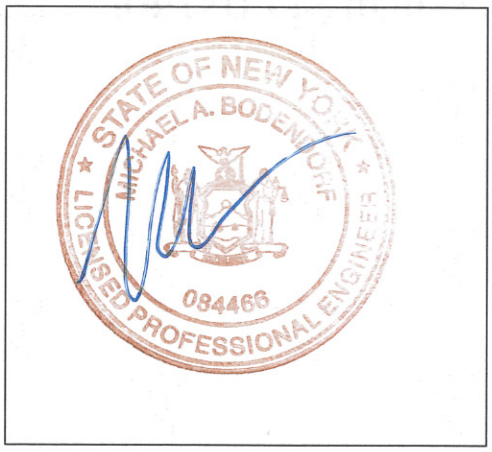
Drainage Report:
for
53 Eliza Street

Prepared for:

PIE Development Company, INC
53 Eliza Street
Beacon, NY 12508

March 25, 2019



HUDSON
LAND DESIGN

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1.0 INTRODUCTION

The 53 Eliza Street project is located on the south side of Eliza Street in the City of Beacon, Dutchess County, New York. The total parcel area consists of ±0.696 acre and contains two existing structures and a parking lot. The parcel is located within the R1-5 zoning district and has a tax map designation of 6054-29-031870. The project proposes to demolish the existing structure along Eliza Street and replace it with a three (3) unit building, construct a proposed four (4) unit residential building on the eastern property line and repurpose the existing structure along the southern property line into two (2) residential units. The project includes all associated parking areas, stormwater management and conveyance as well as landscaping. The project will be serviced by municipal water and sewer via connections to the City of Beacon's municipal water and sewer mains.

2.0 METHODOLOGY AND REGULATORY COMPLIANCE

The proposed project will result a total 0.59 acre of disturbance, and therefore is not subject to the requirements of NYSDEC GP-00-15-002 General Permit for Construction Activities. Pre-development vs. post-development drainage analysis for the project was performed to evaluate stormwater runoff patterns and demonstrate that the post-development runoff rates to the existing stormwater discharge points do not exceed the pre-development runoff rates.

Runoff calculations were performed utilizing HydroCAD® version 10.00 published by HydroCAD Software Solutions, LLC. The software utilizes the principles of TR-55 and TR-20 to generate unit hydrographs. Rainfall events are generated utilizing Soil Conservation Service (SCS) Type III, 24-hour rainfall event for Dutchess County, NY. The Type III rainfall depths for the 1-Year, 10-Year, 25-Year and 100-Year rainfall events are 2.61, 4.70, 5.90 and 8.34 inches, respectively.

3.0 SOIL CONDITIONS

A review of the Soil Survey of Dutchess County indicates that there is one type of soil present on the Project site and its associated contributing drainage area. The Drainage Map depicts the soil type and has been attached as Appendix B. Table III-1 below summarizes the characteristics of the soil type present within the drainage area.

Table I: Soil Types

Map Unit	Soil Names	Water Table (ft)	Bedrock	Hydrologic Soil Group	Erosion Hazard
DxB	Dutchess-Cardigan Urban Complex, 5-15% slopes	>6 feet	Dutchess: > 60 inches; Cardigan: 20-40 inches	B	Slight

KuB	Knickerbocker-urban land complex, undulating	>6 feet	>60 inches	A	Slight

Source: Soil Survey of Dutchess County, New York
Natural Resources Conservation Service Web Soil Survey

Supporting information has been provided in Appendix A.

4.0 EXISTING DRAINAGE CONDITIONS

4.1 Design Points

Design Points represent the location where the majority of runoff from an area exits the site. The same design point is identified in post-development conditions, so that a comparison can be made between the pre-development and post-development conditions. One design point for the main project area was selected, and is as follows:

Stormwater Discharge Point	
SDP	**Description**
1	City of Beacon Municipal Storm Sewer System in Eliza Street.

4.2 Existing Watershed Areas

The overall watershed area contributing to the SDP consists of the entire site and some adjacent off-site area. The watershed is graphically shown and listed on the drainage map. The cover types represent typical cover types for an urban area consisting of mostly impervious area and a small amount of grass and landscaped areas. The gravel areas located onsite are heavily compacted and were modeled in HydroCAD as “gravel without right of way” with a curve number (CN) of 96 to be conservative. The watershed is small; therefore, a six (6) minute time of concentration (Tc) has been used. Runoff travels via sheet flow to the existing onsite drainage structures and conveyance to the City of Beacon Municipal Separate Storm Sewer System in Eliza Street.

The current system can safely convey the 10-year storm without overtopping. The 25, and 100-year storms will experience some localized ponding around the structures; however, there is sufficient area for this localized ponding to occur. Hydrologic and Hydraulic computations can be found in Appendix B.

4.3 Existing Runoff Rates

Runoff rates for existing conditions have been calculated at the designated SDP and summarized in Table II as follows:

TABLE II
EXISTING RUNOFF RATES

		Runoff Rates (cfs)			
Drainage Area	**Area (sq ft)**	**1-Year (2.61 inches)**	**10-Year (4.70 inches)**	**25-Year (5.90 inches)**	**100-Year (8.34 inches)**
DA 1	45,045	1.84	4.03	5.28	7.81

Unit hydrograph analysis results for pre-development conditions have been included as Appendix C.

5.0 PROPOSED DRAINAGE CONDITIONS

5.1 Developed Watershed Area

The proposed project will result in a total of 0.59 acre of disturbance in order to redevelop the site for nine (9) residential units in three buildings and provide parking on the site. The re-development of the site results in a reduction in hardscaping (impervious and gravel areas) onsite from Pre to Post Conditions (38,604 sqft total → 31,037 sqft total). This is a 19.6% decrease in the total impervious and gravel areas for the proposed redevelopment. It should be noted that the redevelopment proposes permeable pavers in the parking area but was modeled conservatively in HydroCAD as gravel area without right-of-way.

One subcatchment was modeled in HydroCAD consisting of the entire site area and some offsite area which contributes to the SDP located in Eliza Street Storm Sewer System and is graphically shown and listed on the drainage map. The cover types represent typical cover types for an urban area consisting of impervious and gravel areas and some grass and landscaped areas. The site is small, therefore a six (6) minute time of concentration (Tc) has been modeled in HydroCAD. Runoff travels via sheet flow to the redesigned onsite stormwater structures and conveyance to the existing City of Beacon Municipal Separate Storm Sewer System in Eliza Street.

5.2 Proposed Runoff Rates

Runoff rates for proposed conditions have been calculated at the designated SDP and summarized in Table III as follows:

TABLE III
PROPOSED RUNOFF RATES

		Runoff Rates (cfs)			
Drainage Area	**Area (sq ft)**	**1-Year (2.61 inches)**	**10-Year (4.70 inches)**	**25-Year (5.90 inches)**	**100-Year (8.34 inches)**
DA 10	45,045	1.12	3.13	4.37	6.92

Unit hydrograph analysis results for post-development conditions have been included as Appendix D.

