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	89.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	90.00	0.00	0.00	0.00
37.00	0.00	0.00	0.00	91.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	92.00	0.00	0.00	0.00
39.00	0.00	0.00	0.00	93.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	94.00	0.00	0.00	0.00
41.00	0.00	0.00	0.00	95.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	96.00	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				
52.00	0.00	0.00	0.00				
53.00	0.00	0.00	0.00				

Summary for Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Runoff = 6.69 cfs @ 12.13 hrs, Volume= 22,279 cf, Depth= 6.86"
 Routed to Link POST001 : POST DEV

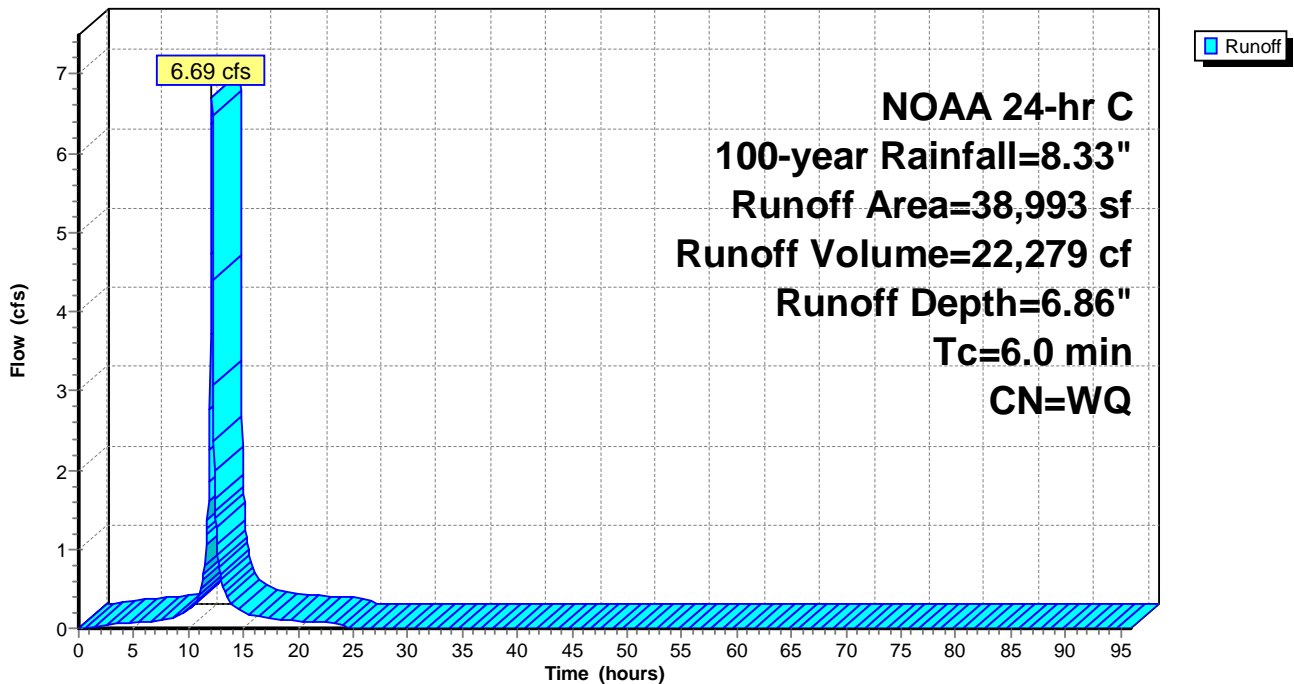
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 NOAA 24-hr C 100-year Rainfall=8.33"

Area (sf)	CN	Description
462	61	>75% Grass cover, Good, HSG B
6,659	74	>75% Grass cover, Good, HSG C
3,972	39	>75% Grass cover, Good, HSG A
27,900	98	Paved parking, HSG A
38,993		Weighted Average
11,093		28.45% Pervious Area
27,900		71.55% Impervious Area

