DRAINAGE STATEMENT

For

B&B Commercial, LLC

Proposed Site Improvements

Block 407, Lot 1
402 N.J.S.H. Route 35
Township of Neptune, Monmouth County, NJ

Prepared by:

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July 2025
DEC # 5152-24-00429

TABLE OF CONTENTS

Section		Page
I.	Drainage Summary	1
II.	Design Methodology	2
III.	Conclusion	2

APPENDIX

- USGS Map
- NJDEP GeoWeb Physiographic Province Map
- NRCS Web Soil Survey
- Hydrograph Summary Reports – 2 & 10 Year Storm Events
- Drainage Design: 2 & 10 YR Reductions
- Drainage Area Maps

I. Drainage Summary

This Drainage Statement has been prepared to define and analyze the stormwater drainage conditions that would occur as a result of the redevelopment of Block 407, Lot 1 as shown on the Township of Neptune Tax Map Sheet No. 4, located in the Township of Neptune, Monmouth County, New Jersey. The subject site consists of 12,686 square feet and is located at the intersection of 402 New Jersey State Highway (NJSH) Route 35 and 9th Avenue.

Under existing conditions, the site consists of an office building and small parking lot. The proposed project consists of the redevelopment of the parking lot for the existing office building. Additional site improvements will include lighting, landscaping, grading, stormwater management, a driveway, and other associated site amenities as shown on the accompanying Site Plans. The new development proposes to increase the impervious coverage on site by approximately 3,502 square feet.

The project consists of less than one (1) acre of disturbance and will not increase the net impervious coverage on-site by ¼ acre or more, nor the motor vehicle surface. Therefore, the proposed project does not meet the definition of a 'major development' as defined by NJAC 7:8 and therefore is not subject to the NJDEP Stormwater Management Rules & Regulations (NJAC 7:8).

As the proposed development proposes disturbance of greater than 5,000 SF with an increase of impervious area less than ¼ acre, the project is subject to New Jersey Standards for Soil Erosion & Sediment Control. Accordingly, the development must meet the runoff rate reductions to document downstream stability for the 2 and 10-year storms.

The stormwater drainage for the proposed site has been designed to maintain existing runoff patterns to the maximum extent feasible. The stormwater runoff within the parking lot area will be collected by proposed inlets and discharge into an on-site underground basin.

II. Design Methodology

The intention of the design of the proposed stormwater management facility for this project is to provide measures as required to address applicable aspects of the Standards for Soil Erosion and Sediment Control in New Jersey and the Township of Neptune Stormwater Management Control Ordinance.

Under existing conditions, the stormwater runoff from the existing development is entirely undetained to 9th Avenue.

The stormwater drainage for the proposed project has been designed to maintain existing runoff patterns on-site to the maximum extent practicable. A grading plan was developed for the proposed site improvements with consideration of the existing drainage patterns. Under proposed conditions, stormwater runoff from portions of the parking lot area and open space area are to be collected and detained in a proposed underground infiltration basin. The stormwater runoff will be collected by two (2) proposed inlets within the proposed parking lot area. Stormwater conveyance has been designed with perforated HDPE pipe which conveys stormwater to an underground basin consisting of perforated HDPE pipe.

The underground basin capacity is equivalent to the increase in volume for the 10-year design storm. The underground basin is designed with an overflow weir, in the event the rate of infiltration into underlying soil is exceeded by the rate of inflow and the capacity of the system. Stormwater from the system will bubble up through an overflow grate on the north side of the site and drain to 9th Avenue, similar to existing conditions.