6.0 DRAINAGE ANALYSIS CONCLUSIONS

The stormwater runoff rates at SDP1 under pre-development and post-development conditions are summarized below.

SDP	**1 - Year**		**10 - Year**		**25 - Year**		**100 - Year**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
1	1.84	1.12	4.03	3.13	5.28	4.37	7.81	6.92

The runoff rates at SDP1 decrease from pre-development to post-development conditions due to the decrease in on-site impervious area and addition of grassed and landscaped areas. The existing drainage system should operate much more efficiently post construction since calculated runoff rates for all storm events are less than pre conditions, and additional structures and piping are proposed onsite which provide additional storage.

Supporting hydrologic analyses for pre-development and post-development conditions are included in Appendices B and C, respectively.

7.0 EROSION AND SEDIMENT CONTROL

Contractors shall adhere to the temporary and permanent erosion control measures as indicated on the plan. Repairs shall be made as necessary to remain in compliance with the New York State Standards and Specifications for Erosion and Sediment Control, 2016.

APPENDIX A

SUPPORTING DATA

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New York
Location	
Longitude	73.967 degrees West
Latitude	41.506 degrees North
Elevation	0 feet
Date/Time	Wed, 13 Mar 2019 16:06:54 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.33	0.50	0.62	0.82	1.02	1.26	**1yr**	0.88	1.19	1.45	1.77	2.15	2.61	2.96	**1yr**	2.31	2.85	3.29	3.95	4.59	**1yr**
2yr	0.39	0.60	0.74	0.98	1.23	1.53	**2yr**	1.06	1.43	1.75	2.14	2.61	3.16	3.57	**2yr**	2.80	3.43	3.93	4.64	5.28	**2yr**
5yr	0.46	0.71	0.89	1.19	1.52	1.91	**5yr**	1.31	1.76	2.20	2.70	3.28	3.96	4.52	**5yr**	3.51	4.35	5.00	5.77	6.53	**5yr**
10yr	0.51	0.80	1.02	1.38	1.79	2.27	**10yr**	1.55	2.07	2.62	3.22	3.90	4.70	5.40	**10yr**	4.16	5.20	5.99	6.82	7.67	**10yr**
25yr	0.60	0.95	1.21	1.67	2.23	2.85	**25yr**	1.92	2.56	3.30	4.06	4.93	5.90	6.86	**25yr**	5.23	6.59	7.63	8.50	9.50	**25yr**
50yr	0.68	1.09	1.39	1.95	2.63	3.39	**50yr**	2.27	3.00	3.93	4.84	5.86	7.02	8.21	**50yr**	6.21	7.89	9.16	10.05	11.18	**50yr**
100yr	0.77	1.24	1.60	2.28	3.10	4.03	**100yr**	2.68	3.53	4.68	5.77	6.99	8.34	9.84	**100yr**	7.38	9.46	11.00	11.88	13.16	**100yr**
200yr	0.87	1.43	1.85	2.66	3.67	4.79	**200yr**	3.17	4.15	5.58	6.89	8.33	9.93	11.79	**200yr**	8.79	11.34	13.22	14.06	15.49	**200yr**
500yr	1.05	1.73	2.26	3.28	4.59	6.03	**500yr**	3.96	5.15	7.04	8.70	10.51	12.50	14.99	**500yr**	11.06	14.41	16.88	17.57	19.25	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.53	0.72	0.88	1.09	**1yr**	0.76	1.06	1.24	1.59	2.01	2.08	2.36	**1yr**	1.84	2.27	2.54	3.30	4.11	**1yr**
2yr	0.37	0.58	0.71	0.96	1.19	1.42	**2yr**	1.03	1.39	1.61	2.05	2.58	3.07	3.45	**2yr**	2.72	3.32	3.77	4.48	5.13	**2yr**
5yr	0.42	0.65	0.81	1.11	1.41	1.65	**5yr**	1.22	1.62	1.88	2.42	3.01	3.65	4.17	**5yr**	3.23	4.01	4.56	5.28	6.06	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.85	**10yr**	1.39	1.81	2.11	2.71	3.38	4.14	4.81	**10yr**	3.66	4.62	5.25	5.98	6.88	**10yr**
25yr	0.54	0.82	1.02	1.46	1.92	2.13	**25yr**	1.66	2.09	2.45	3.05	3.94	4.86	5.81	**25yr**	4.30	5.59	6.31	7.04	8.15	**25yr**
50yr	0.60	0.92	1.14	1.64	2.21	2.38	**50yr**	1.91	2.33	2.76	3.41	4.43	5.50	6.73	**50yr**	4.87	6.47	7.26	7.96	9.28	**50yr**
100yr	0.68	1.03	1.29	1.86	2.56	2.67	**100yr**	2.21	2.61	3.12	3.81	5.01	6.19	7.79	**100yr**	5.48	7.49	8.35	8.99	10.56	**100yr**
200yr	0.77	1.16	1.47	2.13	2.97	2.98	**200yr**	2.56	2.92	3.52	4.27	5.66	6.92	9.05	**200yr**	6.12	8.70	9.60	10.15	12.05	**200yr**
500yr	0.92	1.37	1.76	2.56	3.64	3.48	**500yr**	3.14	3.40	4.16	4.98	6.68	8.02	11.04	**500yr**	7.10	10.62	11.58	11.90	14.36	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.36	0.56	0.68	0.91	1.12	1.36	**1yr**	0.97	1.33	1.53	1.96	2.42	2.82	3.21	**1yr**	2.49	3.09	3.57	4.24	4.95	**1yr**
2yr	0.40	0.62	0.77	1.04	1.28	1.54	**2yr**	1.10	1.50	1.74	2.25	2.80	3.33	3.70	**2yr**	2.95	3.56	4.10	4.82	5.47	**2yr**
5yr	0.49	0.76	0.94	1.29	1.64	1.95	**5yr**	1.42	1.91	2.25	2.89	3.66	4.26	4.88	**5yr**	3.77	4.70	5.42	6.29	7.01	**5yr**
10yr	0.58	0.89	1.11	1.55	2.00	2.37	**10yr**	1.72	2.31	2.74	3.53	4.48	5.21	6.02	**10yr**	4.61	5.79	6.71	7.69	8.49	**10yr**
25yr	0.72	1.10	1.37	1.95	2.57	3.05	**25yr**	2.22	2.98	3.57	4.73	5.87	6.80	7.93	**25yr**	6.02	7.63	8.93	10.06	10.94	**25yr**
50yr	0.85	1.30	1.61	2.32	3.12	3.71	**50yr**	2.70	3.63	4.35	5.83	7.19	8.33	9.78	**50yr**	7.37	9.41	11.11	12.33	13.25	**50yr**
100yr	1.01	1.53	1.91	2.76	3.79	4.51	**100yr**	3.27	4.41	5.31	7.20	8.82	10.21	12.05	**100yr**	9.04	11.59	13.82	15.14	16.06	**100yr**
200yr	1.19	1.79	2.27	3.29	4.59	5.47	**200yr**	3.96	5.35	6.49	8.86	10.81	12.54	14.86	**200yr**	11.10	14.29	17.21	18.59	19.48	**200yr**
500yr	1.49	2.22	2.86	4.16	5.91	7.09	**500yr**	5.10	6.93	8.44	11.71	14.14	16.48	19.58	**500yr**	14.58	18.83	23.01	24.43	25.11	**500yr**