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

Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Hydrograph



Hydrograph for Subcatchment 10: POST-DEVELOPMENT (INSIDE-LOD)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	54.00	8.33	6.77	0.00
1.00	0.09	0.00	0.02	55.00	8.33	6.77	0.00
2.00	0.19	0.00	0.04	56.00	8.33	6.77	0.00
3.00	0.29	0.00	0.06	57.00	8.33	6.77	0.00
4.00	0.41	0.01	0.07	58.00	8.33	6.77	0.00
5.00	0.53	0.03	0.07	59.00	8.33	6.77	0.00
6.00	0.66	0.07	0.08	60.00	8.33	6.77	0.00
7.00	0.81	0.13	0.10	61.00	8.33	6.77	0.00
8.00	1.00	0.22	0.13	62.00	8.33	6.77	0.00
9.00	1.22	0.35	0.16	63.00	8.33	6.77	0.00
10.00	1.52	0.55	0.24	64.00	8.33	6.77	0.00
11.00	2.00	0.90	0.46	65.00	8.33	6.77	0.00
12.00	3.97	2.61	3.72	66.00	8.33	6.77	0.00
13.00	6.33	4.83	0.64	67.00	8.33	6.77	0.00
14.00	6.81	5.30	0.31	68.00	8.33	6.77	0.00
15.00	7.11	5.59	0.21	69.00	8.33	6.77	0.00
16.00	7.33	5.80	0.17	70.00	8.33	6.77	0.00
17.00	7.52	5.98	0.14	71.00	8.33	6.77	0.00
18.00	7.67	6.13	0.11	72.00	8.33	6.77	0.00
19.00	7.80	6.26	0.11	73.00	8.33	6.77	0.00
20.00	7.92	6.37	0.10	74.00	8.33	6.77	0.00
21.00	8.04	6.48	0.09	75.00	8.33	6.77	0.00
22.00	8.14	6.59	0.08	76.00	8.33	6.77	0.00
23.00	8.24	6.68	0.08	77.00	8.33	6.77	0.00
24.00	8.33	6.77	0.08	78.00	8.33	6.77	0.00
25.00	8.33	6.77	0.00	79.00	8.33	6.77	0.00
26.00	8.33	6.77	0.00	80.00	8.33	6.77	0.00
27.00	8.33	6.77	0.00	81.00	8.33	6.77	0.00
28.00	8.33	6.77	0.00	82.00	8.33	6.77	0.00
29.00	8.33	6.77	0.00	83.00	8.33	6.77	0.00
30.00	8.33	6.77	0.00	84.00	8.33	6.77	0.00
31.00	8.33	6.77	0.00	85.00	8.33	6.77	0.00
32.00	8.33	6.77	0.00	86.00	8.33	6.77	0.00
33.00	8.33	6.77	0.00	87.00	8.33	6.77	0.00
34.00	8.33	6.77	0.00	88.00	8.33	6.77	0.00
35.00	8.33	6.77	0.00	89.00	8.33	6.77	0.00
36.00	8.33	6.77	0.00	90.00	8.33	6.77	0.00
37.00	8.33	6.77	0.00	91.00	8.33	6.77	0.00
38.00	8.33	6.77	0.00	92.00	8.33	6.77	0.00
39.00	8.33	6.77	0.00	93.00	8.33	6.77	0.00
40.00	8.33	6.77	0.00	94.00	8.33	6.77	0.00
41.00	8.33	6.77	0.00	95.00	8.33	6.77	0.00
42.00	8.33	6.77	0.00	96.00	8.33	6.77	0.00
43.00	8.33	6.77	0.00				
44.00	8.33	6.77	0.00				
45.00	8.33	6.77	0.00				
46.00	8.33	6.77	0.00				
47.00	8.33	6.77	0.00				
48.00	8.33	6.77	0.00				
49.00	8.33	6.77	0.00				
50.00	8.33	6.77	0.00				
51.00	8.33	6.77	0.00				
52.00	8.33	6.77	0.00				
53.00	8.33	6.77	0.00				