III. Conclusion

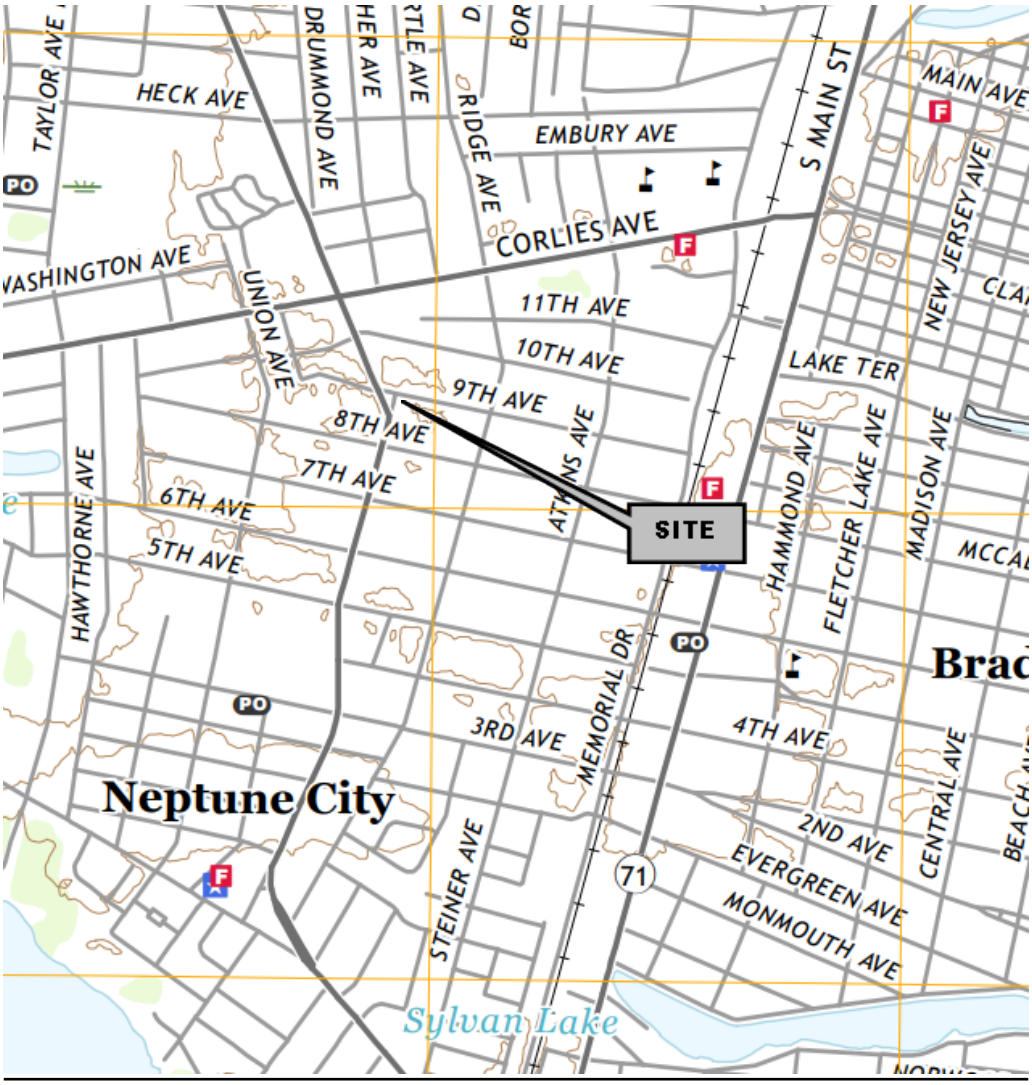
The proposed project has been designed to ensure safe and efficient control of stormwater runoff in a manner that will not adversely impact the existing drainage patterns, adjacent roadways, or adjacent parcels. Furthermore, the project does not increase the peak stormwater runoff rates from the parcel. We anticipate that the proposed improvements will not negatively impact the existing drainage infrastructure located onsite or within the surrounding properties.

