STORM WATER MANAGEMENT PLAN

33 Townhouse Units

1525, 1601, 1603, & 1605 East 86th Street
1604 & 1606 East 87th Street
Bloomington, Minnesota

April 15, 2026
Revised – April 28, 2026
Revised – May 12, 2026

Prepared By:

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Prepared For:

Twin Win 1 LLC
1652 116th Ave Northeast
Blaine, MN 55449

I hereby certify that this Plan, Specification or Report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Jeffrey A Prasch, PE Project Engineer	52706 License Number	04.15.26 Date

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1.0 Project Overview

Multiple buildings, driveways, and sidewalks is proposed at 1525, 1601, 1603, and 1605 East 86th Street; 1604 and 1606 East 87th Street in Bloomington, MN. The 2.75-acre site is currently has multiple residences, driveways, decks, walks, and many trees. There are residences to the east and west of the site, East 86th Street to the north, and East 87th Street to the south. Currently most of the stormwater runoff flows to private property to the east. The north portion of the site's stormwater runoff flows to East 86th Street. The south portion of the site's stormwater runoff flows to East 87th Street. The existing drainage conditions are shown in **Figure 1**.

The proposed improvements will include multiple buildings, driveways, sidewalks, and associated improvements with a proposed land disturbance of 2.84 acres. An Infiltration Basin and French Drain is provided to treat the stormwater and meet rate, volume, and water quality requirements. Majority of the site will be routed via surface flow and storm sewer to the Infiltration Basin and French Drain. The remaining stormwater runoff will continue to run off the site to the north, east, and south. **Figure 2** shows the proposed drainage conditions.

The proposed site improvements will include:

- Infiltration Basin
- French Drain

2.0 Design Considerations

The City of Bloomington (City) and the Richfield-Bloomington Watershed Management Organization (RBWMO) dictate the rate, volume, and water quality requirements for this site. The following design tools, methods, and considerations were used in the design of the on-site stormwater system:

- Rate and Volume Modeling Software – HydroCAD 10.20
- Rainfall Distribution – MSE 24-hour Type III
- Rainfall Data – NOAA Atlas 14 rainfall data as shown in **Figure 3**.
- Soil Conditions – Hydrologic Soil Group A based on Web Soil Survey shown in **Appendix H.**
- Infiltration Rate = 0.80 in/hr

3.0 Rate Control

The City and RBWMO regulate the rate control for this property. Runoff rates for the proposed activity shall not exceed existing runoff rates for the 2-year, 10-year, and 100-year critical storm events. **Table 3.1** summarizes the discharge rates for each storm event.

Table 3.1 – Discharge Rate Summary

Discharge Node	Discharge Rate [cfs]					
	Storm Event					
	2-Year		10-Year		100-Year	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
East 86th Street (1L)	0.76	**0.35**	1.14	**0.53**	2.30	**1.94**
Private Property (2L)	0.50	**0.45**	0.76	**0.68**	3.21	**1.30**
East 87th Street (3L)	0.37	**0.10**	0.56	**0.14**	1.55	**0.27**
Total Offsite (4L)	1.63	**0.90**	2.46	**1.35**	7.03	**3.28**

As shown in the table above, the proposed rates do not exceed the existing rates. The requirements for rate control are met. The HydroCAD results for the rate control are included in **Appendices B-G**.

4.0 Volume Control

The City and RBWMO regulates the volume of water discharged from the site. The requirement is that stormwater runoff must be infiltrated/abstracted onsite in the amount equivalent to one point one inch (1.1") of runoff generated from new impervious surface. With an infiltration rate of 0.8 in/hr being used and 40% voids, we can have a French Drain depth up to 8 feet deep from the bottom to the outlet. The designed French Drain has a depth of 6.8 feet which will filtrate in approximately 41 hours. An Infiltration Basin and French Drain will be used to meet the volume requirements. **Table 4.1** shows the abstracted volume retained on-site.

Table 4.1 – Abstracted Volume Summary

Abstraction Facility	Existing Impervious Area (sf)	New/Reconstructed Impervious Area (sf)	Required Abstracted Volume of 1.1" of Precipitation (cf)	Actual Abstracted Volume (cf)	Time to Filtrate (hrs)
Infiltration Basin (1P)	**13,677**	**66,239**	**+6,072**	**10,272**	**28**
French Drain (2P)	**4,053**	**12,905**	**+1,183**	**3,427**	**41**

As shown in Table 4.1, the actual abstracted volume meets the required abstracted volume. See the HydroCAD stage-storage table summaries in **Appendix G**.

recommend revising language to "pre-project" and "post-project" for consistency w/ Table 5.1 and City rules.

5.0 Water Quality

The City and RBWMO regulates the water quality requirements for this site. There shall be no net increase in total phosphorus (TP) or total suspended solids (TSS) from pre-development land cover to post-development land cover. The Infiltration Basin and French Drain facilities provides the necessary treatment and removal of TP and TSS, ensuring that post-development pollutant loads remain below existing conditions meeting the water quality requirements as shown in **Table 5.1**.

Table 5.1 – Water Quality Summary

Pollutant	Pre-Project Load (lbs)	Post-Project Load (lbs)
TP	1.4329	0.0254
TSS	260.2	4.6

Appendix A

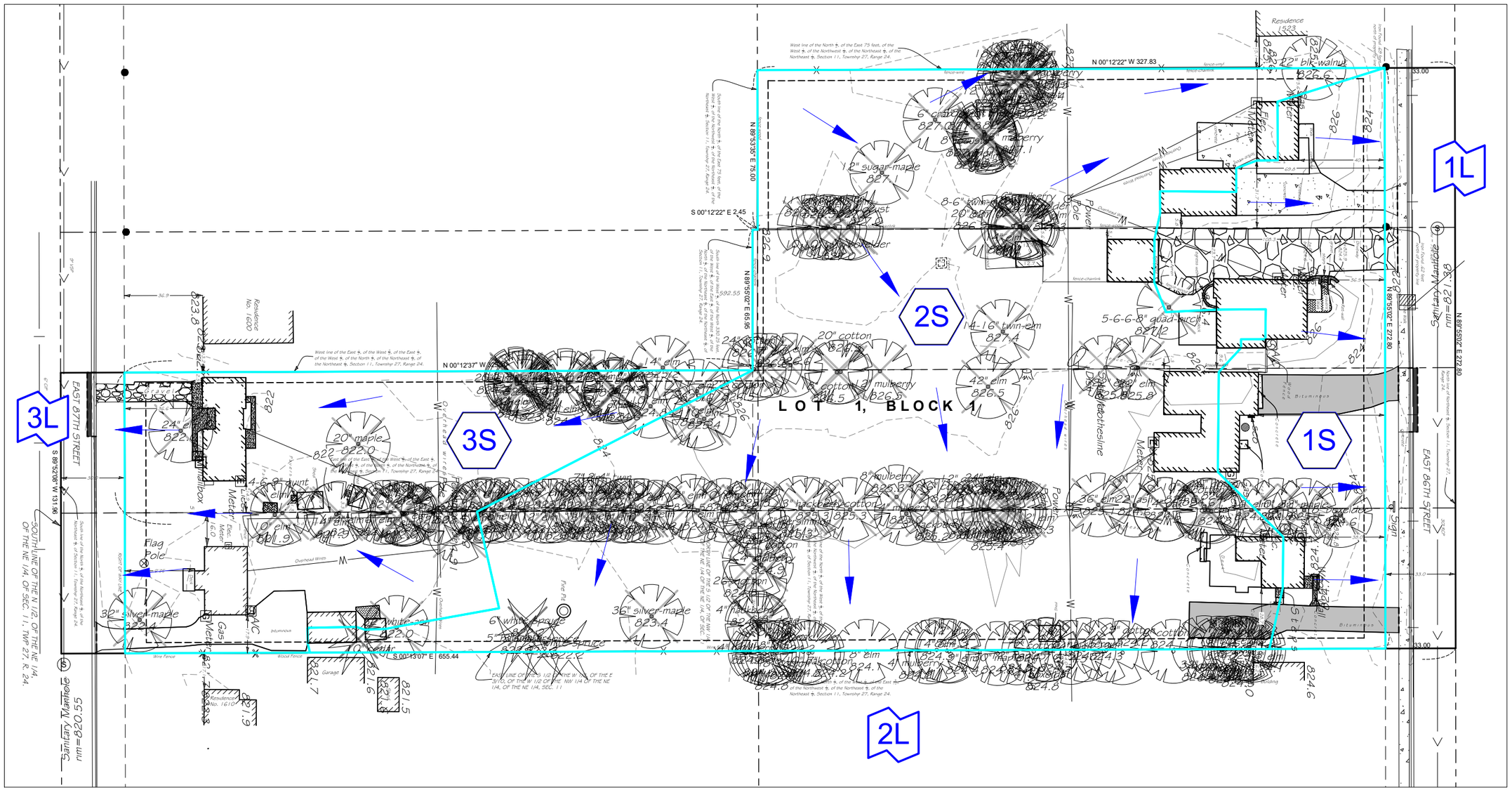
Figures

LEGEND

- 1S — SUBCATCHMENT NUMBER
- 1P — POND/CATCH BASIN NUMBER
- 1L — LINK NUMBER
- 1R — REACH NUMBER
- DRAINAGE ARROW

0 50 100

SCALE IN FEET



33 TOWNHOUSE UNITS
1525, 1601, 1603, & 1605 EAST 86TH STREET
1604 & 1606 EAST 87TH STREET
BLOOMINGTON, MN

DRAINAGE AREAS
EXISTING CONDITIONS

FIGURE 1

04.15.2026

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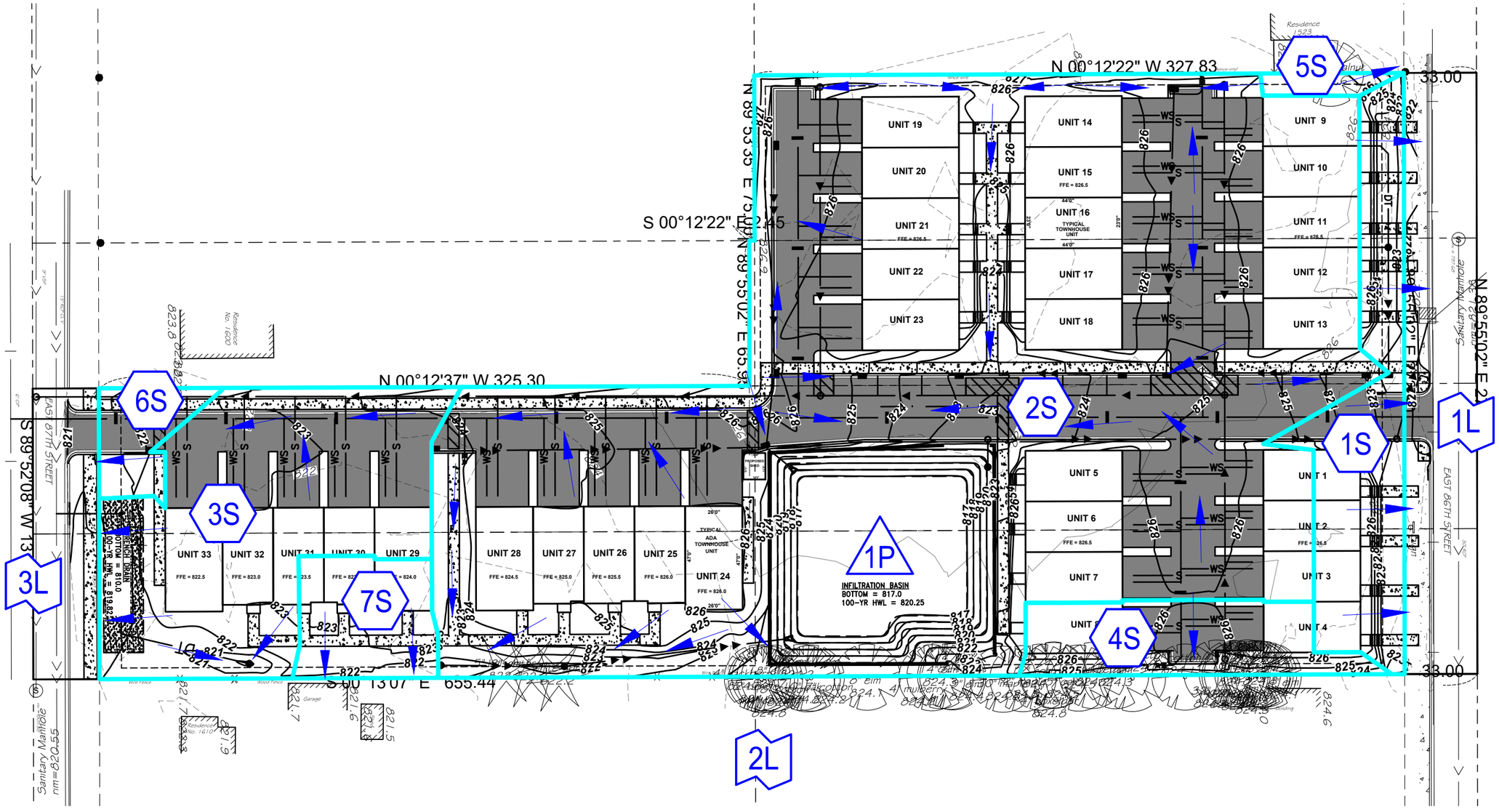
LEGEND

- 1S — SUBCATCHMENT NUMBER
- 1P — POND/CATCH BASIN NUMBER
- 1L — LINK NUMBER
- 1R — REACH NUMBER
- DRAINAGE ARROW

0 50 100

SCALE IN FEET



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33 TOWNHOUSE UNITS
1525, 1601, 1603, & 1605 EAST 86TH STREET
1604 & 1606 EAST 87TH STREET
BLOOMINGTON, MN