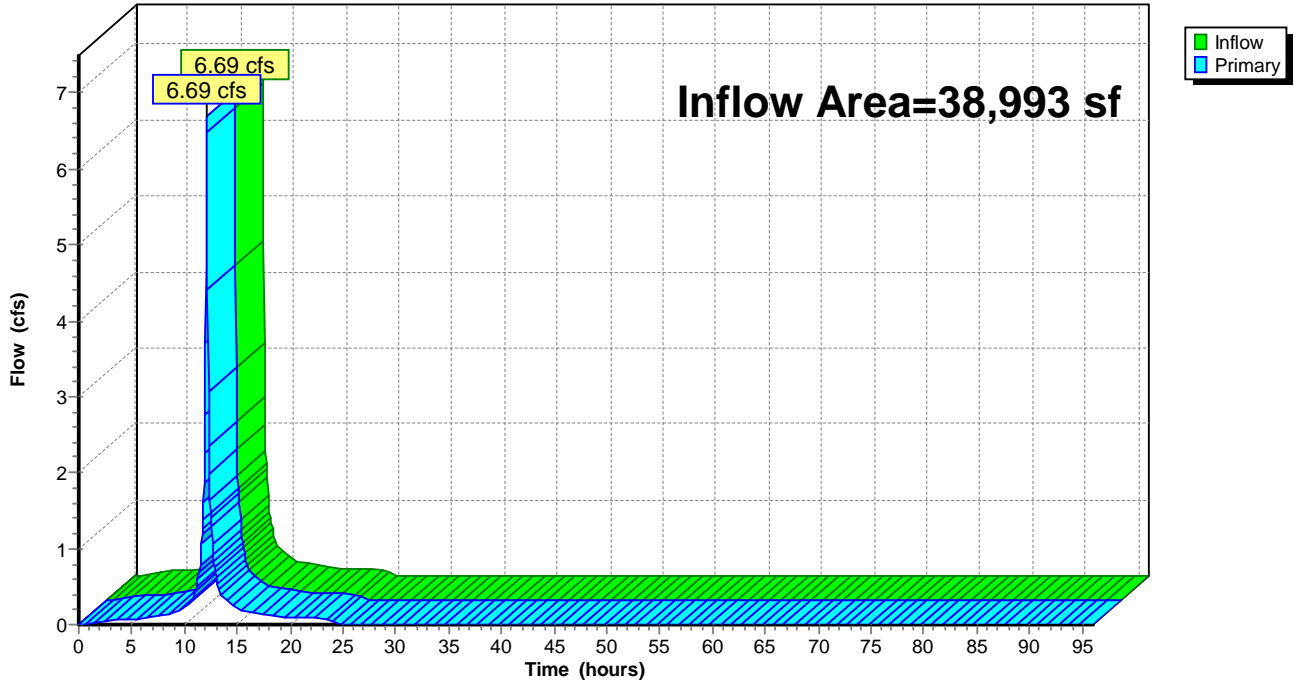
Summary for Link POST001: POST DEV

Inflow Area = 38,993 sf, 71.55% Impervious, Inflow Depth = 6.86" for 100-year event
Inflow = 6.69 cfs @ 12.13 hrs, Volume= 22,279 cf
Primary = 6.69 cfs @ 12.13 hrs, Volume= 22,279 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link POST001: POST DEV