Soil Map—Dutchess County, New York
(53 Eliza Street)

Map Scale: 1:571 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Dutchess County, New York
Survey Area Data: Version 14, Oct 8, 2017

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

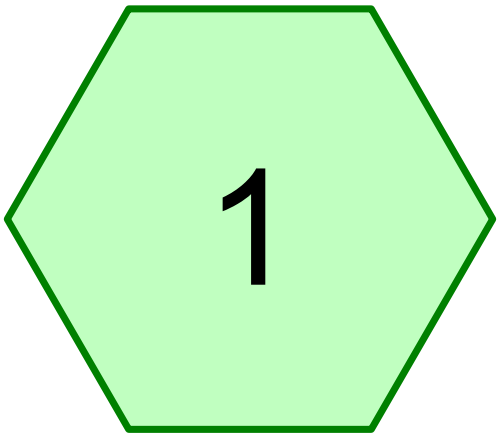
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DxB	Dutchess-Cardigan-Urban land complex, undulating, rocky	0.3	36.3%
KuB	Knickerbocker-Urban land complex, undulating	0.5	63.7%
Totals for Area of Interest		**0.8**	**100.0%**

APPENDIX B

PRE-DEVELOPMENT HYDROLOGIC REPORT



PRE DRAINAGE AREA 1

Subcat Reach Pond Link

Routing Diagram for DRAINAGE_PRE
Prepared by Hudson Land Design, P.C. , Printed 3/23/2019

DRAINAGE_PRE

Prepared by Hudson Land Design, P.C.

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.148	39	>75% Grass cover, Good, HSG A (1)
0.104	96	Gravel surface, HSG A (1)
0.549	98	Paved parking, HSG A (1)
0.233	98	Paved parking, HSG B (1)

Summary for Subcatchment 1: PRE DRAINAGE AREA 1

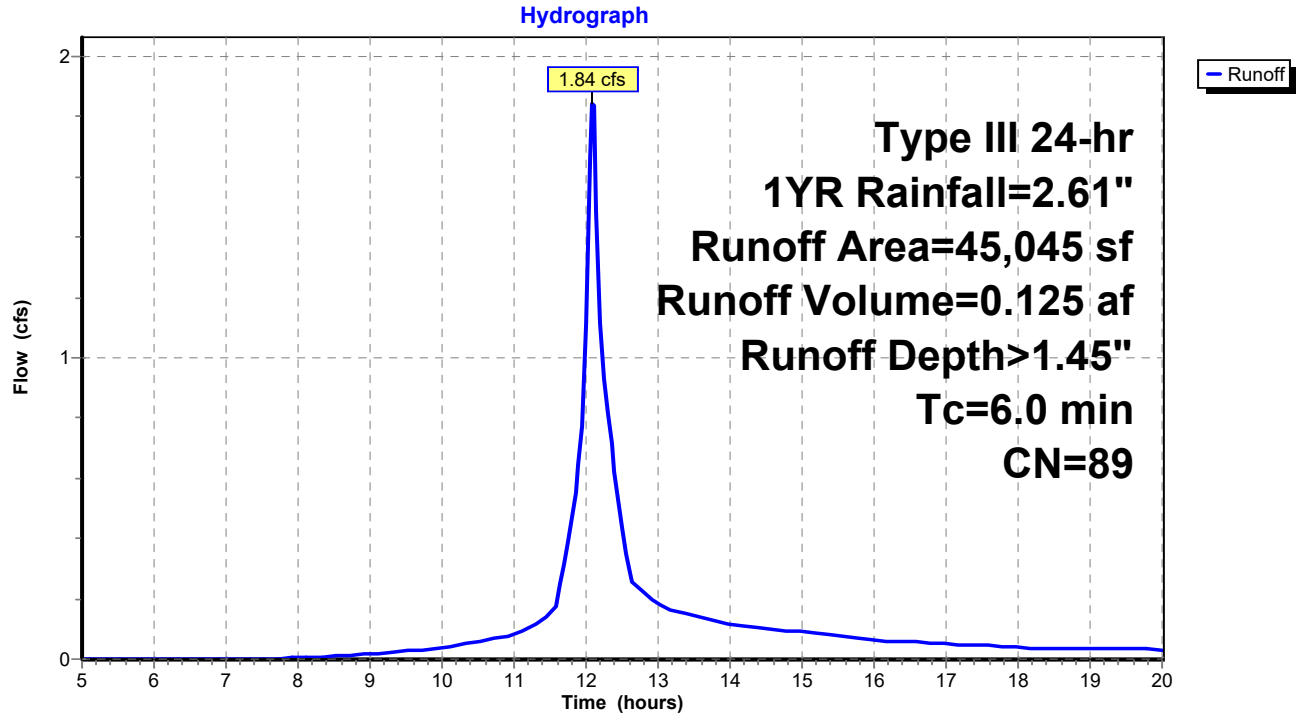
Runoff = 1.84 cfs @ 12.09 hrs, Volume= 0.125 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 1YR Rainfall=2.61"

Area (sf)	CN	Description
10,162	98	Paved parking, HSG B
23,916	98	Paved parking, HSG A
4,526	96	Gravel surface, HSG A
6,441	39	>75% Grass cover, Good, HSG A
45,045	89	Weighted Average
10,967		24.35% Pervious Area
34,078		75.65% Impervious Area