APPENDIX

USGS MAP

DYNAMIC
ENGINEERING EARTH SURVEY TRAFFIC

USGS MAP: ASBURY PARK QUADRANGLE



(Not to scale)

NJDEP GEOWEB PHYSIOGRAPHIC PROVINCE MAP

DYNAMIC
ENGINEERING EARTH SURVEY TRAFFIC

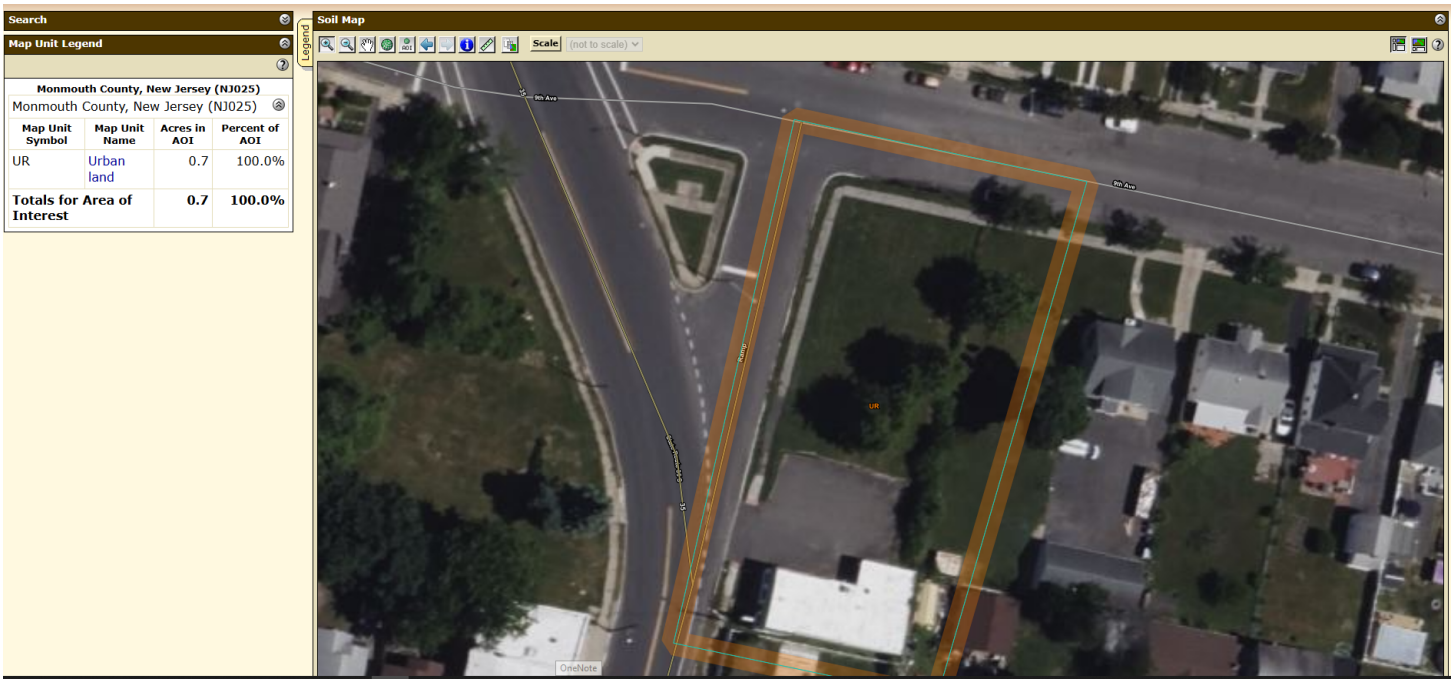
NJDEP GEOWEB PHYSIOGRAPHIC PROVINCE MAP

(Not to scale)

NRCS WEB SOIL SURVEY

DYNAMIC
ENGINEERING EARTH SURVEY TRAFFIC

NRCS WEBSOIL SURVEY



(Not to scale)