DRAINAGE AREAS
PROPOSED CONDITIONS

FIGURE 2

04.15.2026
REV. – 05.12.2026

NOAA Atlas 14, Volume 8, Version 2
Location name: Minneapolis, Minnesota, USA*
Latitude: 44.8476°, Longitude: -93.2518°
Elevation: 827 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.353** (0.298-0.425)	**0.420** (0.354-0.506)	**0.534** (0.449-0.646)	**0.634** (0.529-0.771)	**0.780** (0.626-0.990)	**0.898** (0.700-1.16)	**1.02** (0.762-1.35)	**1.15** (0.816-1.57)	**1.34** (0.900-1.87)	**1.48** (0.964-2.10)
10-min	**0.517** (0.436-0.623)	**0.614** (0.518-0.741)	**0.782** (0.657-0.947)	**0.929** (0.775-1.13)	**1.14** (0.917-1.45)	**1.32** (1.02-1.69)	**1.50** (1.12-1.98)	**1.69** (1.20-2.30)	**1.95** (1.32-2.74)	**2.16** (1.41-3.07)
15-min	**0.630** (0.532-0.760)	**0.749** (0.632-0.904)	**0.954** (0.801-1.15)	**1.13** (0.945-1.38)	**1.39** (1.12-1.77)	**1.60** (1.25-2.06)	**1.82** (1.36-2.41)	**2.06** (1.46-2.80)	**2.38** (1.61-3.34)	**2.64** (1.72-3.74)
30-min	**0.885** (0.747-1.07)	**1.06** (0.893-1.28)	**1.36** (1.14-1.64)	**1.62** (1.35-1.97)	**2.00** (1.60-2.54)	**2.31** (1.80-2.97)	**2.63** (1.96-3.48)	**2.98** (2.11-4.05)	**3.46** (2.33-4.84)	**3.83** (2.50-5.43)
60-min	**1.16** (0.975-1.39)	**1.38** (1.16-1.66)	**1.78** (1.49-2.15)	**2.15** (1.79-2.61)	**2.71** (2.19-3.48)	**3.19** (2.50-4.14)	**3.71** (2.78-4.94)	**4.28** (3.04-5.86)	**5.09** (3.44-7.16)	**5.75** (3.75-8.15)
2-hr	**1.42** (1.21-1.70)	**1.69** (1.44-2.03)	**2.20** (1.86-2.64)	**2.67** (2.24-3.23)	**3.43** (2.80-4.39)	**4.08** (3.22-5.27)	**4.79** (3.62-6.36)	**5.58** (4.00-7.61)	**6.73** (4.59-9.42)	**7.67** (5.04-10.8)
3-hr	**1.59** (1.36-1.90)	**1.88** (1.60-2.24)	**2.44** (2.07-2.92)	**3.00** (2.53-3.61)	**3.89** (3.20-5.00)	**4.68** (3.72-6.06)	**5.56** (4.22-7.37)	**6.55** (4.72-8.91)	**7.99** (5.48-11.2)	**9.19** (6.06-12.9)
6-hr	**1.88** (1.61-2.22)	**2.20** (1.88-2.60)	**2.85** (2.43-3.38)	**3.50** (2.97-4.18)	**4.57** (3.80-5.86)	**5.54** (4.43-7.13)	**6.62** (5.07-8.73)	**7.84** (5.70-10.6)	**9.64** (6.68-13.4)	**11.2** (7.42-15.5)
12-hr	**2.13** (1.84-2.50)	**2.51** (2.16-2.95)	**3.23** (2.77-3.81)	**3.93** (3.35-4.66)	**5.05** (4.20-6.37)	**6.03** (4.84-7.67)	**7.12** (5.47-9.27)	**8.32** (6.08-11.1)	**10.1** (7.02-13.9)	**11.5** (7.74-15.9)
24-hr	**2.48** (2.15-2.89)	**2.83** (2.45-3.30)	**3.53** (3.05-4.13)	**4.23** (3.62-4.97)	**5.36** (4.50-6.72)	**6.36** (5.15-8.04)	**7.49** (5.81-9.70)	**8.75** (6.45-11.6)	**10.6** (7.45-14.5)	**12.2** (8.21-16.6)
2-day	**2.88** (2.51-3.32)	**3.21** (2.80-3.71)	**3.89** (3.38-4.51)	**4.58** (3.95-5.34)	**5.71** (4.82-7.10)	**6.73** (5.49-8.43)	**7.87** (6.15-10.1)	**9.17** (6.81-12.1)	**11.1** (7.85-15.0)	**12.7** (8.63-17.2)
3-day	**3.15** (2.76-3.62)	**3.49** (3.05-4.02)	**4.17** (3.64-4.82)	**4.87** (4.21-5.65)	**6.01** (5.10-7.43)	**7.04** (5.76-8.78)	**8.20** (6.43-10.5)	**9.50** (7.09-12.5)	**11.4** (8.13-15.4)	**13.0** (8.92-17.6)
4-day	**3.36** (2.95-3.86)	**3.72** (3.27-4.28)	**4.44** (3.88-5.12)	**5.16** (4.48-5.97)	**6.32** (5.36-7.76)	**7.35** (6.03-9.11)	**8.51** (6.69-10.8)	**9.80** (7.33-12.8)	**11.7** (8.35-15.7)	**13.3** (9.12-17.9)
7-day	**3.88** (3.42-4.42)	**4.35** (3.84-4.96)	**5.21** (4.58-5.97)	**6.01** (5.24-6.91)	**7.23** (6.12-8.72)	**8.26** (6.78-10.1)	**9.38** (7.39-11.8)	**10.6** (7.94-13.7)	**12.3** (8.83-16.4)	**13.8** (9.50-18.4)
10-day	**4.36** (3.87-4.96)	**4.93** (4.36-5.60)	**5.90** (5.20-6.73)	**6.76** (5.92-7.75)	**8.03** (6.79-9.58)	**9.06** (7.45-11.0)	**10.2** (8.01-12.6)	**11.3** (8.50-14.5)	**12.9** (9.28-17.1)	**14.2** (9.88-19.0)
20-day	**5.93** (5.28-6.68)	**6.65** (5.92-7.50)	**7.84** (6.95-8.87)	**8.84** (7.78-10.0)	**10.2** (8.65-12.0)	**11.3** (9.31-13.5)	**12.4** (9.80-15.2)	**13.5** (10.2-17.0)	**15.0** (10.8-19.5)	**16.1** (11.3-21.3)
30-day	**7.32** (6.55-8.21)	**8.18** (7.30-9.18)	**9.55** (8.50-10.8)	**10.7** (9.43-12.1)	**12.2** (10.3-14.2)	**13.3** (11.0-15.8)	**14.4** (11.5-17.5)	**15.5** (11.8-19.5)	**17.0** (12.3-21.9)	**18.0** (12.7-23.8)
45-day	**9.13** (8.20-10.2)	**10.2** (9.14-11.4)	**11.9** (10.6-13.3)	**13.2** (11.7-14.8)	**14.9** (12.6-17.2)	**16.1** (13.4-18.9)	**17.3** (13.8-20.8)	**18.4** (14.0-22.9)	**19.8** (14.4-25.3)	**20.7** (14.6-27.2)
60-day	**10.7** (9.63-11.9)	**12.0** (10.8-13.3)	**13.9** (12.5-15.6)	**15.4** (13.7-17.3)	**17.4** (14.7-19.9)	**18.7** (15.5-21.8)	**19.9** (15.9-23.9)	**21.1** (16.0-26.0)	**22.4** (16.3-28.5)	**23.2** (16.5-30.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Ensure use of correct site name

Figure 4: Rational Method Storm Sewer Calculations

Bluff View - Northfield, Minnesota

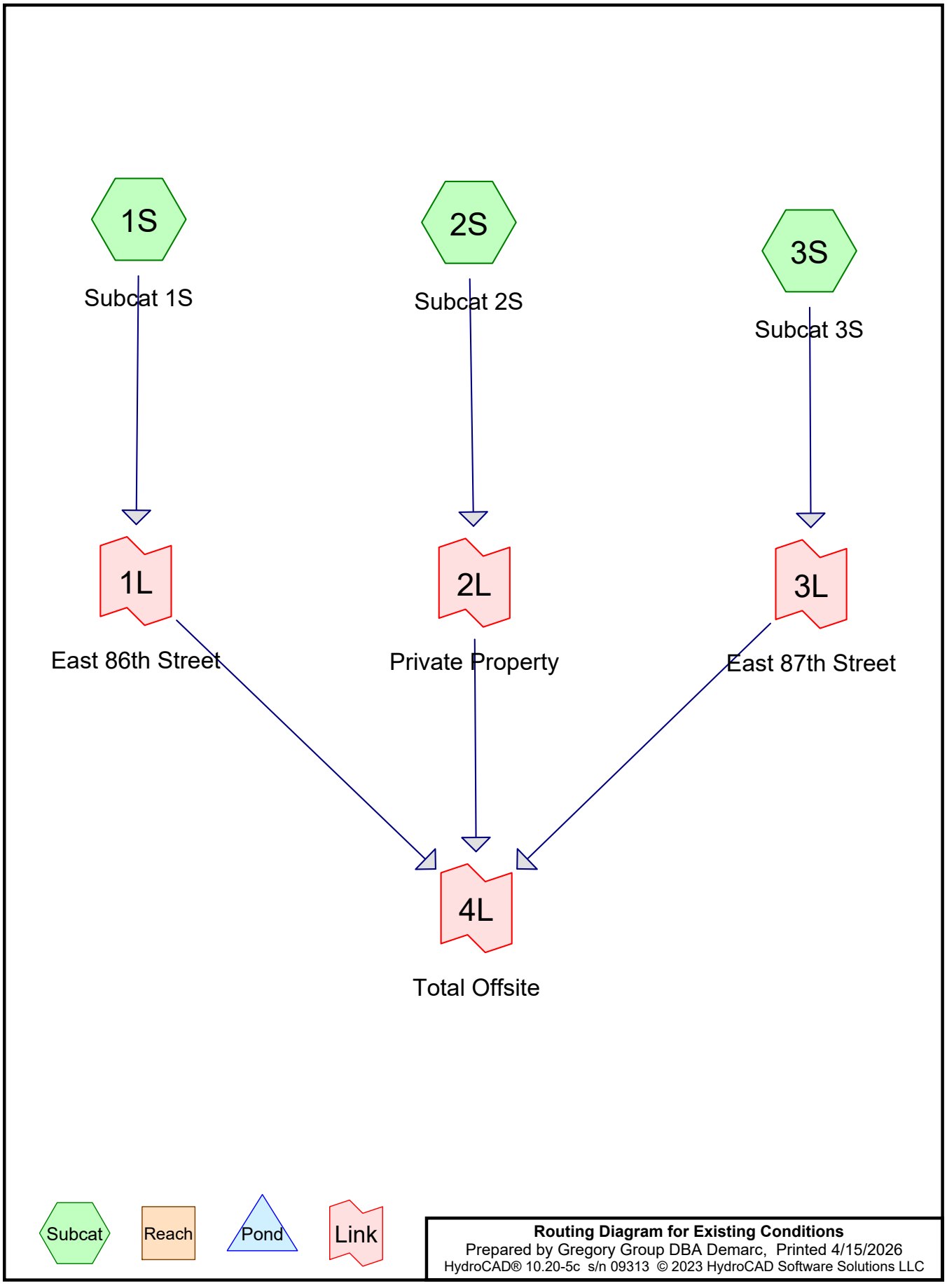
Storm Frequency: 10-Year
Atlas 14 MNDOT IDF Region: Hennepin
Type of Pipe: HDPE
Manning's Roughness Coefficient (n), RCP: 0.0120

Structure			Pipe		Area of Subcatchment, A (acre)	Runoff Coefficient, C	C x A	Σ C x A	Time of Concentration (min)				Intensity (in/hr)	Runoff, Q (cfs)	Capacity Full (cfs)	Minimum Required Pipe Diameter (in)	Design Pipe Diameter (in)	Velocity of Design Full Pipe, V (fps)
Sewer Inlet	To Node	Subcatchment for T_{inlet}	Length, L (ft)	Slope (ft/ft)					T_{inlet}	T_{pipe}	$T_{controlling}$ for Intensity	$T_{downstream\ node}$ [$T_{controlling}$ +T_{pipe}]						
Storm Sewer to Infiltration Basin																		
CB 107	CB 106	2S	57	0.0040	0.06	0.90	0.05	0.05	7.00	0.30	7.00	7.30	7.23	**0.38**	**2.45**	5.96	**12**	3.12
CB 106	CB 115	2S	10	0.0040	0.00	0.90	0.00	0.05	7.00	0.05	7.30	7.36	7.11	**0.38**	**2.45**	5.96	**12**	3.12
CB 115	CB 105	2S	91	0.0040	0.03	0.90	0.03	0.08	7.00	0.49	7.36	7.84	7.09	**0.58**	**2.45**	7.00	**12**	3.12
CB 108	CB 105	2S	131	0.0040	0.14	0.90	0.12	0.12	7.00	0.70	7.00	7.70	7.23	**0.88**	**2.45**	8.18	**12**	3.12
CB 105	CB 104	2S	20	0.0050	0.21	0.90	0.19	0.39	7.00	0.10	7.84	7.94	6.91	**2.70**	**2.74**	11.95	**12**	3.48
CB 104	CB 103	2S	68	0.0040	0.20	0.90	0.18	0.57	7.00	0.31	7.94	8.25	6.87	**3.93**	**4.44**	14.35	**15**	3.62
CB 103	CB 102	2S	44	0.0040	0.32	0.90	0.29	0.86	7.00	0.18	8.25	8.43	6.76	**5.80**	**7.22**	16.61	**18**	4.08
CB 102	CB 101	2S	42	0.0040	0.05	0.90	0.04	0.90	7.00	0.17	8.43	8.61	6.70	**6.02**	**7.22**	16.84	**18**	4.08
CB 109	CB 101	2S	104	0.0040	0.18	0.90	0.16	0.16	7.00	0.56	7.00	7.56	7.23	**1.16**	**2.45**	9.09	**12**	3.12
CB 101	CB 100	2S	30	0.0040	0.00	0.90	0.00	1.06	7.00	0.12	8.61	8.73	6.64	**7.05**	**7.22**	17.87	**18**	4.08
CB 110	CB 100	2S	152	0.0040	0.23	0.90	0.20	0.20	7.00	0.81	7.00	7.81	7.23	**1.48**	**2.45**	9.94	**12**	3.12
CB 100	FES 100	2S	16	0.0050	0.01	0.90	0.01	1.28	7.00	0.06	8.73	8.79	6.14	**7.85**	**8.07**	17.83	**18**	4.57
CB 112	CB 111	2S	56	0.0040	0.06	0.90	0.06	0.06	7.00	0.30	7.00	7.30	7.23	**0.41**	**2.45**	6.15	**12**	3.12
CB 111	FES 101	2S	102	0.0040	0.14	0.90	0.12	0.18	7.00	0.55	7.30	7.84	7.11	**1.29**	**2.45**	9.44	**12**	3.12
Storm Sewer to French Drain																		
CB 113	FRENCH DRAIN	3S	28	0.0040	0.21	0.90	0.19	0.19	7.00	0.15	7.00	7.15	7.23	**1.37**	**2.45**	9.67	**12**	3.12
CB 114	FRENCH DRAIN	3S	50	0.0040	0.08	0.90	0.07	0.07	7.00	0.27	7.00	7.27	7.23	**0.50**	**2.45**	6.63	**12**	3.12

HydroCAD model and resulting discharge rates assume that the entirety of flow from contributing drainage areas is captured and routed to BMPs, even in 100-yr event. This sheet indicates that the pipes limit the inflow to BMPs and that there will be some bypass. Revise design and/or submittals to ensure consistency.

Appendix B

Existing Conditions 2-Year Summary



Routing Diagram for Existing Conditions
Prepared by Gregory Group DBA Demarc, Printed 4/15/2026

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
102,138	39	>75% Grass cover, Good, HSG A (1S, 2S, 3S)
9,838	98	Paved parking, HSG A (1S, 2S, 3S)
7,892	98	Roofs, HSG A (1S, 2S, 3S)
119,868	**48**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1S Runoff Area=18,858 sf 43.58% Impervious Runoff Depth=1.13"
Tc=7.0 min CN=39/98 Runoff=0.76 cfs 1,780 cf

Subcatchment 2S: Subcat 2S Runoff Area=75,704 sf 7.21% Impervious Runoff Depth=0.19"
Tc=7.0 min CN=39/98 Runoff=0.50 cfs 1,182 cf

Subcatchment 3S: Subcat 3S Runoff Area=25,306 sf 16.02% Impervious Runoff Depth=0.42"
Tc=7.0 min CN=39/98 Runoff=0.37 cfs 878 cf

Link 1L: East 86th Street Inflow=0.76 cfs 1,780 cf
Primary=0.76 cfs 1,780 cf

Link 2L: Private Property Inflow=0.50 cfs 1,182 cf
Primary=0.50 cfs 1,182 cf

Link 3L: East 87th Street Inflow=0.37 cfs 878 cf
Primary=0.37 cfs 878 cf

Link 4L: Total Offsite Inflow=1.63 cfs 3,840 cf
Primary=1.63 cfs 3,840 cf

Total Runoff Area = 119,868 sf Runoff Volume = 3,840 cf Average Runoff Depth = 0.38"
85.21% Pervious = 102,138 sf 14.79% Impervious = 17,730 sf

Summary for Subcatchment 1S: Subcat 1S

Runoff = 0.76 cfs @ 12.14 hrs, Volume= 1,780 cf, Depth= 1.13"
Routed to Link 1L : East 86th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
10,640	39	>75% Grass cover, Good, HSG A
5,733	98	Paved parking, HSG A
2,485	98	Roofs, HSG A
18,858	65	Weighted Average
10,640	39	56.42% Pervious Area
8,219	98	43.58% Impervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 0.50 cfs @ 12.14 hrs, Volume= 1,182 cf, Depth= 0.19"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
70,246	39	>75% Grass cover, Good, HSG A
2,031	98	Paved parking, HSG A
3,427	98	Roofs, HSG A
75,704	43	Weighted Average
70,246	39	92.79% Pervious Area
5,459	98	7.21% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 0.37 cfs @ 12.14 hrs, Volume= 878 cf, Depth= 0.42"
Routed to Link 3L : East 87th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
21,253	39	>75% Grass cover, Good, HSG A
2,074	98	Paved parking, HSG A
1,979	98	Roofs, HSG A
25,306	48	Weighted Average
21,253	39	83.98% Pervious Area
4,053	98	16.02% Impervious Area

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

Summary for Link 1L: East 86th Street

Inflow Area = 18,858 sf, 43.58% Impervious, Inflow Depth = 1.13" for 2-Year event
Inflow = 0.76 cfs @ 12.14 hrs, Volume= 1,780 cf
Primary = 0.76 cfs @ 12.14 hrs, Volume= 1,780 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 2L: Private Property

Inflow Area = 75,704 sf, 7.21% Impervious, Inflow Depth = 0.19" for 2-Year event
Inflow = 0.50 cfs @ 12.14 hrs, Volume= 1,182 cf
Primary = 0.50 cfs @ 12.14 hrs, Volume= 1,182 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 3L: East 87th Street

Inflow Area = 25,306 sf, 16.02% Impervious, Inflow Depth = 0.42" for 2-Year event
Inflow = 0.37 cfs @ 12.14 hrs, Volume= 878 cf
Primary = 0.37 cfs @ 12.14 hrs, Volume= 878 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 4L: Total Offsite

Inflow Area = 119,868 sf, 14.79% Impervious, Inflow Depth = 0.38" for 2-Year event
Inflow = 1.63 cfs @ 12.14 hrs, Volume= 3,840 cf
Primary = 1.63 cfs @ 12.14 hrs, Volume= 3,840 cf, Atten= 0%, Lag= 0.0 min

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

Appendix C

Existing Conditions 10-Year Summary

Summary for Subcatchment 1S: Subcat 1S

Runoff = 1.14 cfs @ 12.14 hrs, Volume= 2,800 cf, Depth= 1.78"
Routed to Link 1L : East 86th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
10,640	39	>75% Grass cover, Good, HSG A
5,733	98	Paved parking, HSG A
2,485	98	Roofs, HSG A
18,858	65	Weighted Average
10,640	39	56.42% Pervious Area
8,219	98	43.58% Impervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 0.76 cfs @ 12.14 hrs, Volume= 2,242 cf, Depth= 0.36"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
70,246	39	>75% Grass cover, Good, HSG A
2,031	98	Paved parking, HSG A
3,427	98	Roofs, HSG A
75,704	43	Weighted Average
70,246	39	92.79% Pervious Area
5,459	98	7.21% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 0.56 cfs @ 12.14 hrs, Volume= 1,478 cf, Depth= 0.70"
Routed to Link 3L : East 87th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
21,253	39	>75% Grass cover, Good, HSG A
2,074	98	Paved parking, HSG A
1,979	98	Roofs, HSG A
25,306	48	Weighted Average
21,253	39	83.98% Pervious Area
4,053	98	16.02% Impervious Area