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

Subcatchment 1: PRE DRAINAGE AREA 1



Summary for Subcatchment 1: PRE DRAINAGE AREA 1

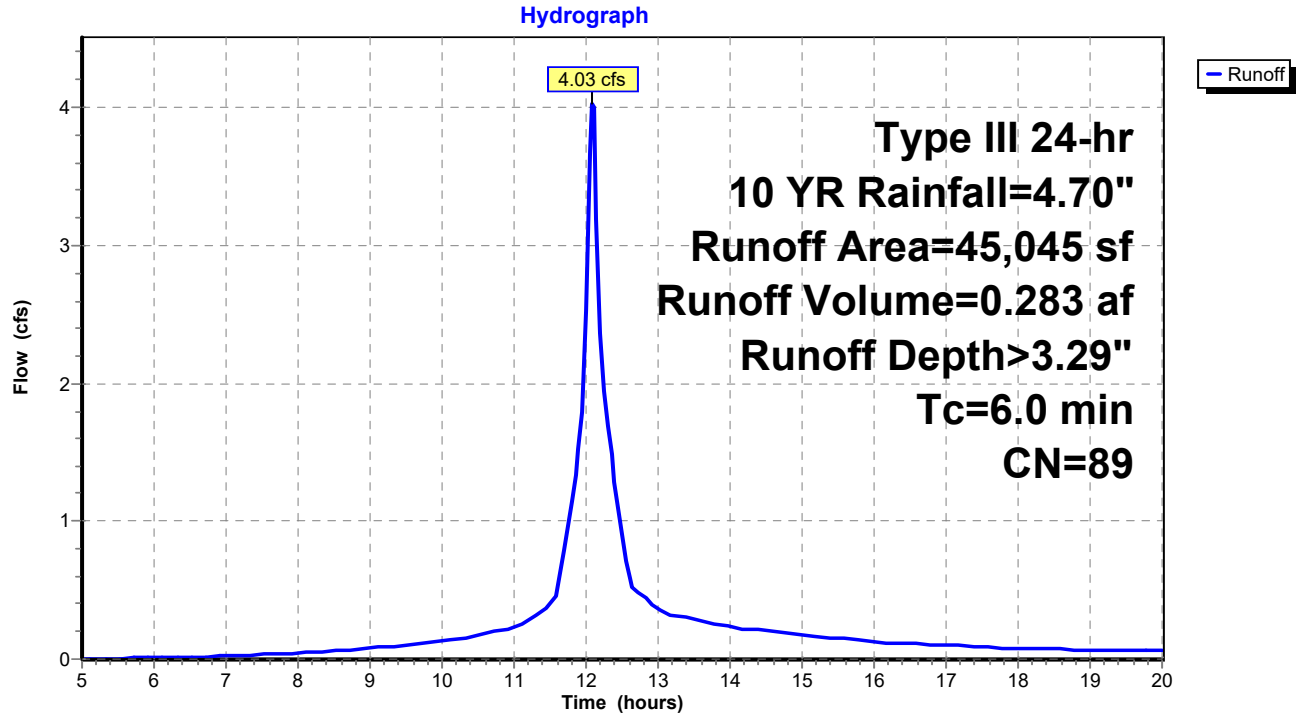
Runoff = 4.03 cfs @ 12.09 hrs, Volume= 0.283 af, Depth> 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR Rainfall=4.70"

Area (sf)	CN	Description
10,162	98	Paved parking, HSG B
23,916	98	Paved parking, HSG A
4,526	96	Gravel surface, HSG A
6,441	39	>75% Grass cover, Good, HSG A
45,045	89	Weighted Average
10,967		24.35% Pervious Area
34,078		75.65% Impervious Area

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

Subcatchment 1: PRE DRAINAGE AREA 1



Summary for Subcatchment 1: PRE DRAINAGE AREA 1

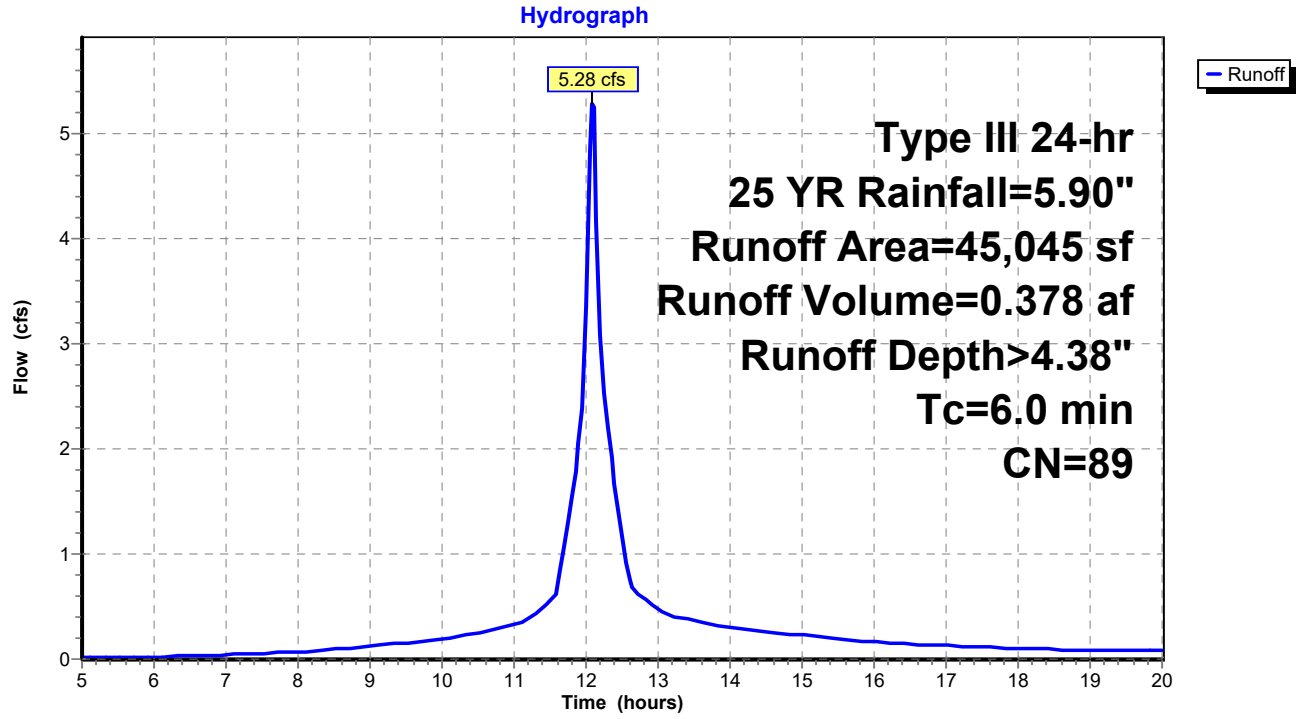
Runoff = 5.28 cfs @ 12.09 hrs, Volume= 0.378 af, Depth> 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=5.90"

Area (sf)	CN	Description
10,162	98	Paved parking, HSG B
23,916	98	Paved parking, HSG A
4,526	96	Gravel surface, HSG A
6,441	39	>75% Grass cover, Good, HSG A
45,045	89	Weighted Average
10,967		24.35% Pervious Area
34,078		75.65% Impervious Area