Hydrograph



Hydrograph for Link POST001: POST DEV

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
1.00	0.02	0.00	0.02	55.00	0.00	0.00	0.00
2.00	0.04	0.00	0.04	56.00	0.00	0.00	0.00
3.00	0.06	0.00	0.06	57.00	0.00	0.00	0.00
4.00	0.07	0.00	0.07	58.00	0.00	0.00	0.00
5.00	0.07	0.00	0.07	59.00	0.00	0.00	0.00
6.00	0.08	0.00	0.08	60.00	0.00	0.00	0.00
7.00	0.10	0.00	0.10	61.00	0.00	0.00	0.00
8.00	0.13	0.00	0.13	62.00	0.00	0.00	0.00
9.00	0.16	0.00	0.16	63.00	0.00	0.00	0.00
10.00	0.24	0.00	0.24	64.00	0.00	0.00	0.00
11.00	0.46	0.00	0.46	65.00	0.00	0.00	0.00
12.00	3.72	0.00	3.72	66.00	0.00	0.00	0.00
13.00	0.64	0.00	0.64	67.00	0.00	0.00	0.00
14.00	0.31	0.00	0.31	68.00	0.00	0.00	0.00
15.00	0.21	0.00	0.21	69.00	0.00	0.00	0.00
16.00	0.17	0.00	0.17	70.00	0.00	0.00	0.00
17.00	0.14	0.00	0.14	71.00	0.00	0.00	0.00
18.00	0.11	0.00	0.11	72.00	0.00	0.00	0.00
19.00	0.11	0.00	0.11	73.00	0.00	0.00	0.00
20.00	0.10	0.00	0.10	74.00	0.00	0.00	0.00
21.00	0.09	0.00	0.09	75.00	0.00	0.00	0.00
22.00	0.08	0.00	0.08	76.00	0.00	0.00	0.00
23.00	0.08	0.00	0.08	77.00	0.00	0.00	0.00
24.00	0.08	0.00	0.08	78.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	79.00	0.00	0.00	0.00
26.00	0.00	0.00	0.00	80.00	0.00	0.00	0.00
27.00	0.00	0.00	0.00	81.00	0.00	0.00	0.00
28.00	0.00	0.00	0.00	82.00	0.00	0.00	0.00
29.00	0.00	0.00	0.00	83.00	0.00	0.00	0.00
30.00	0.00	0.00	0.00	84.00	0.00	0.00	0.00
31.00	0.00	0.00	0.00	85.00	0.00	0.00	0.00
32.00	0.00	0.00	0.00	86.00	0.00	0.00	0.00
33.00	0.00	0.00	0.00	87.00	0.00	0.00	0.00
34.00	0.00	0.00	0.00	88.00	0.00	0.00	0.00
35.00	0.00	0.00	0.00	89.00	0.00	0.00	0.00
36.00	0.00	0.00	0.00	90.00	0.00	0.00	0.00
37.00	0.00	0.00	0.00	91.00	0.00	0.00	0.00
38.00	0.00	0.00	0.00	92.00	0.00	0.00	0.00
39.00	0.00	0.00	0.00	93.00	0.00	0.00	0.00
40.00	0.00	0.00	0.00	94.00	0.00	0.00	0.00
41.00	0.00	0.00	0.00	95.00	0.00	0.00	0.00
42.00	0.00	0.00	0.00	96.00	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				
52.00	0.00	0.00	0.00				
53.00	0.00	0.00	0.00				

**APPENDIX D – GROUNDWATER RECHARGE
CALCULATIONS**

New Jersey
Groundwater
Recharge
Spreadsheet
Version 2.0
November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Select Township ↓	Average Annual P (in)	Climatic Factor
MERCER CO., LAWRENCE TWP	44.9	1.43

Project Name:	Mercer Mall
Description:	Groundwater Recharge
Analysis Date:	06/27/24

Pre-Developed Conditions					
Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.03	Open space	Sassafras	13.2	1,439
2	0.13	Open space	Fallsington	0.0	-
3	0.04	Open space	Woodstown	11.3	1,640
4	0.04	Open space	Fort Mott	15.2	2,209
5	0.66	Impervious areas	Keyport	0.0	-
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	0.9			Total Annual Recharge (in)	Total Annual Recharge (cu-ft)
				1.6	5,288

Post-Developed Conditions					
Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.01	Open space	Sassafras	13.2	480
2	0.15	Open space	Fallsington	0.0	-
3	0.05	Open space	Woodstown	11.3	2,050
4	0.05	Open space	Fort Mott	15.2	2,761
5	0.64	Impervious areas	Adelphia	0.0	-
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	0.9			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				1.6	5,291

Procedure to fill the Pre-Development and Post-Development Conditions Tables

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

Annual Recharge Requirements Calculation ↓			
% of Pre-Developed Annual Recharge to Preserve =	100%	Total Impervious Area (sq.ft)	27,878
Post-Development Annual Recharge Deficit=	-3	(cubic feet)	
Recharge Efficiency Parameters Calculations (area averages)			
RWC= 2.84	(in)	DRWC= 2.84	(in)
ERWC = 0.81	(in)	EDRWC= 0.81	(in)