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

Summary for Link 1L: East 86th Street

Inflow Area = 18,858 sf, 43.58% Impervious, Inflow Depth = 1.78" for 10-Year event
Inflow = 1.14 cfs @ 12.14 hrs, Volume= 2,800 cf
Primary = 1.14 cfs @ 12.14 hrs, Volume= 2,800 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 2L: Private Property

Inflow Area = 75,704 sf, 7.21% Impervious, Inflow Depth = 0.36" for 10-Year event
Inflow = 0.76 cfs @ 12.14 hrs, Volume= 2,242 cf
Primary = 0.76 cfs @ 12.14 hrs, Volume= 2,242 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 3L: East 87th Street

Inflow Area = 25,306 sf, 16.02% Impervious, Inflow Depth = 0.70" for 10-Year event
Inflow = 0.56 cfs @ 12.14 hrs, Volume= 1,478 cf
Primary = 0.56 cfs @ 12.14 hrs, Volume= 1,478 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 4L: Total Offsite

Inflow Area = 119,868 sf, 14.79% Impervious, Inflow Depth = 0.65" for 10-Year event
Inflow = 2.46 cfs @ 12.14 hrs, Volume= 6,519 cf
Primary = 2.46 cfs @ 12.14 hrs, Volume= 6,519 cf, Atten= 0%, Lag= 0.0 min

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

Appendix D

Existing Conditions 100-Year Summary

Summary for Subcatchment 1S: Subcat 1S

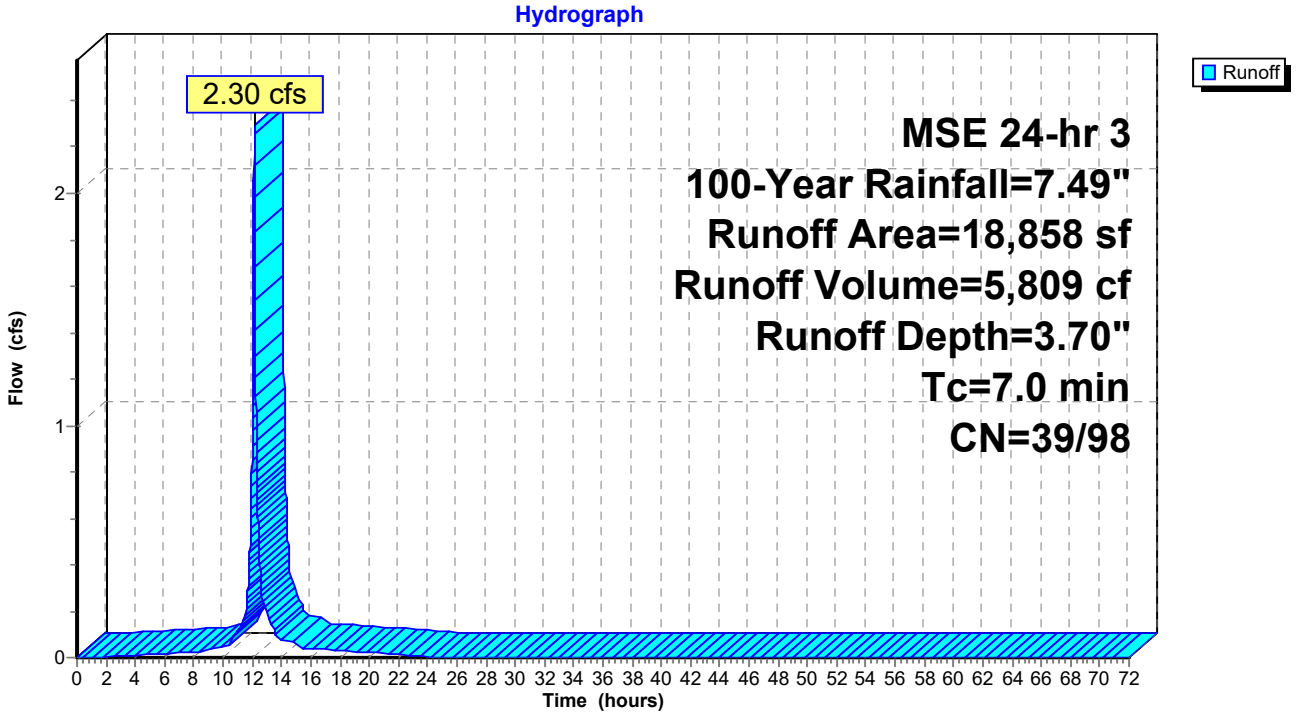
Runoff = 2.30 cfs @ 12.14 hrs, Volume= 5,809 cf, Depth= 3.70"
Routed to Link 1L : East 86th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
10,640	39	>75% Grass cover, Good, HSG A
5,733	98	Paved parking, HSG A
2,485	98	Roofs, HSG A
18,858	65	Weighted Average
10,640	39	56.42% Pervious Area
8,219	98	43.58% Impervious Area

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

Subcatchment 1S: Subcat 1S



Summary for Subcatchment 2S: Subcat 2S

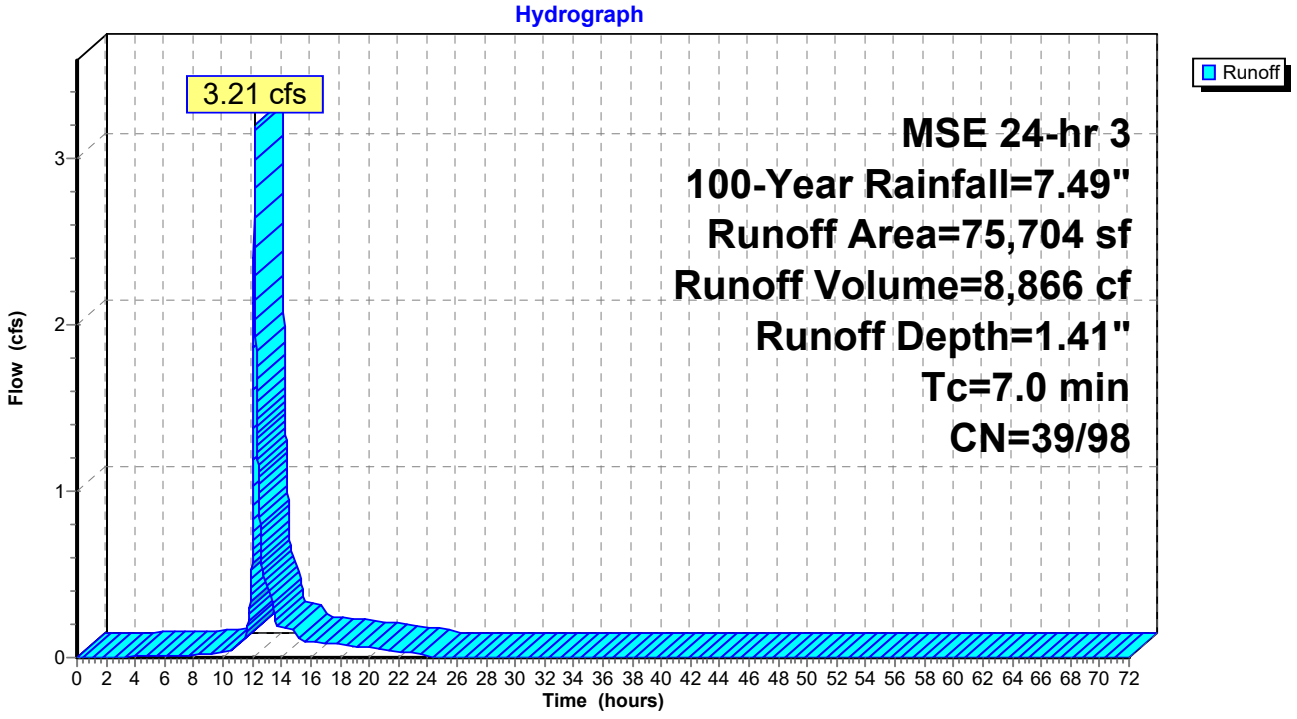
Runoff = 3.21 cfs @ 12.16 hrs, Volume= 8,866 cf, Depth= 1.41"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
70,246	39	>75% Grass cover, Good, HSG A
2,031	98	Paved parking, HSG A
3,427	98	Roofs, HSG A
75,704	43	Weighted Average
70,246	39	92.79% Pervious Area
5,459	98	7.21% Impervious Area

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

Subcatchment 2S: Subcat 2S



Summary for Subcatchment 3S: Subcat 3S

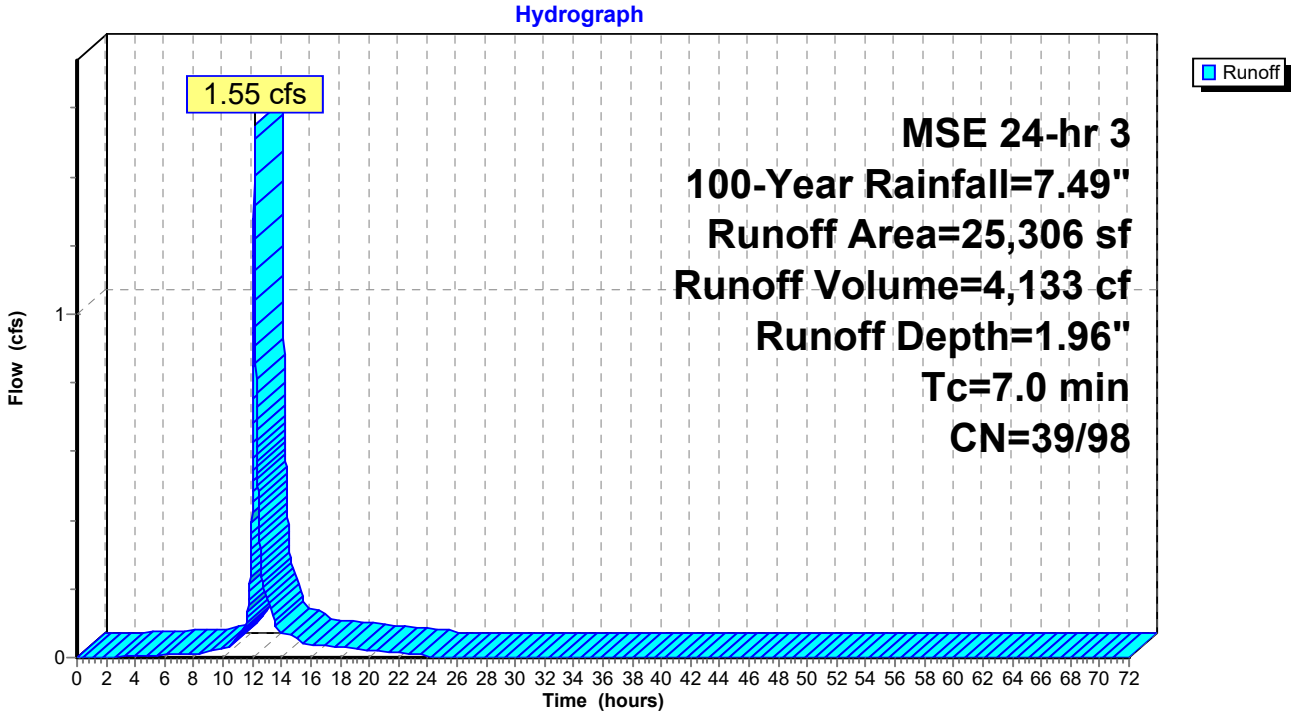
Runoff = 1.55 cfs @ 12.15 hrs, Volume= 4,133 cf, Depth= 1.96"
Routed to Link 3L : East 87th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
21,253	39	>75% Grass cover, Good, HSG A
2,074	98	Paved parking, HSG A
1,979	98	Roofs, HSG A
25,306	48	Weighted Average
21,253	39	83.98% Pervious Area
4,053	98	16.02% Impervious Area

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

Subcatchment 3S: Subcat 3S

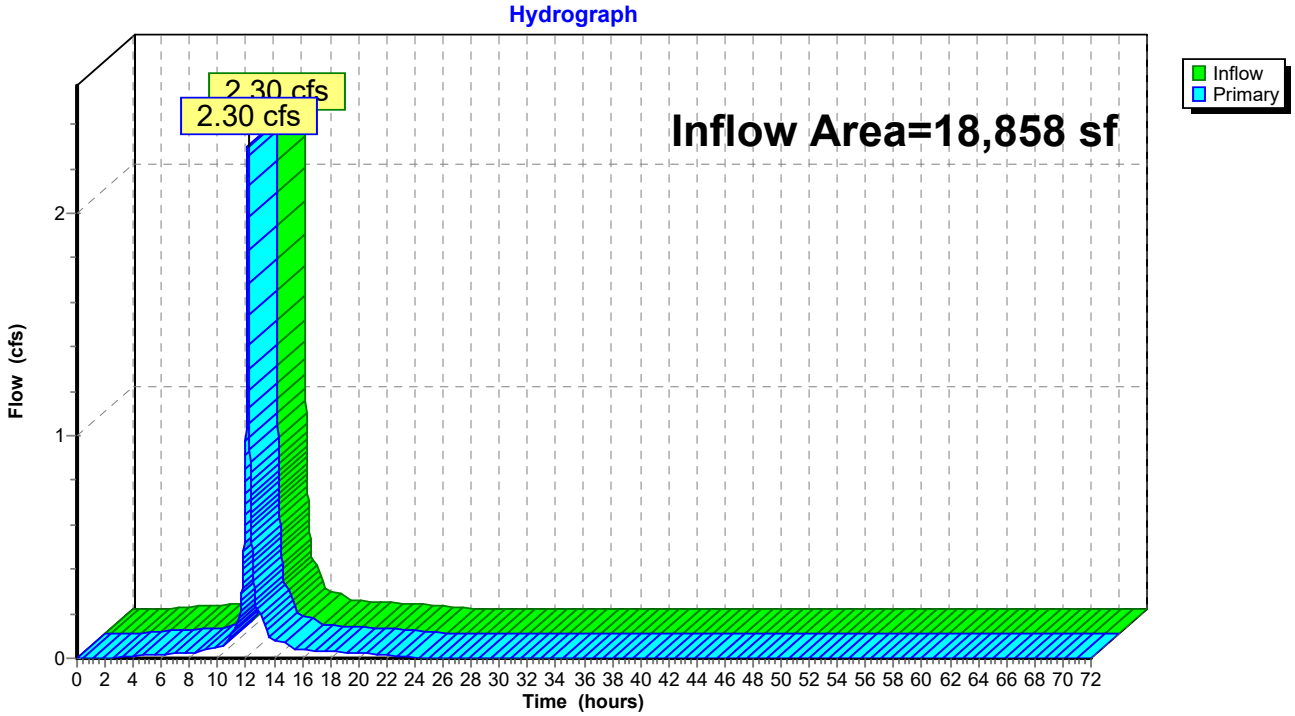


Summary for Link 1L: East 86th Street

Inflow Area = 18,858 sf, 43.58% Impervious, Inflow Depth = 3.70" for 100-Year event
Inflow = 2.30 cfs @ 12.14 hrs, Volume= 5,809 cf
Primary = 2.30 cfs @ 12.14 hrs, Volume= 5,809 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Link 1L: East 86th Street

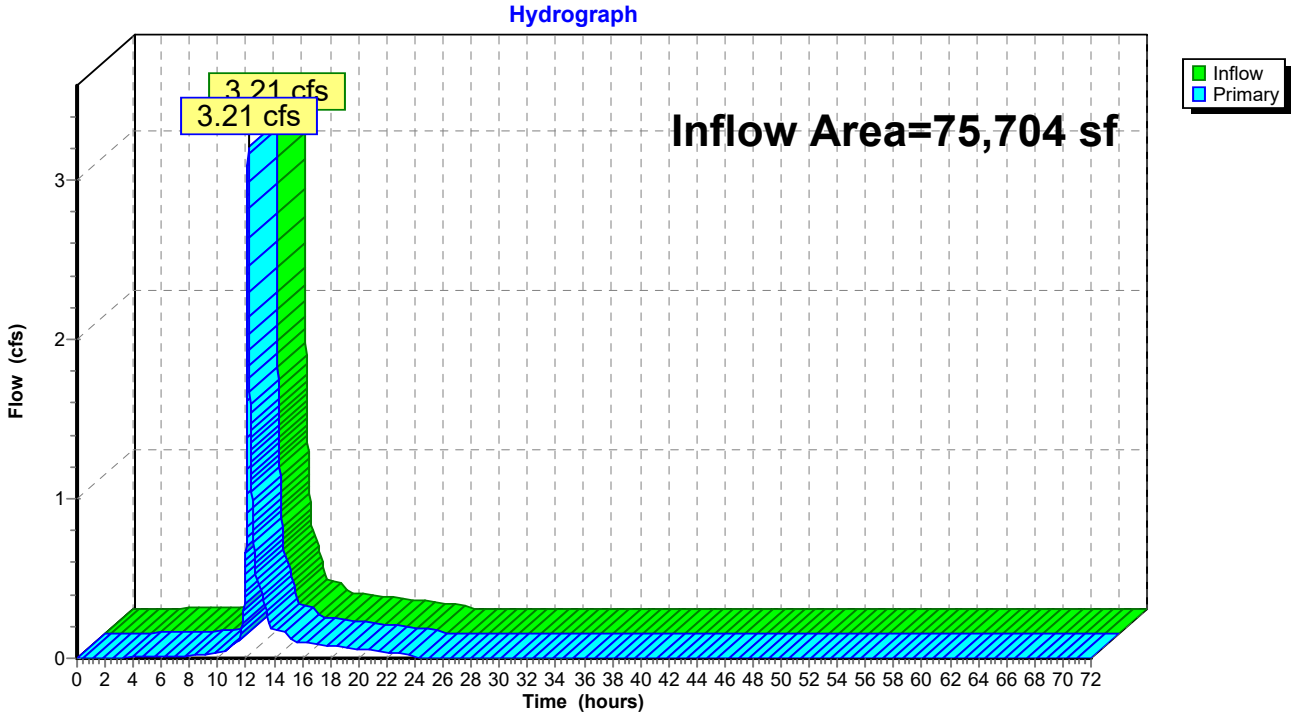


Summary for Link 2L: Private Property

Inflow Area = 75,704 sf, 7.21% Impervious, Inflow Depth = 1.41" for 100-Year event
Inflow = 3.21 cfs @ 12.16 hrs, Volume= 8,866 cf
Primary = 3.21 cfs @ 12.16 hrs, Volume= 8,866 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Link 2L: Private Property