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

Subcatchment 1: PRE DRAINAGE AREA 1



Summary for Subcatchment 1: PRE DRAINAGE AREA 1

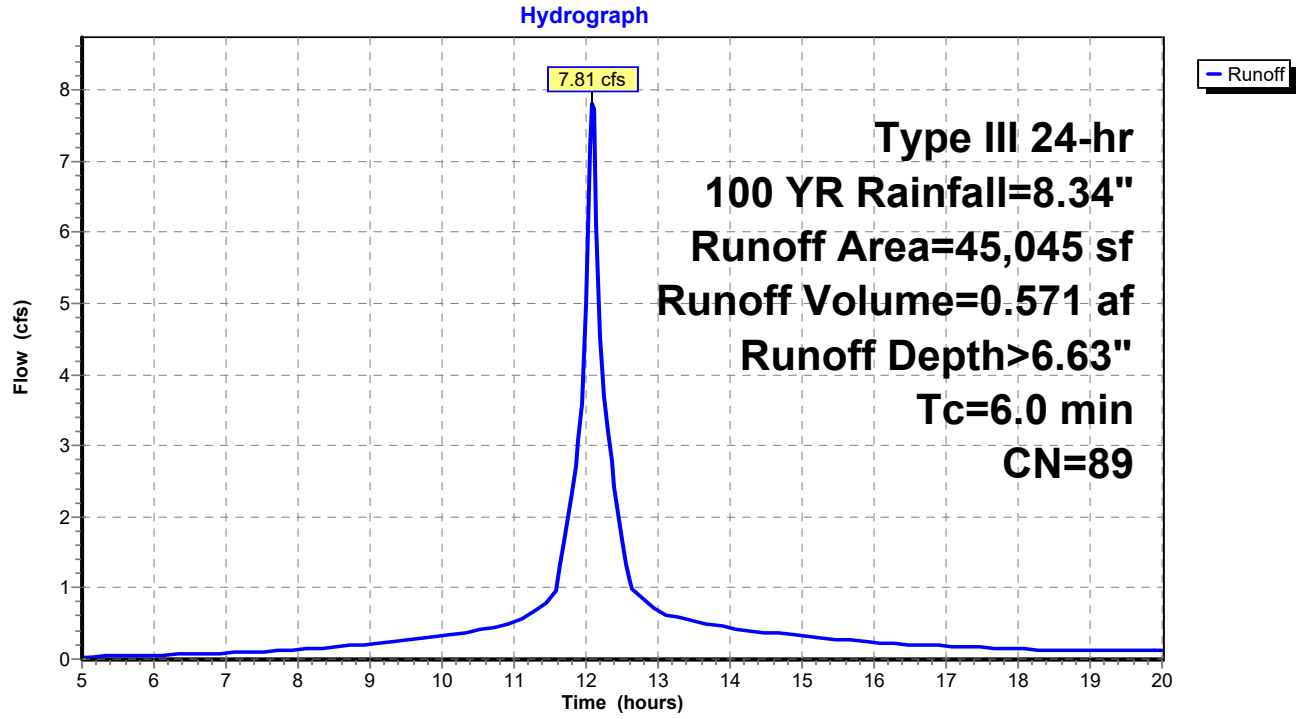
Runoff = 7.81 cfs @ 12.09 hrs, Volume= 0.571 af, Depth> 6.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.34"

Area (sf)	CN	Description
10,162	98	Paved parking, HSG B
23,916	98	Paved parking, HSG A
4,526	96	Gravel surface, HSG A
6,441	39	>75% Grass cover, Good, HSG A
45,045	89	Weighted Average
10,967		24.35% Pervious Area
34,078		75.65% Impervious Area

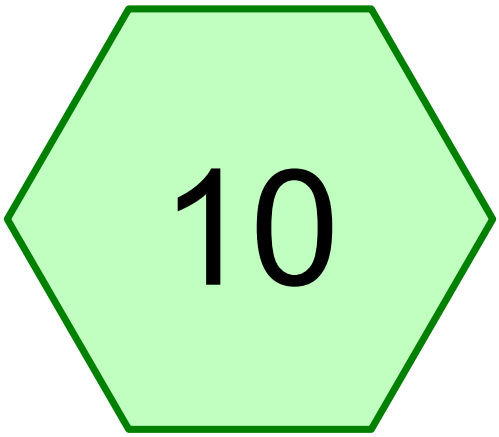
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1: PRE DRAINAGE AREA 1



APPENDIX C

POST-DEVELOPMENT HYDROLOGIC REPORT



POST DRAINAGE AREA 1

Subcat Reach Pond Link

Routing Diagram for DRAINAGE_PRE
Prepared by Hudson Land Design, P.C. , Printed 3/23/2019

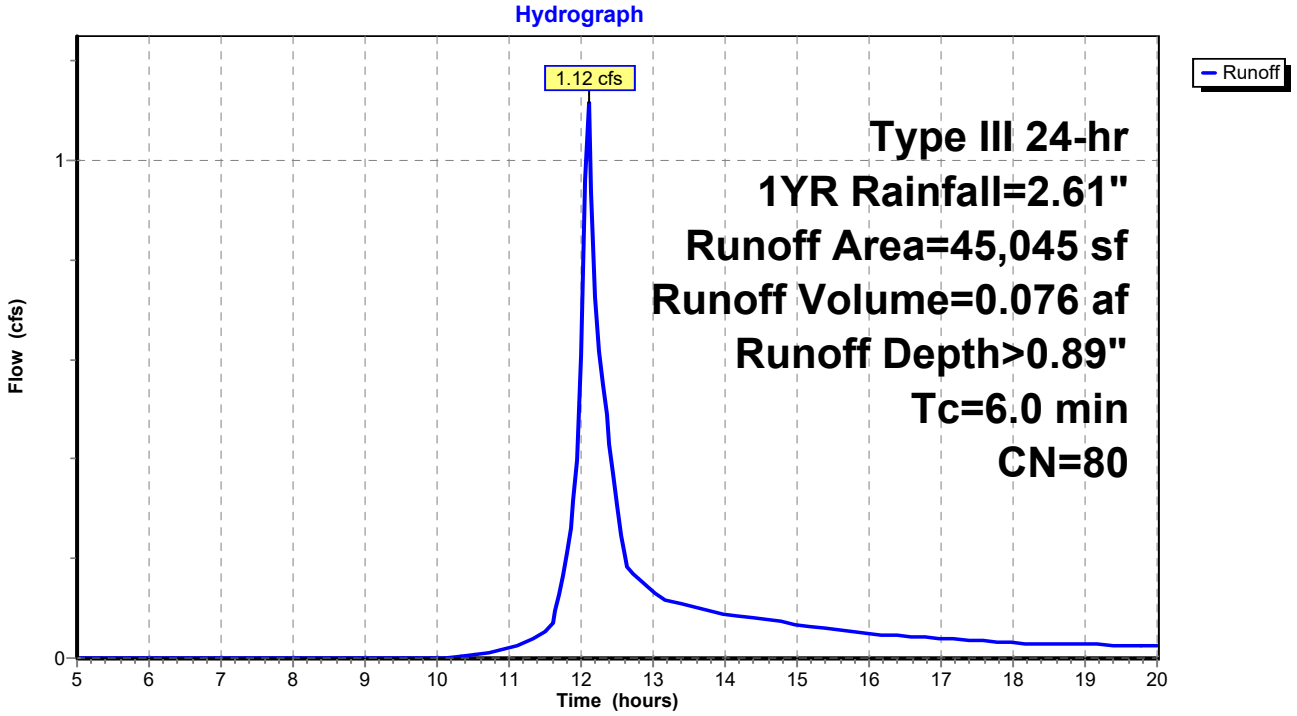
DRAINAGE_PRE

Prepared by Hudson Land Design, P.C.