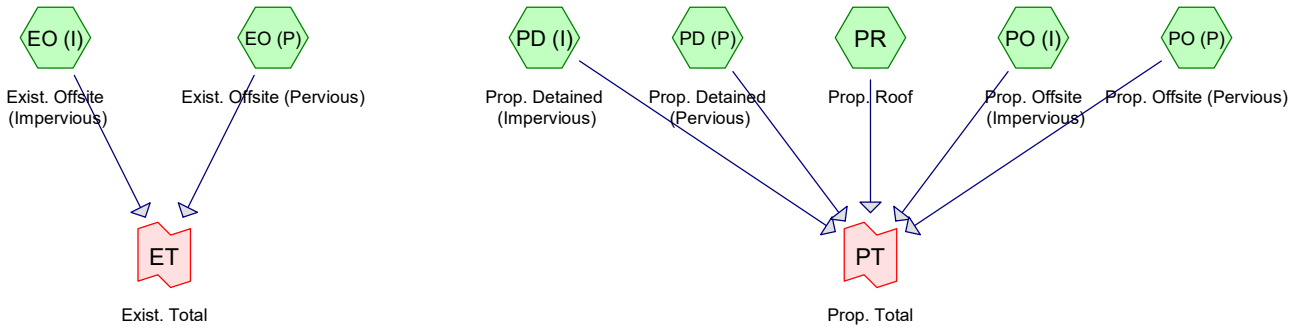
HYDROGRAPH SUMMARY REPORTS – 2 & 10-YEAR STORM EVENTS

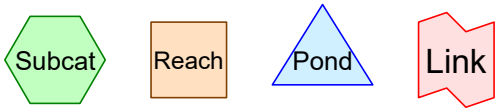
TABLE OF CONTENTS

Project Reports
1 Routing Diagram
2 Project Notes
3 Rainfall Events Listing
4 Area Listing (all nodes)
5 Soil Listing (all nodes)
6 Ground Covers (all nodes)

2-Year Event
7 Node Listing
8 Subcat EO (I): Exist. Offsite (Impervious)
10 Subcat EO (P): Exist. Offsite (Pervious)
12 Subcat PD (I): Prop. Detained (Impervious)
14 Subcat PD (P): Prop. Detained (Pervious)
16 Subcat PO (I): Prop. Offsite (Impervious)
18 Subcat PO (P): Prop. Offsite (Pervious)
20 Subcat PR: Prop. Roof
22 Link ET: Exist. Total
24 Link PT: Prop. Total

10-Year Event
26 Node Listing
27 Subcat EO (I): Exist. Offsite (Impervious)
29 Subcat EO (P): Exist. Offsite (Pervious)
31 Subcat PD (I): Prop. Detained (Impervious)
33 Subcat PD (P): Prop. Detained (Pervious)
35 Subcat PO (I): Prop. Offsite (Impervious)
37 Subcat PO (P): Prop. Offsite (Pervious)
39 Subcat PR: Prop. Roof
41 Link ET: Exist. Total
43 Link PT: Prop. Total





Routing Diagram for 2022-02 Overall Analysis
Prepared by Dynamic Engineering, Printed 7/9/2025
HydroCAD® 10.20-7a s/n 08640 © 2025 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 6611 NJ Middlesex-D
Rainfall events imported from "NJ-Rain.txt" for 6612 NJ Monmouth-D
Rainfall events imported from "NRCS-Rain.txt" for 6612 NJ Monmouth-D
Rainfall events imported from "NRCS-Rain.txt" for 6612 NJ Monmouth-D
Rainfall events imported from "NRCS-Rain.txt" for 6612 NJ Monmouth-D

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NOAA 24-hr	D	Default	24.00	1	3.38	2
2	10-Year	NOAA 24-hr	D	Default	24.00	1	5.23	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.380	39	>75% Grass cover, Good, HSG A (EO (P), PD (P), PO (P))
0.209	98	Motor Vehicle Surfaces, HSG A (EO (I), PD (I), PO (I))
0.104	98	Non-Motor Vehicle Surfaces, HSG A (EO (I), PD (I), PO (I))
0.043	98	Unconnected roofs, HSG A (PR)
0.736	**68**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.736	HSG A	EO (I), EO (P), PD (I), PD (P), PO (I), PO (P), PR
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.736		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.380	0.000	0.000	0.000	0.000	0.380	>75% Grass cover, Good	EO (P), PD (P), PO (P)
0.209	0.000	0.000	0.000	0.000	0.209	Motor Vehicle Surfaces	EO (I), PD (I), PO (I)
0.104	0.000	0.000	0.000	0.000	0.104	Non-Motor Vehicle Surfaces	EO (I), PD (I), PO (I)
0.043	0.000	0.000	0.000	0.000	0.043	Unconnected roofs	PR
0.736	**0.000**	**0.000**	**0.000**	**0.000**	**0.736**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment EO (I): Exist. Offsite Runoff Area=6,167 sf 100.00% Impervious Runoff Depth=3.15"
Flow Length=181' Tc=7.8 min CN=98 Runoff=0.43 cfs 0.037 af