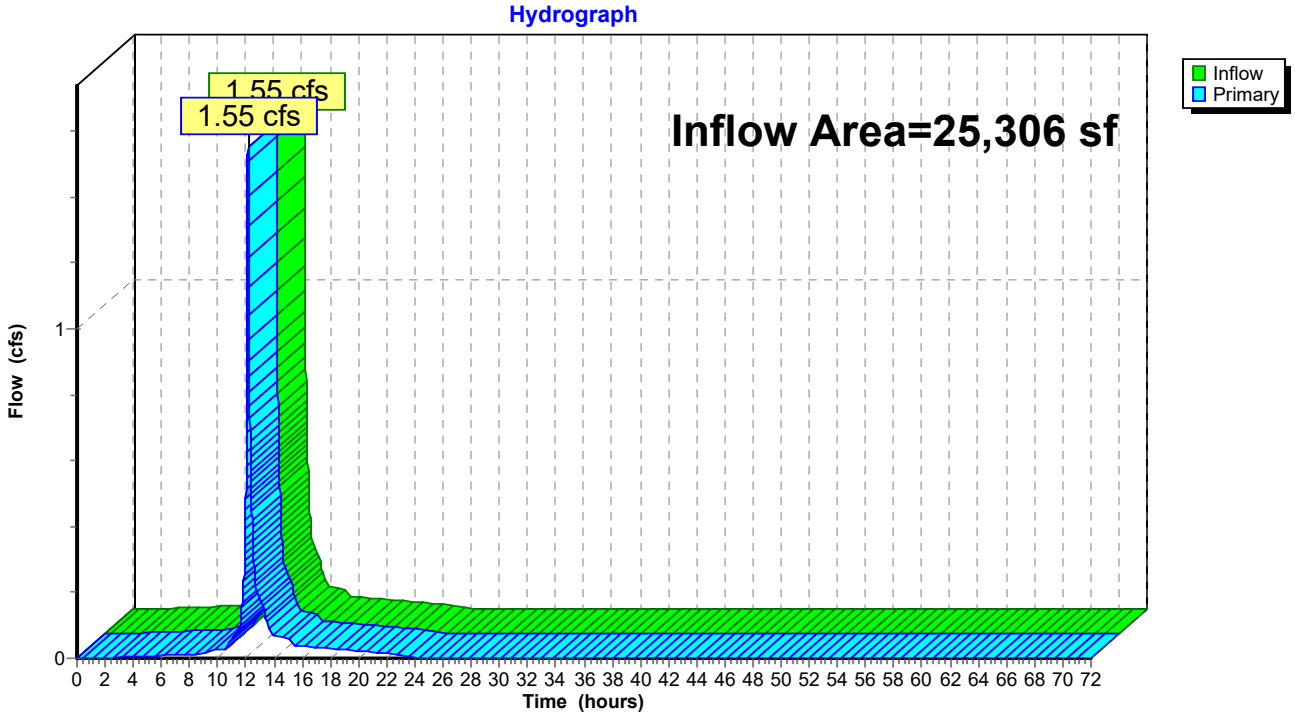


Summary for Link 3L: East 87th Street

Inflow Area = 25,306 sf, 16.02% Impervious, Inflow Depth = 1.96" for 100-Year event
Inflow = 1.55 cfs @ 12.15 hrs, Volume= 4,133 cf
Primary = 1.55 cfs @ 12.15 hrs, Volume= 4,133 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Link 3L: East 87th Street

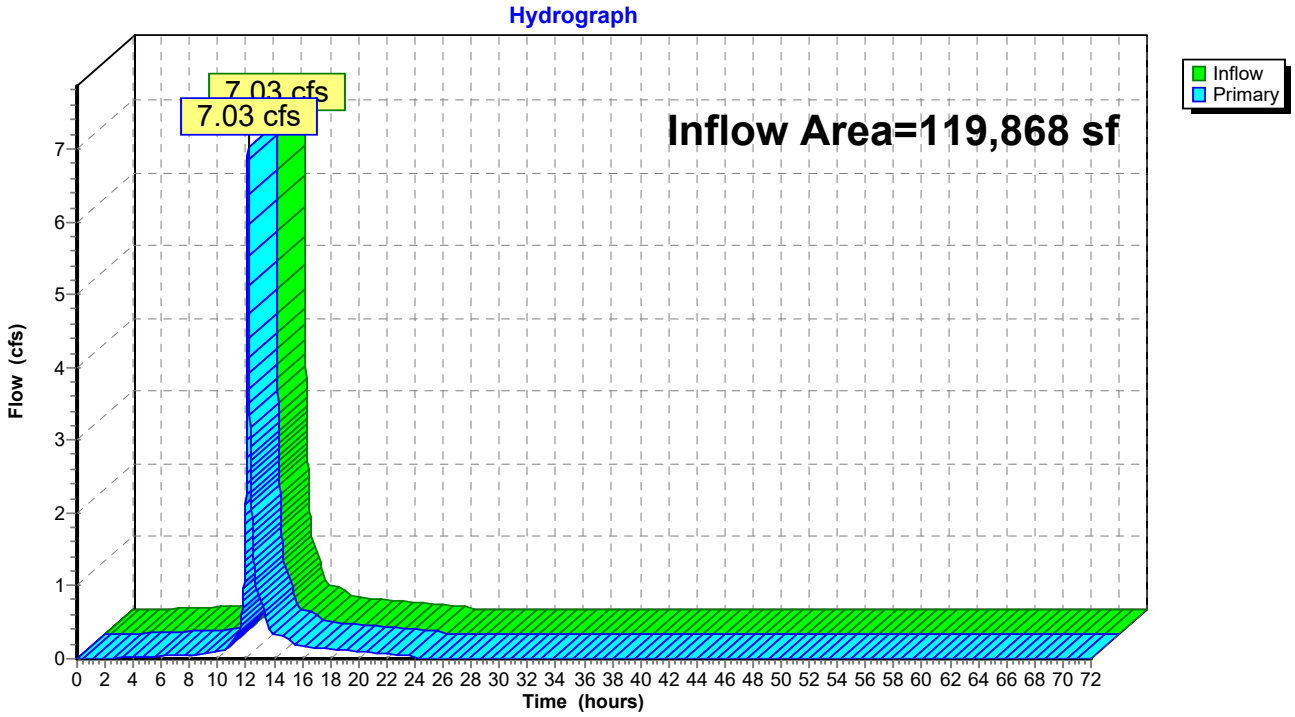


Summary for Link 4L: Total Offsite

Inflow Area = 119,868 sf, 14.79% Impervious, Inflow Depth = 1.88" for 100-Year event
Inflow = 7.03 cfs @ 12.15 hrs, Volume= 18,808 cf
Primary = 7.03 cfs @ 12.15 hrs, Volume= 18,808 cf, Atten= 0%, Lag= 0.0 min

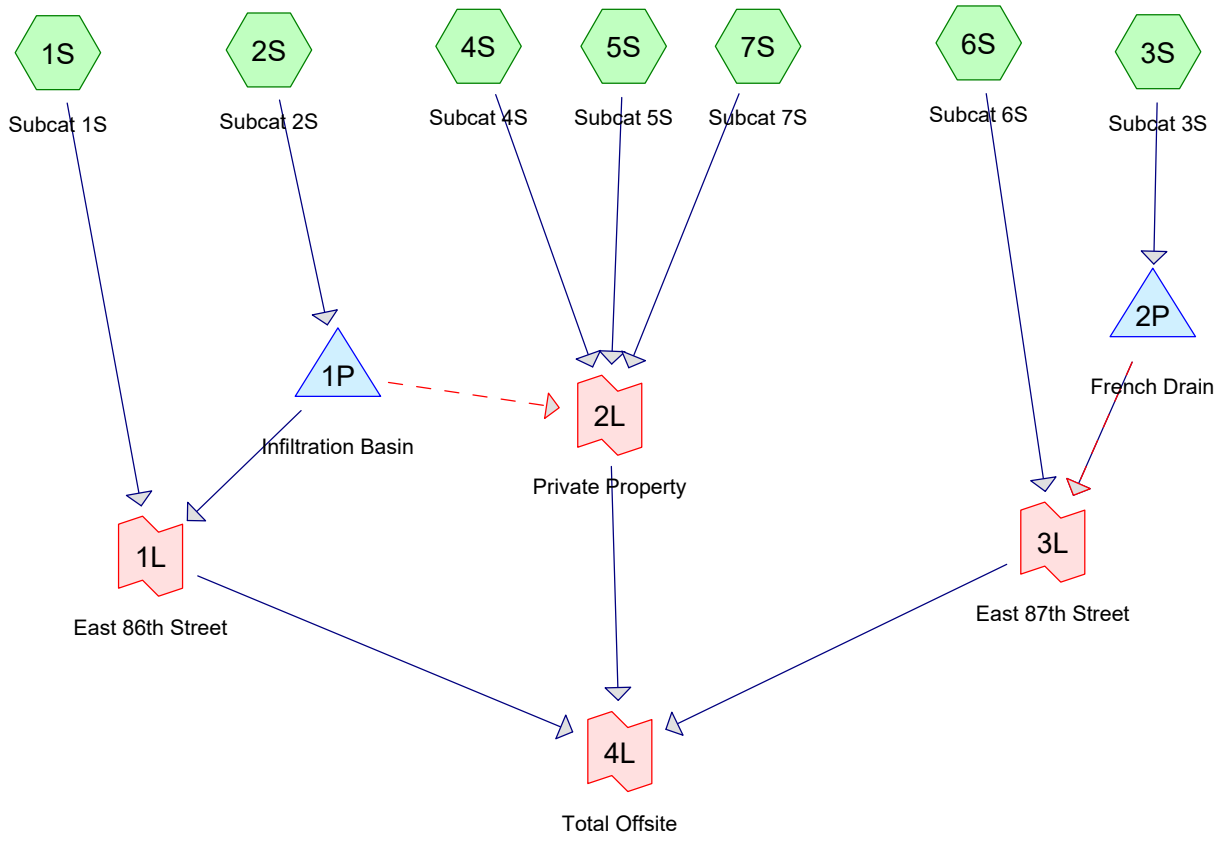
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

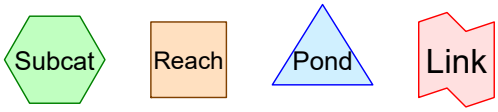
Link 4L: Total Offsite



Appendix E

Proposed Conditions 2-Year Summary





Routing Diagram for Proposed Conditions
Prepared by Gregory Group DBA Demarc, Printed 5/12/2026

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
40,724	39	>75% Grass cover, Good, HSG A (1S, 2S, 3S, 4S, 5S, 6S, 7S)
44,824	98	Paved parking, HSG A (1S, 2S, 3S, 4S, 6S, 7S)
34,320	98	Roofs, HSG A (1S, 2S, 3S, 4S, 5S, 7S)
119,868	**78**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1S Runoff Area=7,770 sf 48.92% Impervious Runoff Depth=1.27"
Tc=7.0 min CN=39/98 Runoff=0.35 cfs 823 cf

Subcatchment 2S: Subcat 2S Runoff Area=86,702 sf 68.54% Impervious Runoff Depth=1.78"
Tc=7.0 min CN=39/98 Runoff=5.48 cfs 12,870 cf

Subcatchment 3S: Subcat 3S Runoff Area=14,976 sf 66.82% Impervious Runoff Depth=1.74"
Tc=7.0 min CN=39/98 Runoff=0.92 cfs 2,167 cf

Subcatchment 4S: Subcat 4S Runoff Area=4,679 sf 64.31% Impervious Runoff Depth=1.67"
Tc=7.0 min CN=39/98 Runoff=0.28 cfs 652 cf

Subcatchment 5S: Subcat 5S Runoff Area=555 sf 1.27% Impervious Runoff Depth=0.03"
Tc=7.0 min CN=39/98 Runoff=0.00 cfs 2 cf

Subcatchment 6S: Subcat 6S Runoff Area=1,791 sf 57.64% Impervious Runoff Depth=1.50"
Tc=7.0 min CN=39/98 Runoff=0.10 cfs 224 cf

Subcatchment 7S: Subcat 7S Runoff Area=3,394 sf 54.95% Impervious Runoff Depth=1.43"
Tc=7.0 min CN=39/98 Runoff=0.17 cfs 404 cf

Pond 1P: Infiltration Basin Peak Elev=818.46' Storage=8,672 cf Inflow=5.48 cfs 12,870 cf
Discarded=0.12 cfs 12,870 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.12 cfs 12,870 cf

Pond 2P: French Drain Peak Elev=812.73' Storage=1,376 cf Inflow=0.92 cfs 2,167 cf
Discarded=0.02 cfs 2,167 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.02 cfs 2,167 cf

Link 1L: East 86th Street Inflow=0.35 cfs 823 cf
Primary=0.35 cfs 823 cf

Link 2L: Private Property Inflow=0.45 cfs 1,057 cf
Primary=0.45 cfs 1,057 cf

Link 3L: East 87th Street Inflow=0.10 cfs 224 cf
Primary=0.10 cfs 224 cf

Link 4L: Total Offsite Inflow=0.90 cfs 2,104 cf
Primary=0.90 cfs 2,104 cf

Total Runoff Area = 119,868 sf Runoff Volume = 17,141 cf Average Runoff Depth = 1.72"
33.97% Pervious = 40,724 sf 66.03% Impervious = 79,144 sf

Summary for Subcatchment 1S: Subcat 1S

Runoff = 0.35 cfs @ 12.14 hrs, Volume= 823 cf, Depth= 1.27"
Routed to Link 1L : East 86th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
3,969	39	>75% Grass cover, Good, HSG A
1,831	98	Paved parking, HSG A
1,970	98	Roofs, HSG A
7,770	68	Weighted Average
3,969	39	51.08% Pervious Area
3,801	98	48.92% Impervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 5.48 cfs @ 12.14 hrs, Volume= 12,870 cf, Depth= 1.78"
Routed to Pond 1P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
27,280	39	>75% Grass cover, Good, HSG A
34,078	98	Paved parking, HSG A
25,344	98	Roofs, HSG A
86,702	79	Weighted Average
27,280	39	31.46% Pervious Area
59,422	98	68.54% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 0.92 cfs @ 12.14 hrs, Volume= 2,167 cf, Depth= 1.74"
Routed to Pond 2P : French Drain

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
4,969	39	>75% Grass cover, Good, HSG A
5,900	98	Paved parking, HSG A
4,107	98	Roofs, HSG A
14,976	78	Weighted Average
4,969	39	33.18% Pervious Area
10,007	98	66.82% Impervious Area

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

Summary for Subcatchment 4S: Subcat 4S

Runoff = 0.28 cfs @ 12.14 hrs, Volume= 652 cf, Depth= 1.67"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
1,670	39	>75% Grass cover, Good, HSG A
1,472	98	Paved parking, HSG A
1,537	98	Roofs, HSG A
4,679	77	Weighted Average
1,670	39	35.69% Pervious Area
3,009	98	64.31% Impervious Area

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

Summary for Subcatchment 5S: Subcat 5S

Runoff = 0.00 cfs @ 12.14 hrs, Volume= 2 cf, Depth= 0.03"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
548	39	>75% Grass cover, Good, HSG A
7	98	Roofs, HSG A
555	40	Weighted Average
548	39	98.73% Pervious Area
7	98	1.27% Impervious Area

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

Summary for Subcatchment 6S: Subcat 6S

Runoff = 0.10 cfs @ 12.14 hrs, Volume= 224 cf, Depth= 1.50"
Routed to Link 3L : East 87th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
759	39	>75% Grass cover, Good, HSG A
1,033	98	Paved parking, HSG A
1,791	73	Weighted Average
759	39	42.36% Pervious Area
1,033	98	57.64% Impervious Area

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

Summary for Subcatchment 7S: Subcat 7S

Runoff = 0.17 cfs @ 12.14 hrs, Volume= 404 cf, Depth= 1.43"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2-Year Rainfall=2.83"

Area (sf)	CN	Description
1,529	39	>75% Grass cover, Good, HSG A
510	98	Paved parking, HSG A
1,355	98	Roofs, HSG A
3,394	71	Weighted Average
1,529	39	45.05% Pervious Area
1,865	98	54.95% Impervious Area

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

Summary for Pond 1P: Infiltration Basin

Inflow Area = 86,702 sf, 68.54% Impervious, Inflow Depth = 1.78" for 2-Year event
Inflow = 5.48 cfs @ 12.14 hrs, Volume= 12,870 cf
Outflow = 0.12 cfs @ 15.04 hrs, Volume= 12,870 cf, Atten= 98%, Lag= 174.2 min
Discarded = 0.12 cfs @ 15.04 hrs, Volume= 12,870 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 1L : East 86th Street
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : Private Property