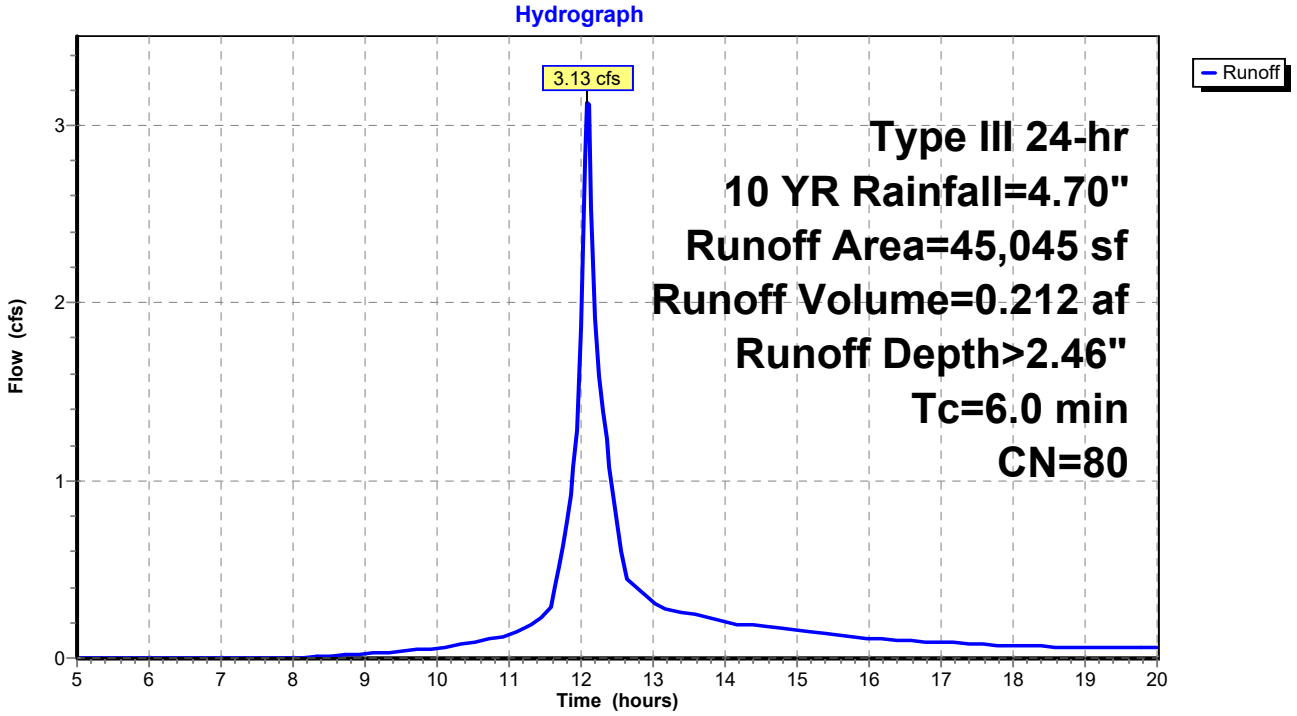
Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.259	39	>75% Grass cover, Good, HSG A (10)
0.063	61	>75% Grass cover, Good, HSG B (10)
0.261	96	Gravel surface, HSG A (10)
0.070	96	Gravel surface, HSG B (10)
0.282	98	Paved parking, HSG A (10)
0.100	98	Paved parking, HSG B (10)
1.034	**80**	**TOTAL AREA**