Subcatchment EO (P): Exist. Offsite Runoff Area=9,819 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=181' Tc=7.8 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment PD (I): Prop. Detained Runoff Area=5,049 sf 100.00% Impervious Runoff Depth=3.15"
Flow Length=76' Tc=1.7 min CN=98 Runoff=0.41 cfs 0.030 af

Subcatchment PD (P): Prop. Detained Runoff Area=947 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=76' Tc=1.7 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment PO (I): Prop. Offsite Runoff Area=2,421 sf 100.00% Impervious Runoff Depth=3.15"
Flow Length=100' Tc=4.6 min CN=98 Runoff=0.19 cfs 0.015 af

Subcatchment PO (P): Prop. Offsite Runoff Area=5,780 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=100' Tc=4.6 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment PR: Prop. Roof Runoff Area=1,876 sf 100.00% Impervious Runoff Depth=3.15"
Flow Length=76' Tc=1.7 min CN=98 Runoff=0.15 cfs 0.011 af

Link ET: Exist. Total Inflow=0.43 cfs 0.037 af
Primary=0.43 cfs 0.037 af

Link PT: Prop. Total Inflow=0.74 cfs 0.056 af
Primary=0.74 cfs 0.056 af

Total Runoff Area = 0.736 ac Runoff Volume = 0.094 af Average Runoff Depth = 1.52"
51.61% Pervious = 0.380 ac 48.39% Impervious = 0.356 ac

Summary for Subcatchment EO (I): Exist. Offsite (Impervious)

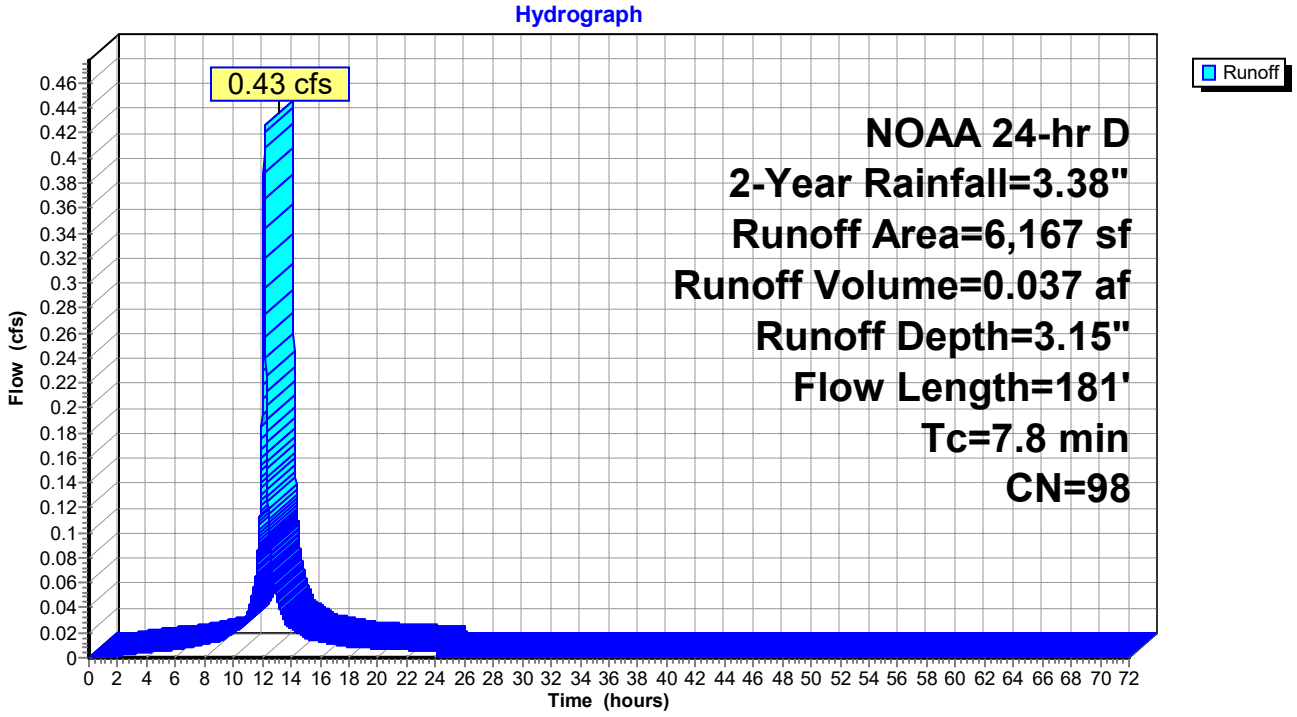
Runoff = 0.43 cfs @ 12.15 hrs, Volume= 0.037 af, Depth= 3.15"
Routed to Link ET : Exist. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 2-Year Rainfall=3.38"