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 818.46' @ 15.04 hrs Surf.Area= 6,633 sf Storage= 8,672 cf

Plug-Flow detention time= 677.6 min calculated for 12,868 cf (100% of inflow)
Center-of-Mass det. time= 677.7 min (1,432.5 - 754.8)

Volume	Invert	Avail.Storage	Storage Description
#1	817.00'	38,814 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
817.00	5,241	0	0
818.00	6,167	5,704	5,704
819.00	7,171	6,669	12,373
820.00	8,245	7,708	20,081
821.00	9,360	8,803	28,884
822.00	10,500	9,930	38,814

Device	Routing	Invert	Outlet Devices
#1	Discarded	817.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Device 3	820.20'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	818.20'	**12.0" Round Culvert** L= 253.0' Ke= 0.500 Inlet / Outlet Invert= 818.20' / 817.03' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#4	Secondary	824.50'	**22.0' long x 10.0' breadth Emergency Overflow** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Device 3	818.70'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Device 3	820.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.12 cfs @ 15.04 hrs HW=818.46' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=817.00' (Free Discharge)
└**3=Culvert** (Controls 0.00 cfs)
  └**2=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)
  └**6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=817.00' (Free Discharge)
└**4=Emergency Overflow** (Controls 0.00 cfs)

Summary for Pond 2P: French Drain

Inflow Area = 14,976 sf, 66.82% Impervious, Inflow Depth = 1.74" for 2-Year event
Inflow = 0.92 cfs @ 12.14 hrs, Volume= 2,167 cf
Outflow = 0.02 cfs @ 10.78 hrs, Volume= 2,167 cf, Atten= 97%, Lag= 0.0 min
Discarded = 0.02 cfs @ 10.78 hrs, Volume= 2,167 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 3L : East 87th Street
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 3L : East 87th Street

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 812.73' @ 14.30 hrs Surf.Area= 1,260 sf Storage= 1,376 cf

Plug-Flow detention time= 526.5 min calculated for 2,167 cf (100% of inflow)
Center-of-Mass det. time= 526.5 min (1,281.4 - 754.8)

Volume	Invert	Avail.Storage	Storage Description
#1	810.00'	5,393 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 13,482 cf Overall x 40.0% Voids
#2	820.70'	489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
		5,882 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
810.00	1,260	0	0
820.70	1,260	13,482	13,482

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
820.70	1,260	0	0
821.00	2,000	489	489

Device	Routing	Invert	Outlet Devices
#1	Primary	816.80'	**12.0" Round Outlet** L= 29.0' Ke= 0.500 Inlet / Outlet Invert= 816.80' / 816.63' S= 0.0059 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Discarded	810.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#3	Device 1	816.80'	**1.800 in/hr sand control over Surface area above 816.80'**

Excluded Surface area = 1,260 sf Phase-In= 0.01'

#4 Secondary 821.00' **1.0' long x 1.0' 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
Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.02 cfs @ 10.78 hrs HW=810.11' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=810.00' (Free Discharge)
└**1=Outlet** (Controls 0.00 cfs)
└**3=sand control** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=810.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: East 86th Street

Inflow Area = 94,472 sf, 66.92% Impervious, Inflow Depth = 0.10" for 2-Year event
Inflow = 0.35 cfs @ 12.14 hrs, Volume= 823 cf
Primary = 0.35 cfs @ 12.14 hrs, Volume= 823 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 2L: Private Property

Inflow Area = 8,628 sf, 56.57% Impervious, Inflow Depth = 1.47" for 2-Year event
Inflow = 0.45 cfs @ 12.14 hrs, Volume= 1,057 cf
Primary = 0.45 cfs @ 12.14 hrs, Volume= 1,057 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 3L: East 87th Street

Inflow Area = 16,768 sf, 65.84% Impervious, Inflow Depth = 0.16" for 2-Year event
Inflow = 0.10 cfs @ 12.14 hrs, Volume= 224 cf
Primary = 0.10 cfs @ 12.14 hrs, Volume= 224 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 4L: Total Offsite

Inflow Area = 119,868 sf, 66.03% Impervious, Inflow Depth = 0.21" for 2-Year event
Inflow = 0.90 cfs @ 12.14 hrs, Volume= 2,104 cf
Primary = 0.90 cfs @ 12.14 hrs, Volume= 2,104 cf, Atten= 0%, Lag= 0.0 min

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

Appendix F

Proposed Conditions 10-Year Summary

Summary for Subcatchment 1S: Subcat 1S

Runoff = 0.53 cfs @ 12.14 hrs, Volume= 1,289 cf, Depth= 1.99"
Routed to Link 1L : East 86th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
3,969	39	>75% Grass cover, Good, HSG A
1,831	98	Paved parking, HSG A
1,970	98	Roofs, HSG A
7,770	68	Weighted Average
3,969	39	51.08% Pervious Area
3,801	98	48.92% Impervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 8.26 cfs @ 12.14 hrs, Volume= 19,945 cf, Depth= 2.76"
Routed to Pond 1P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
27,280	39	>75% Grass cover, Good, HSG A
34,078	98	Paved parking, HSG A
25,344	98	Roofs, HSG A
86,702	79	Weighted Average
27,280	39	31.46% Pervious Area
59,422	98	68.54% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 1.39 cfs @ 12.14 hrs, Volume= 3,361 cf, Depth= 2.69"
Routed to Pond 2P : French Drain

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
4,969	39	>75% Grass cover, Good, HSG A
5,900	98	Paved parking, HSG A
4,107	98	Roofs, HSG A
14,976	78	Weighted Average
4,969	39	33.18% Pervious Area
10,007	98	66.82% Impervious Area

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

Summary for Subcatchment 4S: Subcat 4S

Runoff = 0.42 cfs @ 12.14 hrs, Volume= 1,012 cf, Depth= 2.59"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
1,670	39	>75% Grass cover, Good, HSG A
1,472	98	Paved parking, HSG A
1,537	98	Roofs, HSG A
4,679	77	Weighted Average
1,670	39	35.69% Pervious Area
3,009	98	64.31% Impervious Area

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

Summary for Subcatchment 5S: Subcat 5S

Runoff = 0.00 cfs @ 12.14 hrs, Volume= 6 cf, Depth= 0.12"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
548	39	>75% Grass cover, Good, HSG A
7	98	Roofs, HSG A
555	40	Weighted Average
548	39	98.73% Pervious Area
7	98	1.27% Impervious Area

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

Summary for Subcatchment 6S: Subcat 6S

Runoff = 0.14 cfs @ 12.14 hrs, Volume= 348 cf, Depth= 2.33"
Routed to Link 3L : East 87th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
759	39	>75% Grass cover, Good, HSG A
1,033	98	Paved parking, HSG A
1,791	73	Weighted Average
759	39	42.36% Pervious Area
1,033	98	57.64% Impervious Area

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

Summary for Subcatchment 7S: Subcat 7S

Runoff = 0.26 cfs @ 12.14 hrs, Volume= 630 cf, Depth= 2.23"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10-Year Rainfall=4.23"

Area (sf)	CN	Description
1,529	39	>75% Grass cover, Good, HSG A
510	98	Paved parking, HSG A
1,355	98	Roofs, HSG A
3,394	71	Weighted Average
1,529	39	45.05% Pervious Area
1,865	98	54.95% Impervious Area

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

Summary for Pond 1P: Infiltration Basin

Inflow Area = 86,702 sf, 68.54% Impervious, Inflow Depth = 2.76" for 10-Year event
Inflow = 8.26 cfs @ 12.14 hrs, Volume= 19,945 cf
Outflow = 0.43 cfs @ 13.36 hrs, Volume= 19,945 cf, Atten= 95%, Lag= 73.4 min
Discarded = 0.13 cfs @ 13.36 hrs, Volume= 16,772 cf
Primary = 0.30 cfs @ 13.36 hrs, Volume= 3,174 cf
Routed to Link 1L : East 86th Street
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : Private Property

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 819.05' @ 13.36 hrs Surf.Area= 7,225 sf Storage= 12,736 cf

Plug-Flow detention time= 716.1 min calculated for 19,943 cf (100% of inflow)
Center-of-Mass det. time= 716.2 min (1,466.9 - 750.6)

Volume	Invert	Avail.Storage	Storage Description
#1	817.00'	38,814 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
817.00	5,241	0	0
818.00	6,167	5,704	5,704
819.00	7,171	6,669	12,373
820.00	8,245	7,708	20,081
821.00	9,360	8,803	28,884
822.00	10,500	9,930	38,814

Device	Routing	Invert	Outlet Devices
#1	Discarded	817.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Device 3	820.20'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	818.20'	**12.0" Round Culvert** L= 253.0' Ke= 0.500 Inlet / Outlet Invert= 818.20' / 817.03' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#4	Secondary	824.50'	**22.0' long x 10.0' breadth Emergency Overflow** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Device 3	818.70'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Device 3	820.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.13 cfs @ 13.36 hrs HW=819.05' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.30 cfs @ 13.36 hrs HW=819.05' (Free Discharge)
└**3=Culvert** (Passes 0.30 cfs of 1.75 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**5=Orifice/Grate** (Orifice Controls 0.30 cfs @ 2.02 fps)
  └**6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=817.00' (Free Discharge)
└**4=Emergency Overflow** (Controls 0.00 cfs)

Summary for Pond 2P: French Drain

Inflow Area = 14,976 sf, 66.82% Impervious, Inflow Depth = 2.69" for 10-Year event
Inflow = 1.39 cfs @ 12.14 hrs, Volume= 3,361 cf
Outflow = 0.02 cfs @ 9.64 hrs, Volume= 3,361 cf, Atten= 98%, Lag= 0.0 min
Discarded = 0.02 cfs @ 9.64 hrs, Volume= 3,361 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 3L : East 87th Street
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 3L : East 87th Street

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 814.57' @ 15.14 hrs Surf.Area= 1,260 sf Storage= 2,302 cf

Plug-Flow detention time= 869.3 min calculated for 3,361 cf (100% of inflow)
Center-of-Mass det. time= 869.4 min (1,620.2 - 750.8)

Volume	Invert	Avail.Storage	Storage Description
#1	810.00'	5,393 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 13,482 cf Overall x 40.0% Voids
#2	820.70'	489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
		5,882 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
810.00	1,260	0	0
820.70	1,260	13,482	13,482

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
820.70	1,260	0	0
821.00	2,000	489	489

Device	Routing	Invert	Outlet Devices
#1	Primary	816.80'	**12.0" Round Outlet** L= 29.0' Ke= 0.500 Inlet / Outlet Invert= 816.80' / 816.63' S= 0.0059 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Discarded	810.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#3	Device 1	816.80'	**1.800 in/hr sand control over Surface area above 816.80'**

Excluded Surface area = 1,260 sf Phase-In= 0.01'

#4 Secondary 821.00' **1.0' long x 1.0' 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
Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.02 cfs @ 9.64 hrs HW=810.11' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=810.00' (Free Discharge)
└**1=Outlet** (Controls 0.00 cfs)
└**3=sand control** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=810.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: East 86th Street

Inflow Area = 94,472 sf, 66.92% Impervious, Inflow Depth = 0.57" for 10-Year event
Inflow = 0.53 cfs @ 12.14 hrs, Volume= 4,463 cf
Primary = 0.53 cfs @ 12.14 hrs, Volume= 4,463 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 2L: Private Property

Inflow Area = 8,628 sf, 56.57% Impervious, Inflow Depth = 2.29" for 10-Year event
Inflow = 0.68 cfs @ 12.14 hrs, Volume= 1,648 cf
Primary = 0.68 cfs @ 12.14 hrs, Volume= 1,648 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 3L: East 87th Street

Inflow Area = 16,768 sf, 65.84% Impervious, Inflow Depth = 0.25" for 10-Year event
Inflow = 0.14 cfs @ 12.14 hrs, Volume= 348 cf
Primary = 0.14 cfs @ 12.14 hrs, Volume= 348 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Summary for Link 4L: Total Offsite

Inflow Area = 119,868 sf, 66.03% Impervious, Inflow Depth = 0.65" for 10-Year event
Inflow = 1.35 cfs @ 12.14 hrs, Volume= 6,459 cf
Primary = 1.35 cfs @ 12.14 hrs, Volume= 6,459 cf, Atten= 0%, Lag= 0.0 min

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

Appendix G

Proposed Conditions 100-Year Summary

Summary for Subcatchment 1S: Subcat 1S

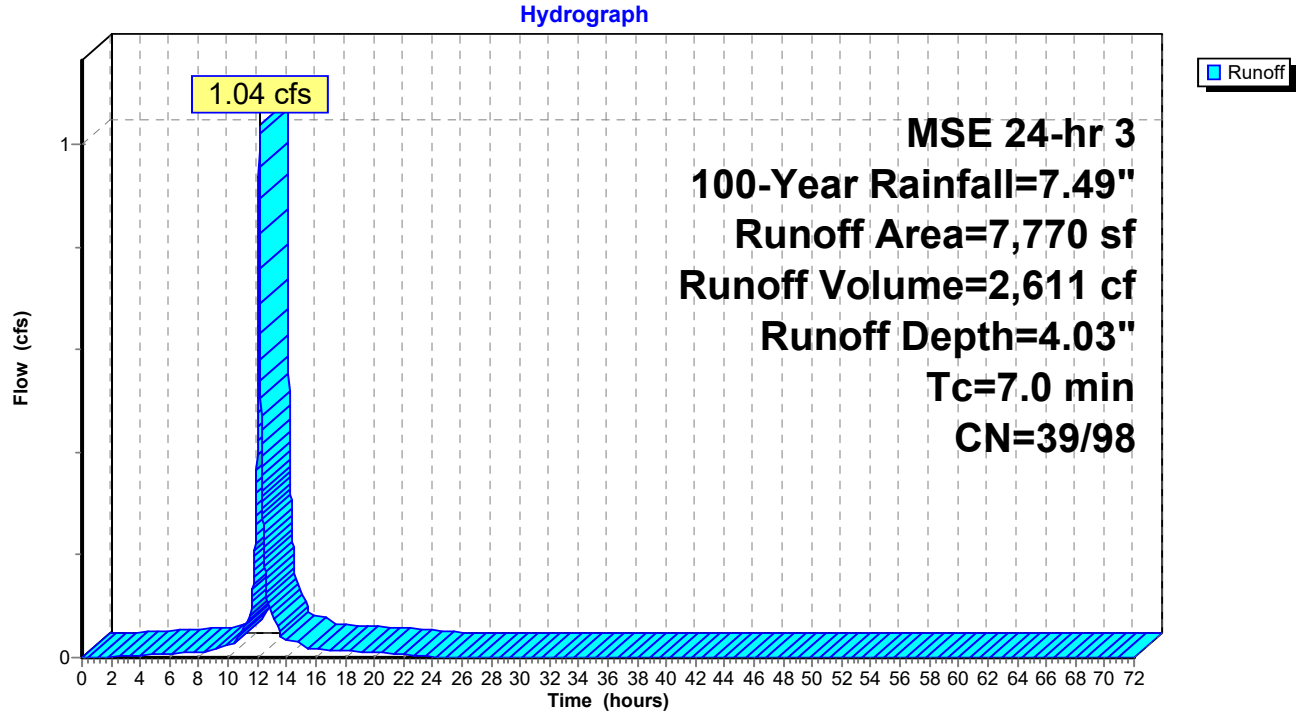
Runoff = 1.04 cfs @ 12.14 hrs, Volume= 2,611 cf, Depth= 4.03"
Routed to Link 1L : East 86th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
3,969	39	>75% Grass cover, Good, HSG A
1,831	98	Paved parking, HSG A
1,970	98	Roofs, HSG A
7,770	68	Weighted Average
3,969	39	51.08% Pervious Area
3,801	98	48.92% Impervious Area