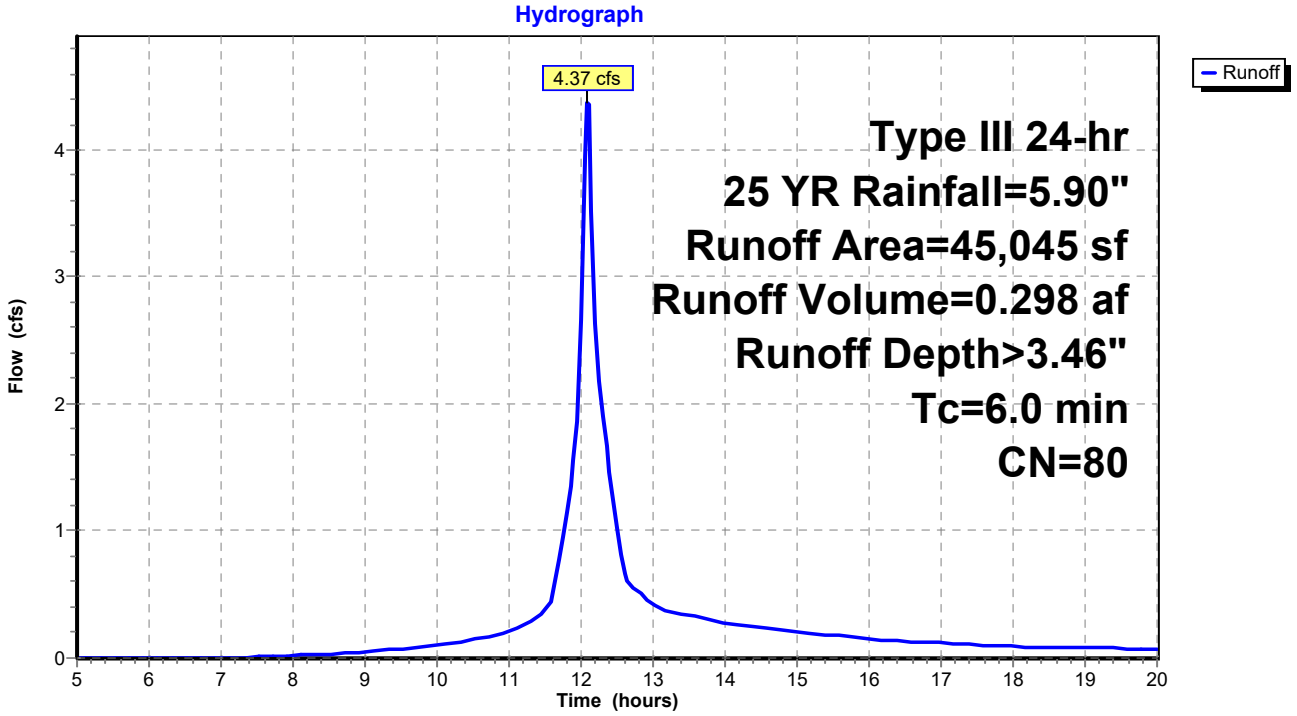
Subcatchment 10: POST DRAINAGE AREA 1



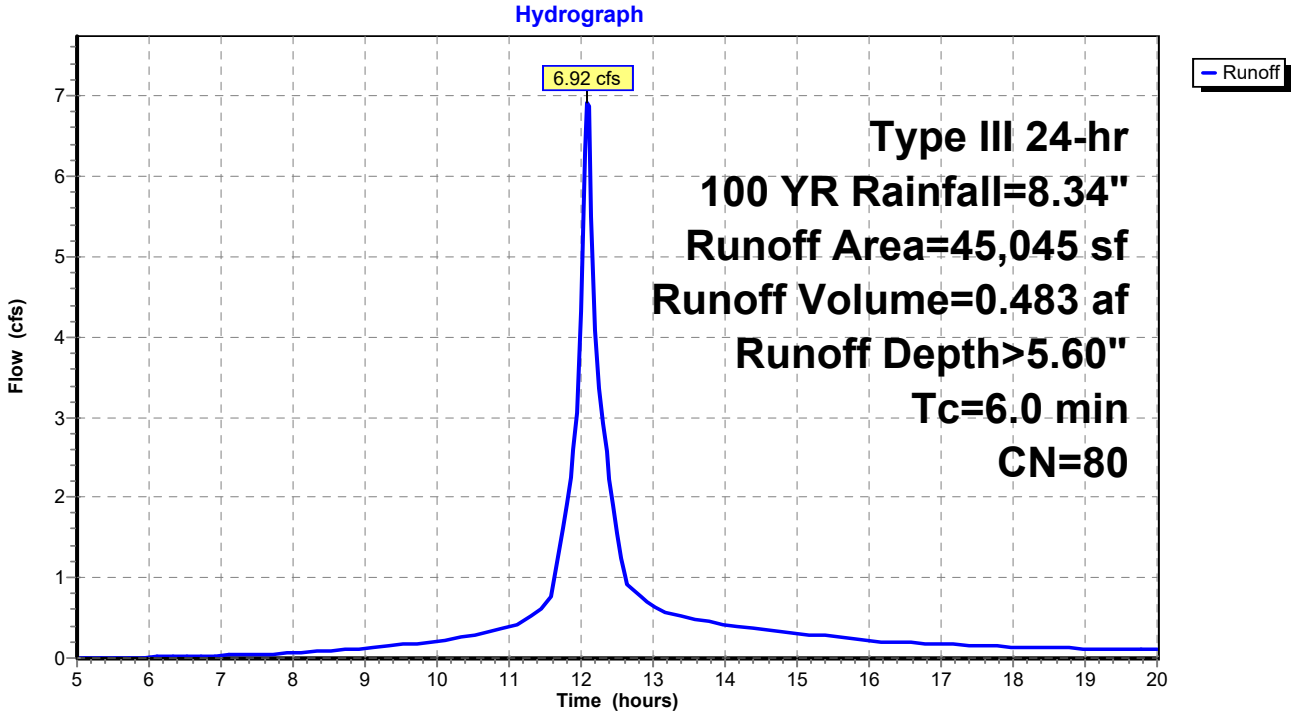
Subcatchment 10: POST DRAINAGE AREA 1



Subcatchment 10: POST DRAINAGE AREA 1

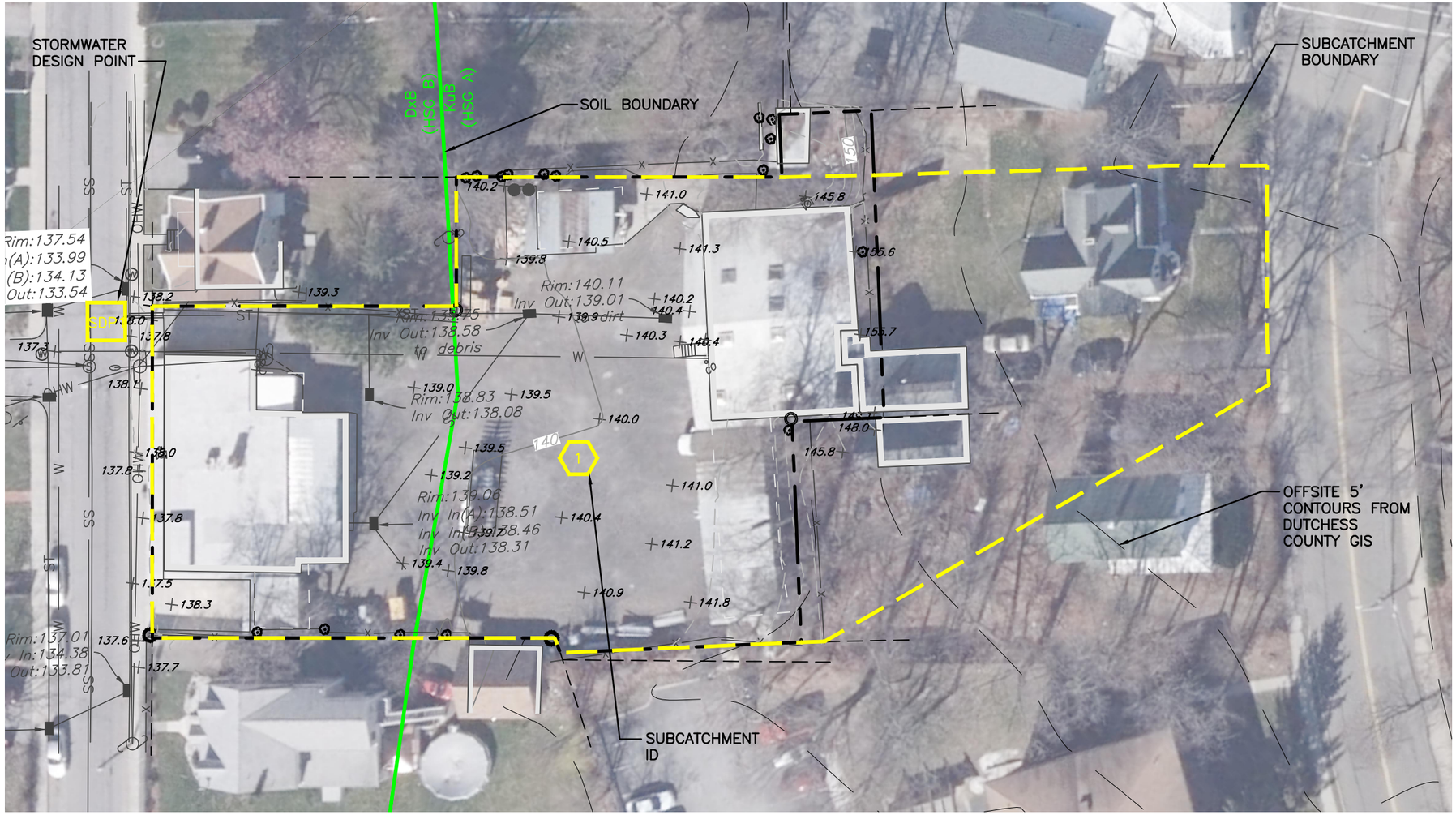


Subcatchment 10: POST DRAINAGE AREA 1



APPENDIX D

DRAINAGE MAPS



PRE CONDITIONS DRAINAGE
SCALE: 1"=40'