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

Subcatchment 1S: Subcat 1S



Summary for Subcatchment 2S: Subcat 2S

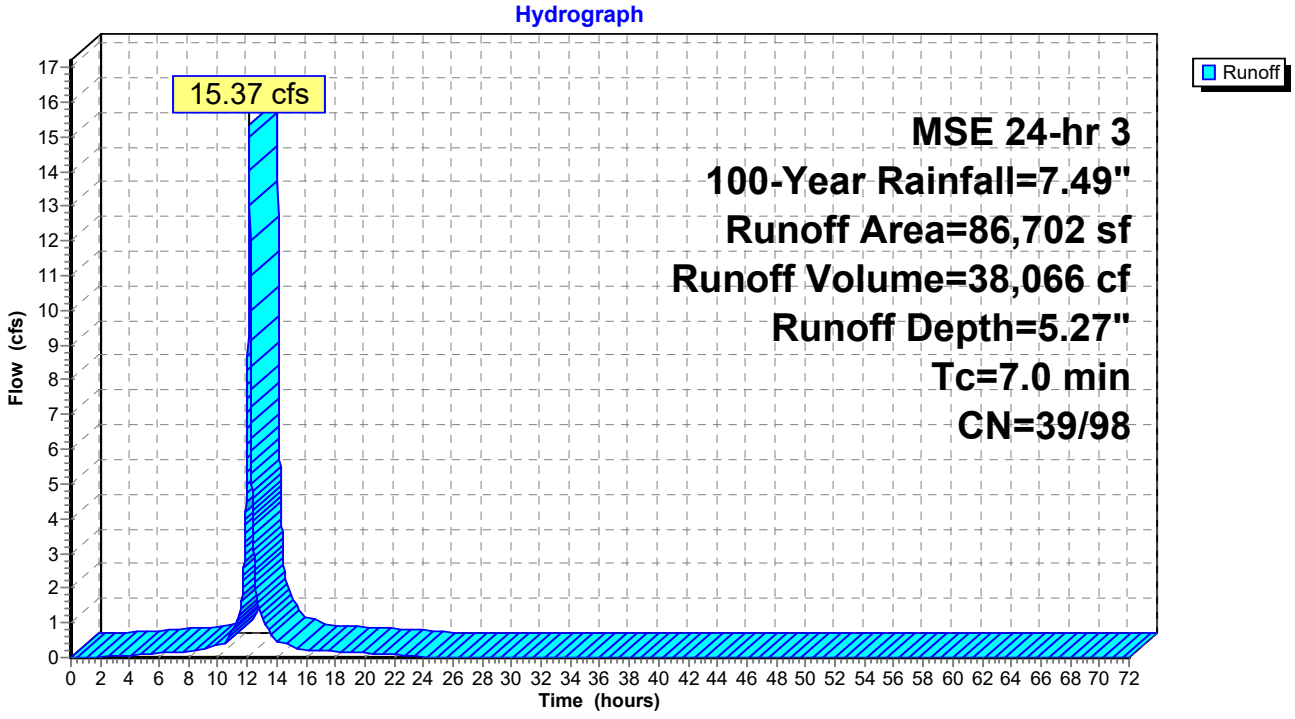
Runoff = 15.37 cfs @ 12.14 hrs, Volume= 38,066 cf, Depth= 5.27"
Routed to Pond 1P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
27,280	39	>75% Grass cover, Good, HSG A
34,078	98	Paved parking, HSG A
25,344	98	Roofs, HSG A
86,702	79	Weighted Average
27,280	39	31.46% Pervious Area
59,422	98	68.54% Impervious Area

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

Subcatchment 2S: Subcat 2S



Summary for Subcatchment 3S: Subcat 3S

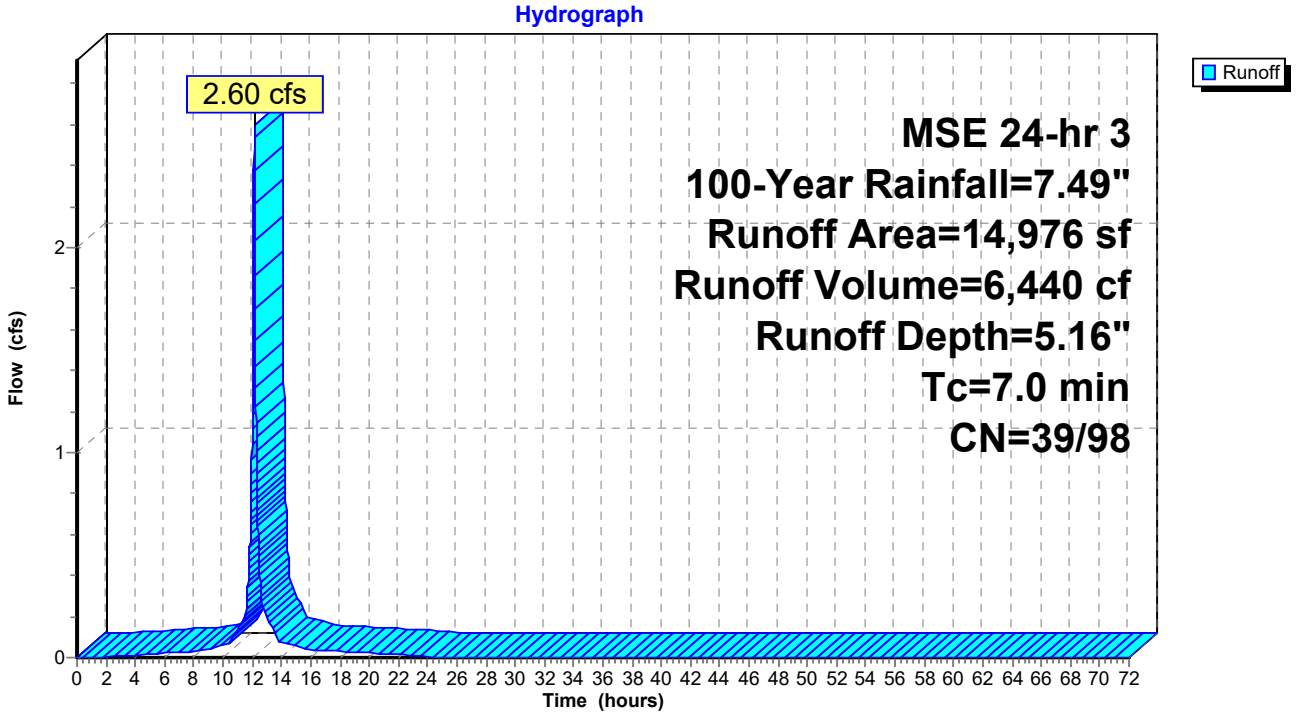
Runoff = 2.60 cfs @ 12.14 hrs, Volume= 6,440 cf, Depth= 5.16"
Routed to Pond 2P : French Drain

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
4,969	39	>75% Grass cover, Good, HSG A
5,900	98	Paved parking, HSG A
4,107	98	Roofs, HSG A
14,976	78	Weighted Average
4,969	39	33.18% Pervious Area
10,007	98	66.82% Impervious Area

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

Subcatchment 3S: Subcat 3S



Summary for Subcatchment 4S: Subcat 4S

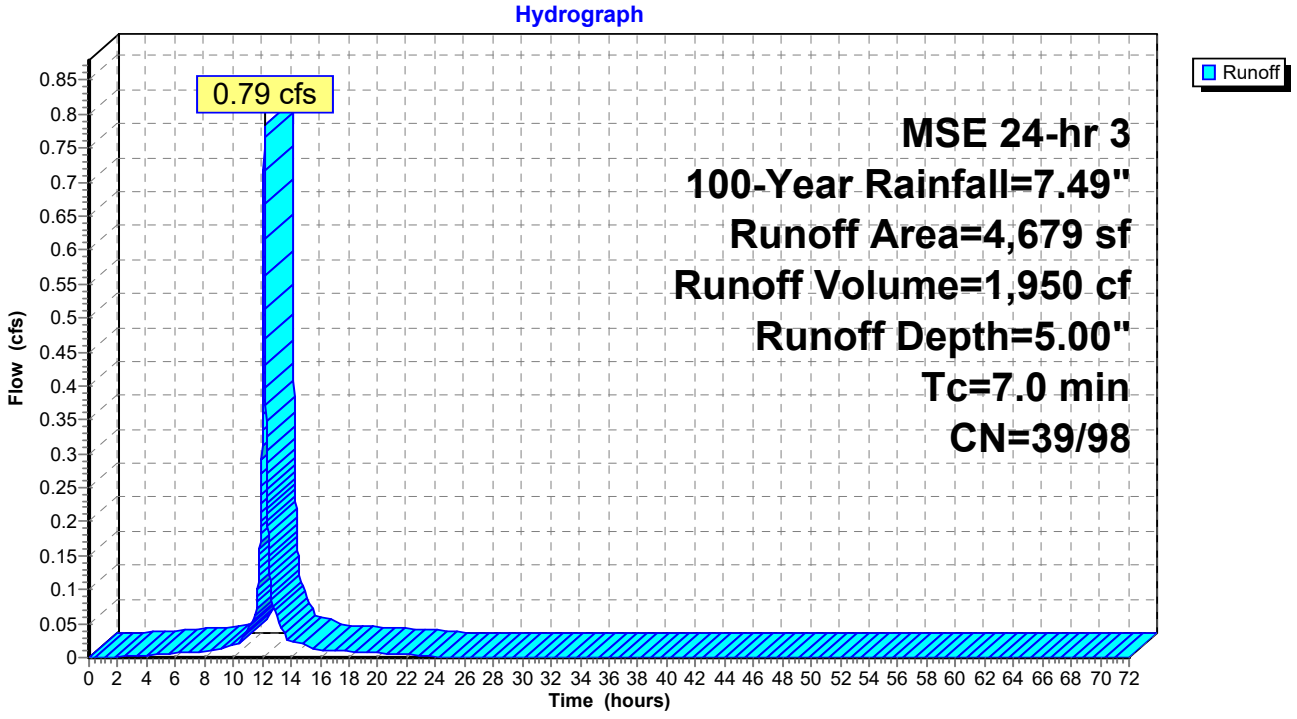
Runoff = 0.79 cfs @ 12.14 hrs, Volume= 1,950 cf, Depth= 5.00"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
1,670	39	>75% Grass cover, Good, HSG A
1,472	98	Paved parking, HSG A
1,537	98	Roofs, HSG A
4,679	77	Weighted Average
1,670	39	35.69% Pervious Area
3,009	98	64.31% Impervious Area

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

Subcatchment 4S: Subcat 4S



Summary for Subcatchment 5S: Subcat 5S

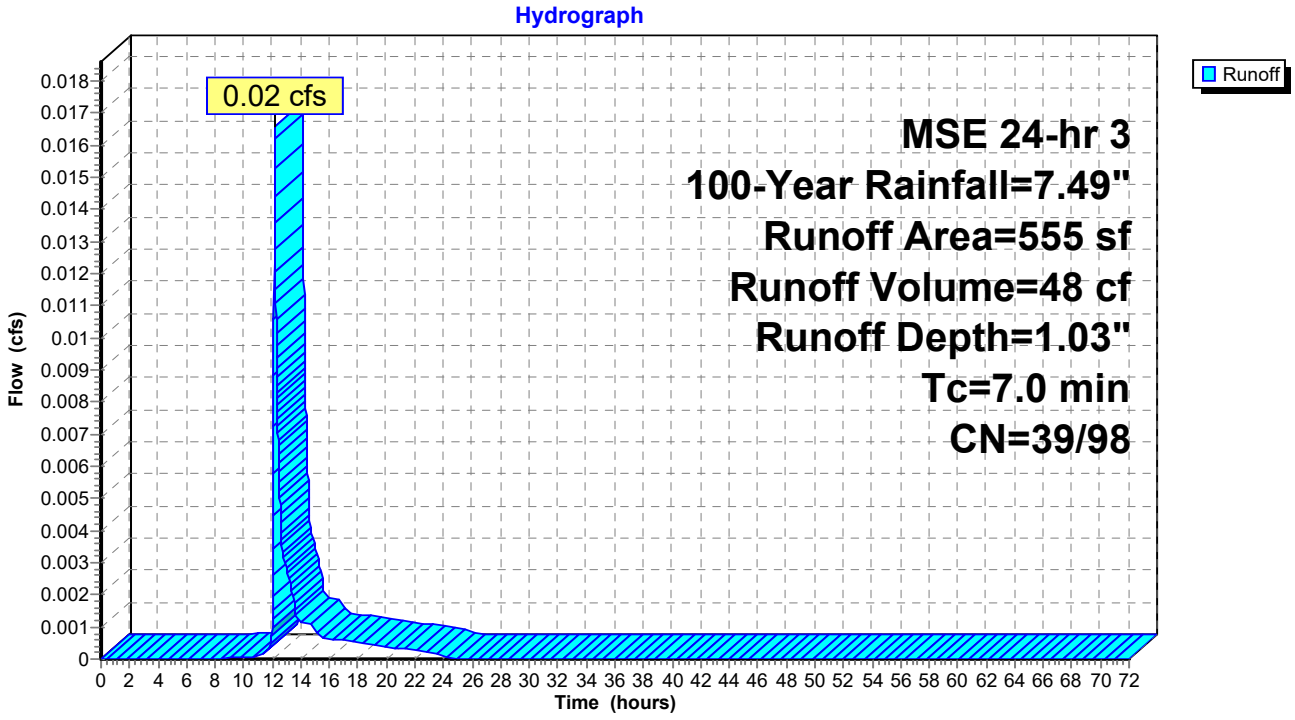
Runoff = 0.02 cfs @ 12.16 hrs, Volume= 48 cf, Depth= 1.03"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
548	39	>75% Grass cover, Good, HSG A
7	98	Roofs, HSG A
555	40	Weighted Average
548	39	98.73% Pervious Area
7	98	1.27% Impervious Area

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

Subcatchment 5S: Subcat 5S



Summary for Subcatchment 6S: Subcat 6S

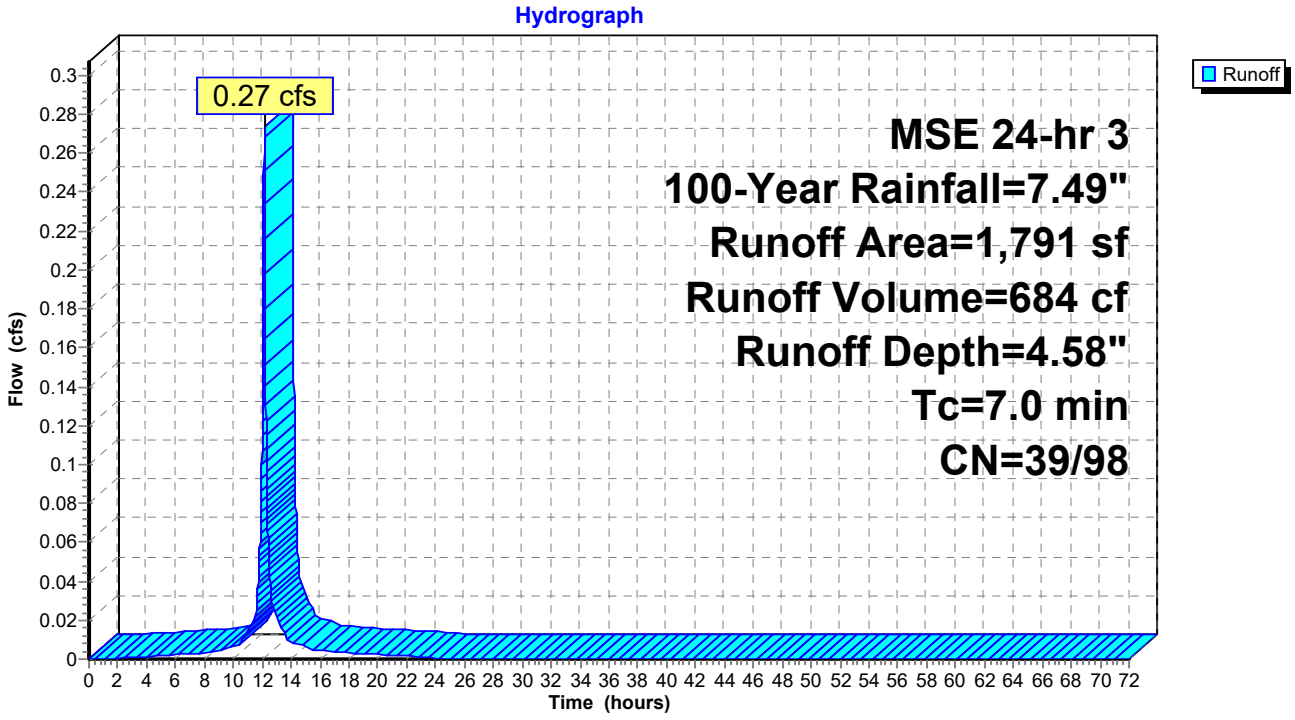
Runoff = 0.27 cfs @ 12.14 hrs, Volume= 684 cf, Depth= 4.58"
Routed to Link 3L : East 87th Street

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
759	39	>75% Grass cover, Good, HSG A
1,033	98	Paved parking, HSG A
1,791	73	Weighted Average
759	39	42.36% Pervious Area
1,033	98	57.64% Impervious Area

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

Subcatchment 6S: Subcat 6S



Summary for Subcatchment 7S: Subcat 7S

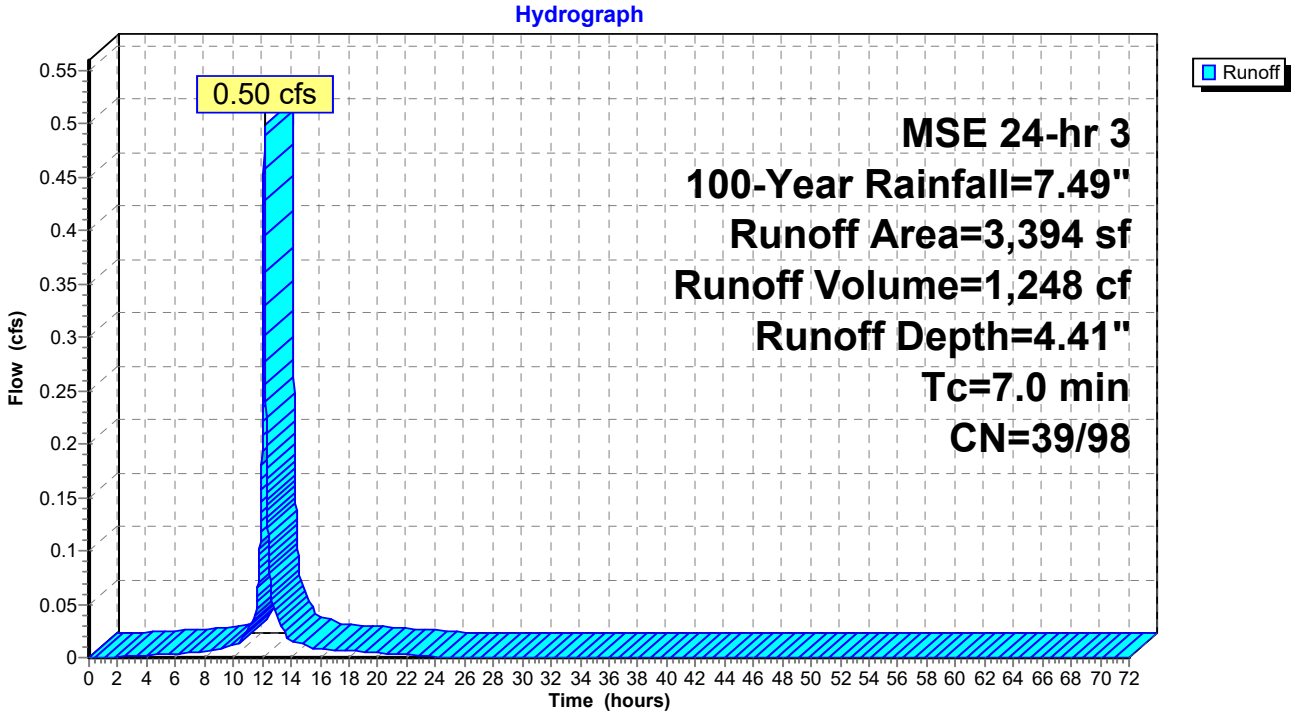
Runoff = 0.50 cfs @ 12.14 hrs, Volume= 1,248 cf, Depth= 4.41"
Routed to Link 2L : Private Property

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100-Year Rainfall=7.49"

Area (sf)	CN	Description
1,529	39	>75% Grass cover, Good, HSG A
510	98	Paved parking, HSG A
1,355	98	Roofs, HSG A
3,394	71	Weighted Average
1,529	39	45.05% Pervious Area
1,865	98	54.95% Impervious Area

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

Subcatchment 7S: Subcat 7S



Summary for Pond 1P: Infiltration Basin

Inflow Area = 86,702 sf, 68.54% Impervious, Inflow Depth = 5.27" for 100-Year event
Inflow = 15.37 cfs @ 12.14 hrs, Volume= 38,066 cf
Outflow = 1.95 cfs @ 12.58 hrs, Volume= 38,066 cf, Atten= 87%, Lag= 26.4 min
Discarded = 0.16 cfs @ 12.58 hrs, Volume= 19,157 cf
Primary = 1.80 cfs @ 12.58 hrs, Volume= 18,908 cf
Routed to Link 1L : East 86th Street
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : Private Property

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 820.25' @ 12.58 hrs Surf.Area= 8,525 sf Storage= 22,190 cf

Plug-Flow detention time= 491.1 min calculated for 38,066 cf (100% of inflow)
Center-of-Mass det. time= 491.1 min (1,239.9 - 748.8)

Volume	Invert	Avail.Storage	Storage Description
#1	817.00'	38,814 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
817.00	5,241	0	0
818.00	6,167	5,704	5,704
819.00	7,171	6,669	12,373
820.00	8,245	7,708	20,081
821.00	9,360	8,803	28,884
822.00	10,500	9,930	38,814

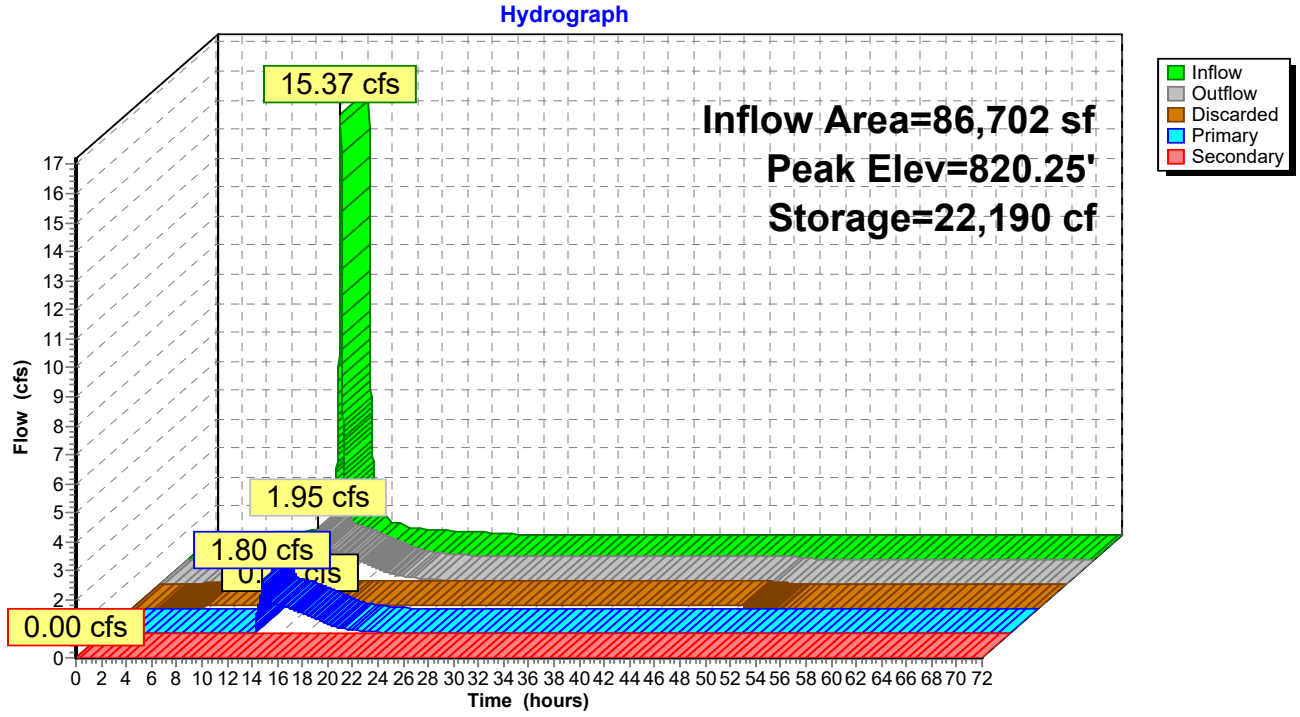
Device	Routing	Invert	Outlet Devices
#1	Discarded	817.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Device 3	820.20'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	818.20'	**12.0" Round Culvert** L= 253.0' Ke= 0.500 Inlet / Outlet Invert= 818.20' / 817.03' S= 0.0046 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#4	Secondary	824.50'	**22.0' long x 10.0' breadth Emergency Overflow** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Device 3	818.70'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Device 3	820.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.16 cfs @ 12.58 hrs HW=820.25' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=1.69 cfs @ 12.58 hrs HW=820.25' (Free Discharge)
└**3=Culvert** (Passes 1.69 cfs of 3.06 cfs potential flow)
  └**2=Orifice/Grate** (Weir Controls 0.48 cfs @ 0.74 fps)
  └**5=Orifice/Grate** (Orifice Controls 1.08 cfs @ 5.49 fps)
  └**6=Broad-Crested Rectangular Weir** (Weir Controls 0.13 cfs @ 0.64 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=817.00' (Free Discharge)
└**4=Emergency Overflow** (Controls 0.00 cfs)

Pond 1P: Infiltration Basin



Stage-Area-Storage for Pond 1P: Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
817.00	5,241	0
817.10	5,334	529
817.20	5,426	1,067
817.30	5,519	1,614
817.40	5,611	2,170
817.50	5,704	2,736
817.60	5,797	3,311
817.70	5,889	3,896
817.80	5,982	4,489
817.90	6,074	5,092
818.00	6,167	5,704
818.10	6,267	6,326
818.20	6,368	6,957
818.30	6,468	7,599
818.40	6,569	8,251
818.50	6,669	8,913
818.60	6,769	9,585
818.70	6,870	10,267
818.80	6,970	10,959
818.90	7,071	11,661
819.00	7,171	12,373
819.10	7,278	13,095
819.20	7,386	13,829
819.30	7,493	14,573
819.40	7,601	15,327
819.50	7,708	16,093
819.60	7,815	16,869
819.70	7,923	17,656
819.80	8,030	18,453
819.90	8,138	19,262
820.00	8,245	20,081
820.10	8,357	20,911
820.20	8,468	21,752
820.30	8,579	22,605
820.40	8,691	23,468
820.50	8,803	24,343
820.60	8,914	25,229
820.70	9,026	26,126
820.80	9,137	27,034
820.90	9,248	27,953
821.00	9,360	28,884
821.10	9,474	29,825
821.20	9,588	30,778
821.30	9,702	31,743
821.40	9,816	32,719
821.50	9,930	33,706
821.60	10,044	34,705
821.70	10,158	35,715
821.80	10,272	36,736
821.90	10,386	37,769
822.00	**10,500**	**38,814**
822.10	10,500	38,814
822.20	10,500	38,814
822.30	10,500	38,814
822.40	10,500	38,814
822.50	10,500	38,814
822.60	10,500	38,814
822.70	10,500	38,814
822.80	10,500	38,814
822.90	10,500	38,814
823.00	10,500	38,814
823.10	10,500	38,814
823.20	10,500	38,814
823.30	10,500	38,814
823.40	10,500	38,814
823.50	10,500	38,814
823.60	10,500	38,814
823.70	10,500	38,814
823.80	10,500	38,814
823.90	10,500	38,814
824.00	10,500	38,814
824.10	10,500	38,814
824.20	10,500	38,814
824.30	10,500	38,814
824.40	10,500	38,814
824.50	10,500	38,814

Summary for Pond 2P: French Drain

Inflow Area = 14,976 sf, 66.82% Impervious, Inflow Depth = 5.16" for 100-Year event
Inflow = 2.60 cfs @ 12.14 hrs, Volume= 6,440 cf
Outflow = 0.02 cfs @ 7.22 hrs, Volume= 5,660 cf, Atten= 99%, Lag= 0.0 min
Discarded = 0.02 cfs @ 7.22 hrs, Volume= 5,660 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 3L : East 87th Street
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 3L : East 87th Street

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 819.82' @ 19.67 hrs Surf.Area= 1,260 sf Storage= 4,948 cf

Plug-Flow detention time= 1,597.3 min calculated for 5,660 cf (88% of inflow)
Center-of-Mass det. time= 1,548.6 min (2,298.0 - 749.4)

Volume	Invert	Avail.Storage	Storage Description
#1	810.00'	5,393 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 13,482 cf Overall x 40.0% Voids
#2	820.70'	489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
		5,882 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
810.00	1,260	0	0
820.70	1,260	13,482	13,482

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
820.70	1,260	0	0
821.00	2,000	489	489

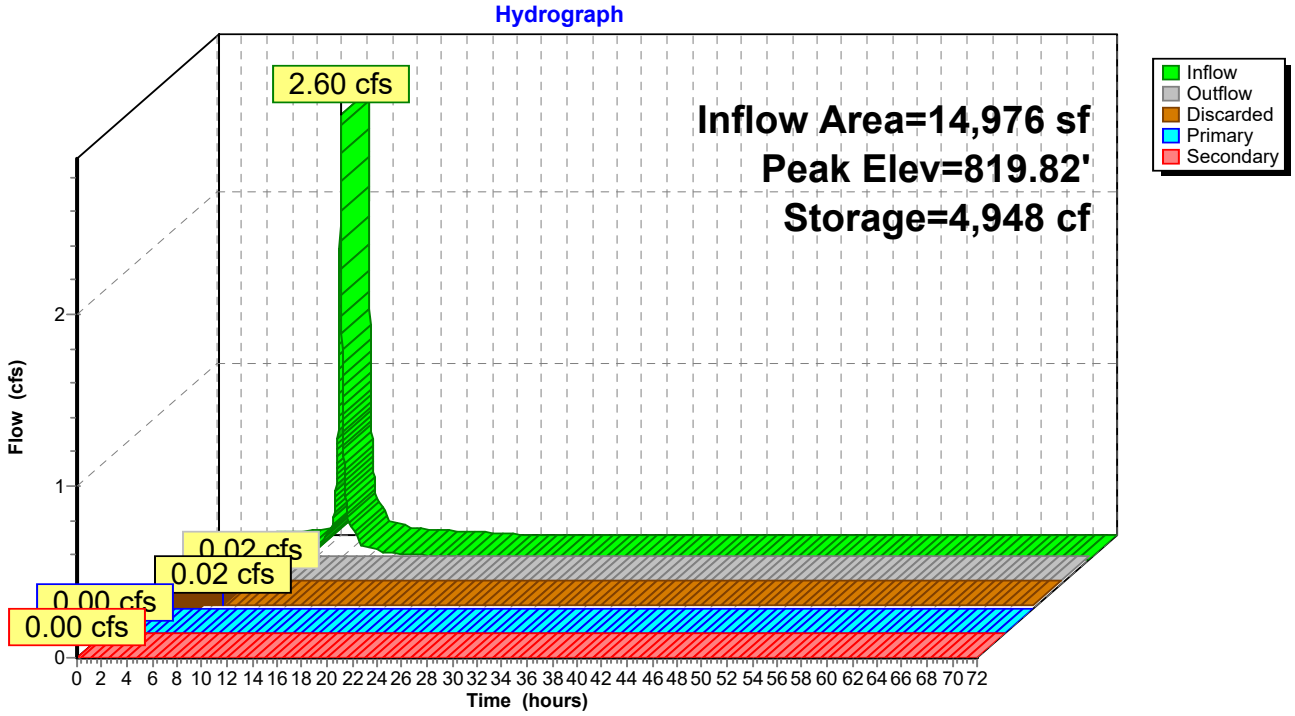
Device	Routing	Invert	Outlet Devices
#1	Primary	816.80'	**12.0" Round Outlet** L= 29.0' Ke= 0.500 Inlet / Outlet Invert= 816.80' / 816.63' S= 0.0059 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Discarded	810.00'	**0.800 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#3	Device 1	816.80'	**1.800 in/hr sand control over Surface area above 816.80'** Excluded Surface area = 1,260 sf Phase-In= 0.01'
#4	Secondary	821.00'	**1.0' long x 1.0' 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 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.02 cfs @ 7.22 hrs HW=810.11' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=810.00' (Free Discharge)
└**1=Outlet** (Controls 0.00 cfs)
└**3=sand control** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=810.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: French Drain



Stage-Area-Storage for Pond 2P: French Drain

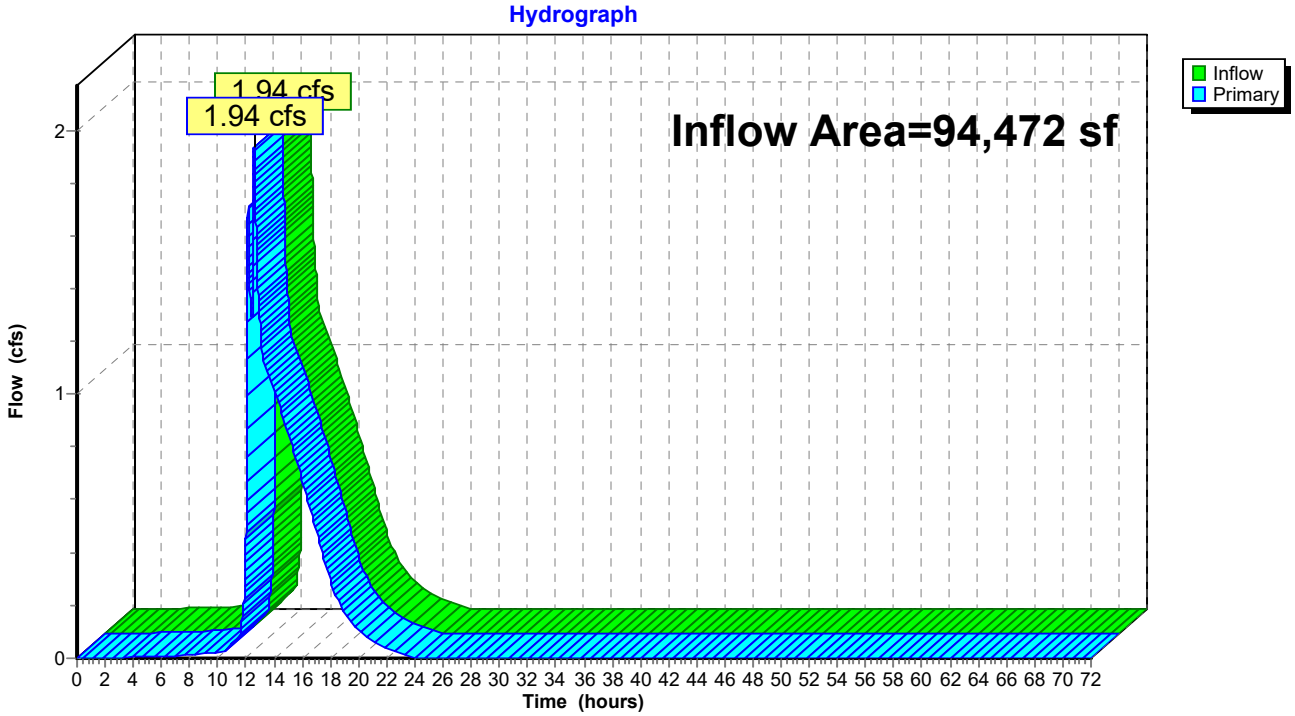
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
810.00	1,260	0
810.20	1,260	101
810.40	1,260	202
810.60	1,260	302
810.80	1,260	403
811.00	1,260	504
811.20	1,260	605
811.40	1,260	706
811.60	1,260	806
811.80	1,260	907
812.00	1,260	1,008
812.20	1,260	1,109
812.40	1,260	1,210
812.60	1,260	1,310
812.80	1,260	1,411
813.00	1,260	1,512
813.20	1,260	1,613
813.40	1,260	1,714
813.60	1,260	1,814
813.80	1,260	1,915
814.00	1,260	2,016
814.20	1,260	2,117
814.40	1,260	2,218
814.60	1,260	2,318
814.80	1,260	2,419
815.00	1,260	2,520
815.20	1,260	2,621
815.40	1,260	2,722
815.60	1,260	2,822
815.80	1,260	2,923
816.00	1,260	3,024
816.20	1,260	3,125
816.40	1,260	3,226
816.60	1,260	3,326
816.80	1,260	3,427
817.00	1,260	3,528
817.20	1,260	3,629
817.40	1,260	3,730
817.60	1,260	3,830
817.80	1,260	3,931
818.00	1,260	4,032
818.20	1,260	4,133
818.40	1,260	4,234
818.60	1,260	4,334
818.80	1,260	4,435
819.00	1,260	4,536
819.20	1,260	4,637
819.40	1,260	4,738
819.60	1,260	4,838
819.80	1,260	4,939
820.00	1,260	5,040
820.20	1,260	5,141
820.40	1,260	5,242
820.60	1,260	5,342
820.80	2,767	5,531
821.00	**3,260**	**5,882**