DRAINAGE AREA 1
A–SOIL
TOTAL = 34,883 SQFT
IMPERVIOUS = 23,916 SQFT
GRAVEL = 4,526 SQFT
GRASS = 6,441 SQFT

DRAINAGE AREA 1
B–SOIL
TOTAL = 10,162 SQFT
IMPERVIOUS = 10,162 SQFT

LEGEND:

SOIL BOUNDARY

DRAINAGE BOUNDARY

SOIL ID — DxB (HSG B)

SUBCATCHMENT ID — 1

DESIGN POINT — SDP1

PRE CONDITIONS DRAINAGE

53 ELIZA STREET

53 ELIZA STREET
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6054-29-031870
SCALE: 1" = 40'
MARCH 25, 2019

DRAWN BY: CMB	CHECKED BY: MAB	JOB NO.: 2018:032

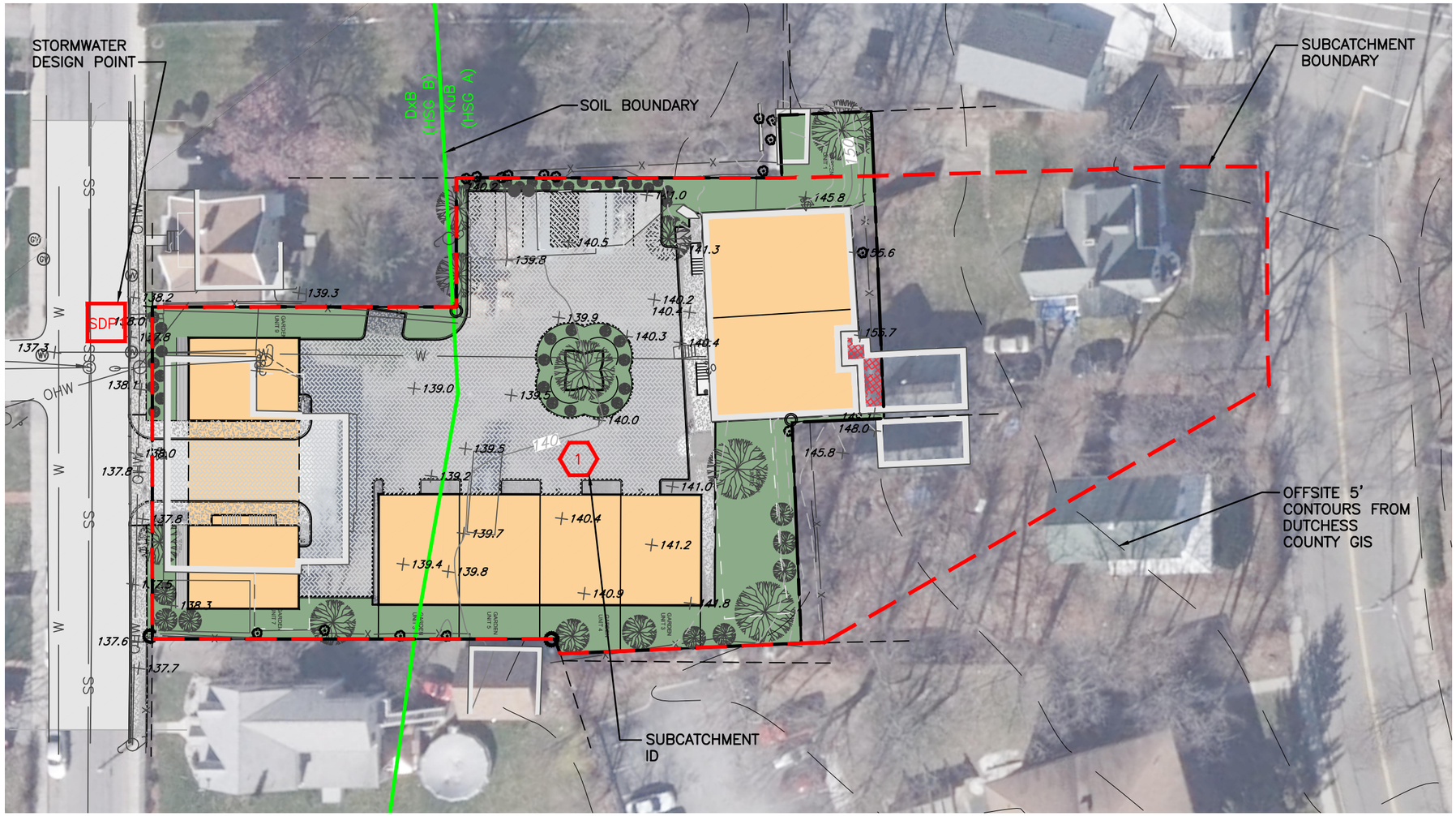
REVISIONS:

NO.	DATE	DESCRIPTION	BY

HUDSON LAND DESIGN
PROFESSIONAL ENGINEERING P.C.
174 MAIN STREET
BEACON, NEW YORK 12508
PH: 845-440-6926 F: 845-440-6637

SEAL

JON D. BODENDORF, P.E.
NYS LICENSE NO. 076245
DANIEL G. KOEHLER, P.E.
NYS LICENSE NO. 082716



POST CONDITIONS DRAINAGE

SCALE: 1"=40'

DRAINAGE AREA 10
A–SOIL
TOTAL = 34,883 SQFT
IMPERVIOUS = 12,266 SQFT
PERVIOUS PAVER = 6,826 SQFT
GRAVEL = 4,526 SQFT
GRASS = 11,265 SQFT

DRAINAGE AREA 10
B–SOIL
TOTAL = 10,162 SQFT
IMPERVIOUS = 4,358 SQFT
PERVIOUS PAVER = 3,061 SQFT
GRASS = 2,743 SQFT

LEGEND:

SOIL BOUNDARY

DRAINAGE BOUNDARY

SOIL ID — DxB (HSG B)

SUBCATCHMENT ID — 10

DESIGN POINT — SDP1

POST CONDITIONS DRAINAGE

53 ELIZA STREET

53 ELIZA STREET
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK
TAX ID: 6054-29-031870
SCALE: 1" = 40'
MARCH 25, 2019

DRAWN BY: CMB	CHECKED BY: MAB	JOB NO.: 2016:032	
REVISIONS:			
NO.	DATE	DESCRIPTION	BY

HUDSON LAND DESIGN
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