Summary for Link 1L: East 86th Street

Inflow Area = 94,472 sf, 66.92% Impervious, Inflow Depth = 2.73" for 100-Year event
Inflow = 1.94 cfs @ 12.57 hrs, Volume= 21,520 cf
Primary = 1.94 cfs @ 12.57 hrs, Volume= 21,520 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Link 1L: East 86th Street

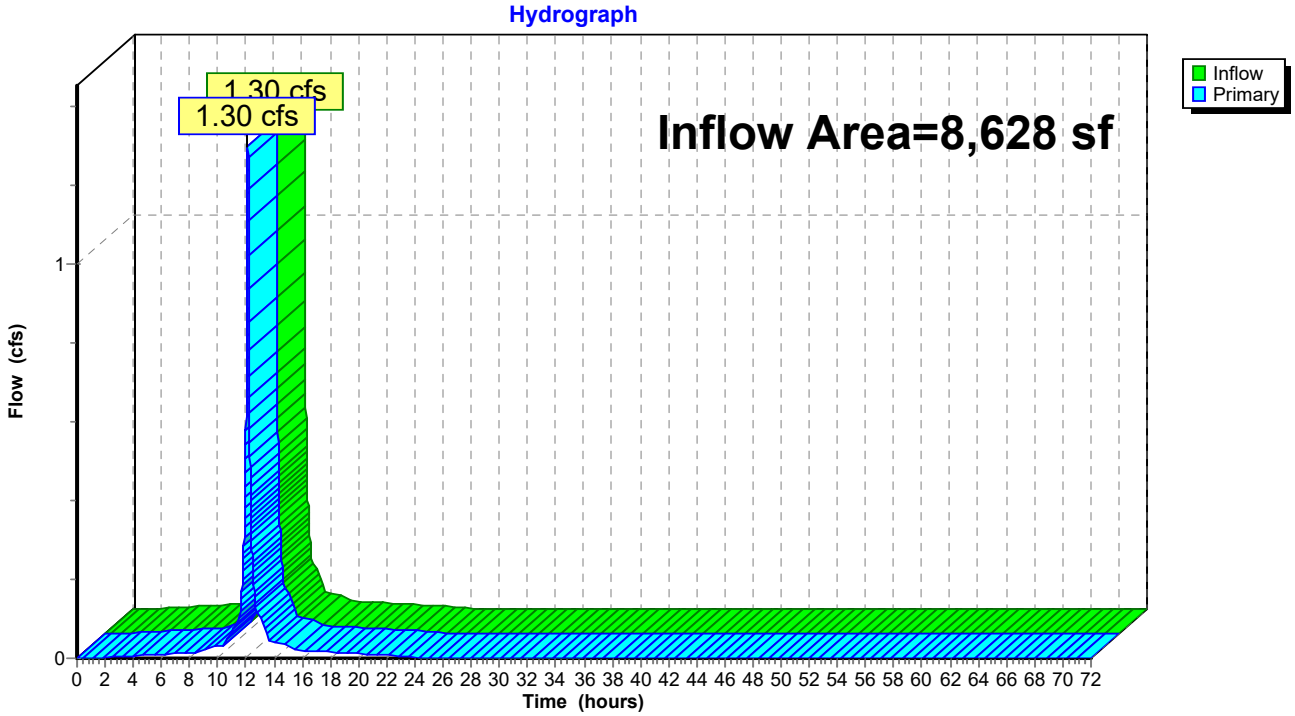


Summary for Link 2L: Private Property

Inflow Area = 8,628 sf, 56.57% Impervious, Inflow Depth = 4.51" for 100-Year event
Inflow = 1.30 cfs @ 12.14 hrs, Volume= 3,246 cf
Primary = 1.30 cfs @ 12.14 hrs, Volume= 3,246 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Link 2L: Private Property

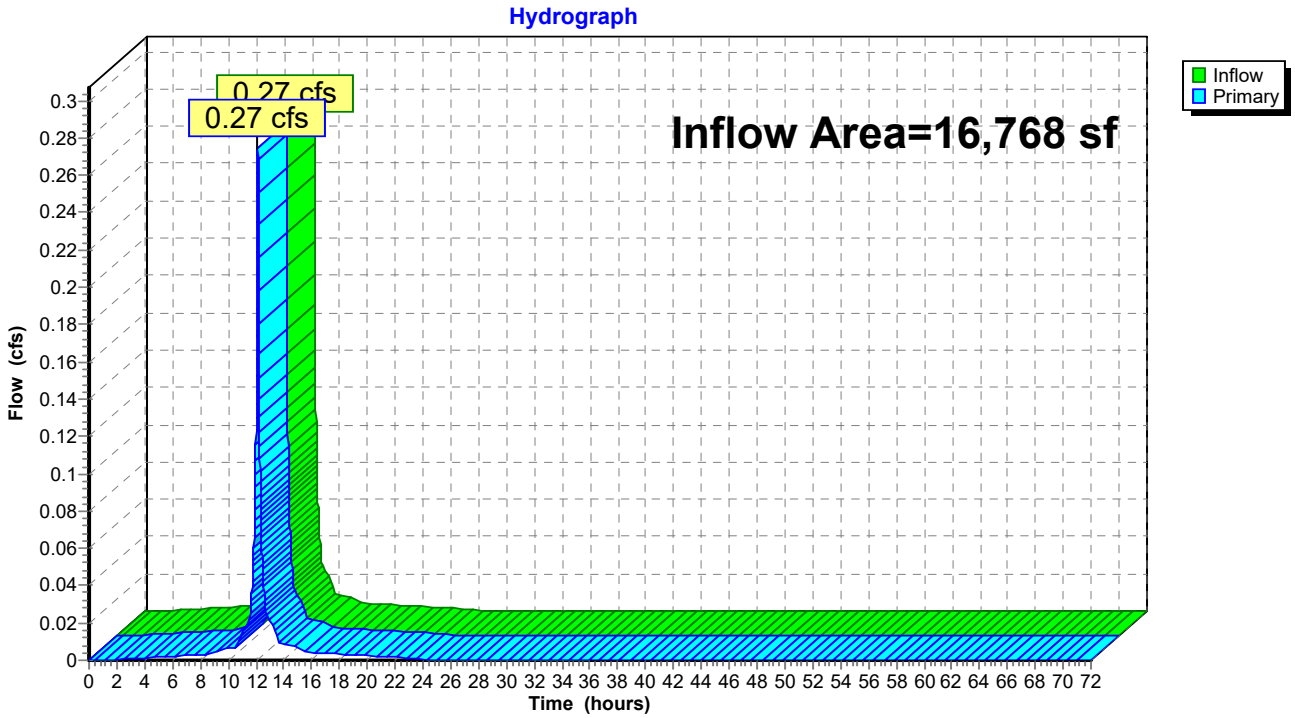


Summary for Link 3L: East 87th Street

Inflow Area = 16,768 sf, 65.84% Impervious, Inflow Depth = 0.49" for 100-Year event
Inflow = 0.27 cfs @ 12.14 hrs, Volume= 684 cf
Primary = 0.27 cfs @ 12.14 hrs, Volume= 684 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : Total Offsite

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

Link 3L: East 87th Street

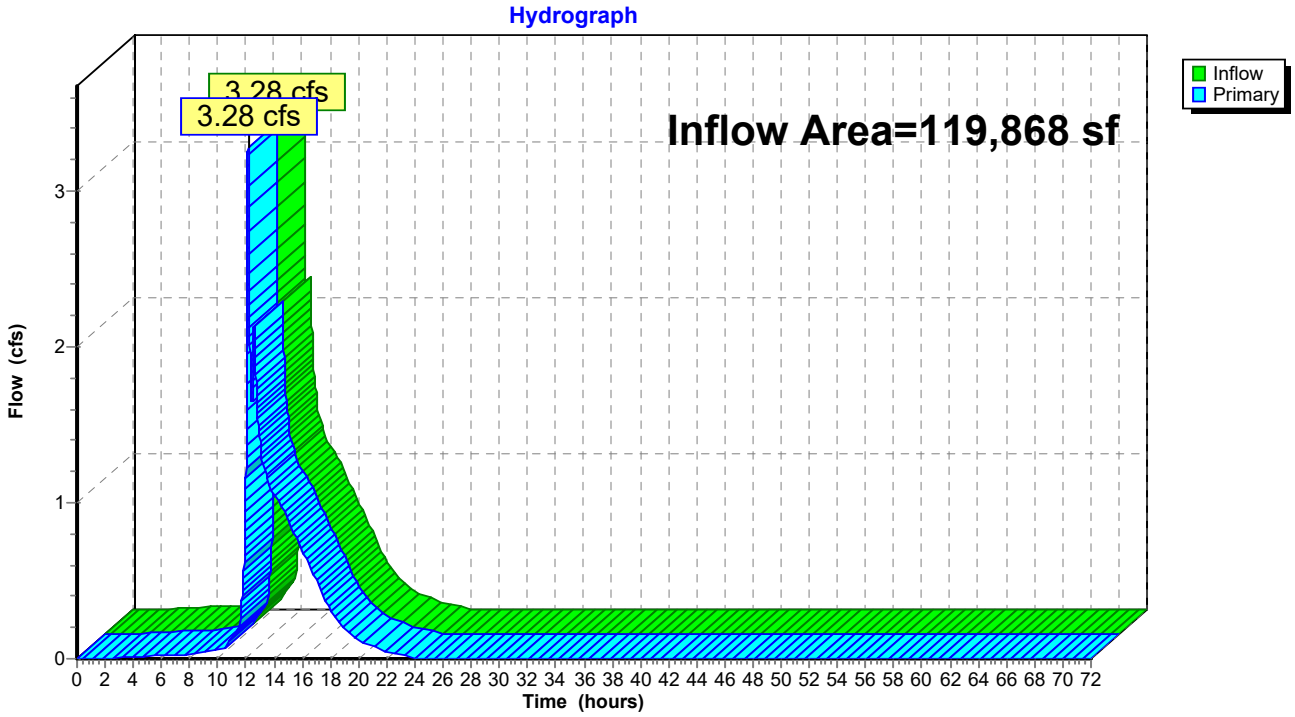


Summary for Link 4L: Total Offsite

Inflow Area = 119,868 sf, 66.03% Impervious, Inflow Depth = 2.55" for 100-Year event
Inflow = 3.28 cfs @ 12.15 hrs, Volume= 25,450 cf
Primary = 3.28 cfs @ 12.15 hrs, Volume= 25,450 cf, Atten= 0%, Lag= 0.0 min

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

Link 4L: Total Offsite



Appendix H

Soil Summary

Provide soil borings and/or soil infiltration tests in location(s) and at depth(s) of proposed stormwater BMPs to confirm presence of soils that will support infiltration

Soil Map—Hennepin County, Minnesota

Map Scale: 1:1,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
D64B	Urban land-Hubbard complex, Mississippi River Valley, 0 to 8 percent slopes	2.9	100.0%
Totals for Area of Interest		**2.9**	**100.0%**

Hennepin County, Minnesota

D64B—Urban land-Hubbard complex, Mississippi River Valley, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2smhh
Landscape: River valleys
Elevation: 660 to 1,710 feet
Mean annual precipitation: 25 to 33 inches
Mean annual air temperature: 37 to 48 degrees F
Frost-free period: 120 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 75 percent
Hubbard, terrace, and similar soils: 20 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landscape: River valleys
Landform: Stream terraces
Landform position (three-dimensional): Tread
Parent material: Loamy alluvium over sandy outwash

Description of Hubbard, Terrace

Setting

Landscape: River valleys
Landform: Stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Typical profile

Ap - 0 to 8 inches: loamy sand
AB - 8 to 20 inches: loamy sand
Bw - 20 to 32 inches: loamy sand
C - 32 to 79 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: F091XY004WI - Terrace
Forage suitability group: Sandy (G091XN022MN)
Other vegetative classification: Sandy (G091XN022MN)
Hydric soil rating: No

Minor Components

Mosford

Percent of map unit: 5 percent
Landscape: River valleys
Landform: Stream terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F091XY005WI - Wet Sandy and Loamy Lowland
Other vegetative classification: Sandy (G091XN022MN)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Hennepin County, Minnesota
Survey Area Data: Version 21, Sep 10, 2025

Appendix I

Water Quality Summary

Project Information

Calculator Version:	Version 4: July 2020
Project Name:	33 Townhouse Units - Existing
User Name / Company Name:	Demarc
Date:	04.15.25
Project Description:	
Construction Permit?:	No

Provide native MIDS model files to allow review of inputs for both existing and proposed condition

Site Information

Retention Requirement (inches):	1.1
Site's Zip Code:	55425
Annual Rainfall (inches):	31.7
Phosphorus EMC (mg/l):	0.3
TSS EMC (mg/l):	54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	0.905				0.905
				Impervious Area (acres)	1.847
				Total Area (acres)	2.752

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed					0
				Impervious Area (acres)	
				Total Area (acres)	0

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	7375	ft3
Volume removed by BMPs towards performance goal:		ft^3
Percent volume removed towards performance goal		**%**

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	4.4944	acre-ft
Annual runoff volume removed by BMPs:		acre-ft
Percent annual runoff volume removed:		**%**
Post development annual particulate P load:	2.0171	lbs
Annual particulate P removed by BMPs:		lbs
Post development annual dissolved P load:	1.65	lbs
Annual dissolved P removed by BMPs:	0	lbs
Total P removed by BMPs	0	lbs
Percent annual total phosphorus removed:		**%**
Post development annual TSS load:	666.2	lbs
Annual TSS removed by BMPs:		lbs
Percent annual TSS removed:		**%**

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft3)	Volume Recieved (ft3)	Volume Retained (ft3)	Volume Outflow (ft3)	Percent Retained (%)

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)

Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)

Total Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)

TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)

BMP Schematic

Project Information

Calculator Version:	Version 4: July 2020
Project Name:	33 Townhouse Units - Proposed
User Name / Company Name:	Demarc
Date:	04.28.25
Project Description:	
Construction Permit?:	No

Site Information

Retention Requirement (inches):	1.1
Site's Zip Code:	55425
Annual Rainfall (inches):	31.7
Phosphorus EMC (mg/l):	0.3
TSS EMC (mg/l):	54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	0.896				0.896
				Impervious Area (acres)	1.856
				Total Area (acres)	2.752

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	0.696				0.696
				Impervious Area (acres)	1.63
				Total Area (acres)	2.326

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	7411	ft3
Volume removed by BMPs towards performance goal:	6509	ft^3
Percent volume removed towards performance goal	**88**	**%**

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	4.5115	acre-ft
Annual runoff volume removed by BMPs:	3.8987	acre-ft
Percent annual runoff volume removed:	**86**	**%**
Post development annual particulate P load:	2.0248	lbs
Annual particulate P removed by BMPs:	1.75	lbs
Post development annual dissolved P load:	1.657	lbs
Annual dissolved P removed by BMPs:	1.432	lbs
Total P removed by BMPs	3.182	lbs
Percent annual total phosphorus removed:	**86**	**%**
Post development annual TSS load:	668.8	lbs
Annual TSS removed by BMPs:	577.9	lbs
Percent annual TSS removed:	**86**	**%**

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft3)	Volume Recieved (ft3)	Volume Retained (ft3)	Volume Outflow (ft3)	Percent Retained (%)
0 - Infiltration basin/Infiltration trench (abc	23418	5518	5518	0	100
1 - Underground infiltration	1050	990	990	0	100

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
0 - Infiltration basin/Infiltration trench (abc	3.3382	0	3.3382	0	100
1 - Underground infiltration	0.5915	0	0.5604	0.0311	95

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Infiltration basin/Infiltration trench (abc	1.4982	0	1.4982	0	100
1 - Underground infiltration	0.2655	0	0.2515	0.014	95

Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Infiltration basin/Infiltration trench (abc	1.2258	0	1.2258	0	100
1 - Underground infiltration	0.2172	0	0.2058	0.0114	95

Total Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Infiltration basin/Infiltration trench (abc	2.724	0	2.724	0	100
1 - Underground infiltration	0.4827	0	0.4573	0.0254	95

TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
0 - Infiltration basin/Infiltration trench (abc	494.86	0	494.86	0	100
1 - Underground infiltration	87.69	0	83.08	4.61	95

BMP Schematic

0 - Infiltration basin/
Infiltration trench

1 - Underground infiltration