	Area (sf)	CN	Description
*	2,967	98	Non-Motor Vehicle Surfaces, HSG A
*	3,200	98	Motor Vehicle Surfaces, HSG A
	6,167	98	Weighted Average
	6,167		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	73	0.0370	0.21		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.9	27	0.0030	0.51		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.0	68	0.0030	1.11		**Shallow Concentrated Flow, SCF - CD** Paved Kv= 20.3 fps
0.1	13	0.0430	3.34		**Shallow Concentrated Flow, SCF - DE** Unpaved Kv= 16.1 fps
7.8	181	Total			

Subcatchment EO (I): Exist. Offsite (Impervious)



Hydrograph for Subcatchment EO (I): Exist. Offsite (Impervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.01	0.00
3.00	0.13	0.03	0.00
4.00	0.18	0.05	0.00
5.00	0.23	0.09	0.01
6.00	0.29	0.14	0.01
7.00	0.36	0.19	0.01
8.00	0.44	0.26	0.01
9.00	0.54	0.35	0.01
10.00	0.67	0.48	0.02
11.00	0.88	0.67	0.04
12.00	1.62	1.40	**0.22**
13.00	2.50	2.27	**0.05**
14.00	2.71	2.48	0.02
15.00	2.84	2.61	0.02
16.00	2.94	2.71	0.01
17.00	3.02	2.79	0.01
18.00	3.09	2.86	0.01
19.00	3.15	2.92	0.01
20.00	3.20	2.97	0.01
21.00	3.25	3.02	0.01
22.00	3.30	3.07	0.01
23.00	3.34	3.11	0.01
24.00	**3.38**	**3.15**	0.01
25.00	3.38	3.15	0.00
26.00	3.38	3.15	0.00
27.00	3.38	3.15	0.00
28.00	3.38	3.15	0.00
29.00	3.38	3.15	0.00
30.00	3.38	3.15	0.00
31.00	3.38	3.15	0.00
32.00	3.38	3.15	0.00
33.00	3.38	3.15	0.00
34.00	3.38	3.15	0.00
35.00	3.38	3.15	0.00
36.00	3.38	3.15	0.00
37.00	3.38	3.15	0.00
38.00	3.38	3.15	0.00
39.00	3.38	3.15	0.00
40.00	3.38	3.15	0.00
41.00	3.38	3.15	0.00
42.00	3.38	3.15	0.00
43.00	3.38	3.15	0.00
44.00	3.38	3.15	0.00
45.00	3.38	3.15	0.00
46.00	3.38	3.15	0.00
47.00	3.38	3.15	0.00
48.00	3.38	3.15	0.00
49.00	3.38	3.15	0.00
50.00	3.38	3.15	0.00
51.00	3.38	3.15	0.00
52.00	3.38	3.15	0.00
53.00	3.38	3.15	0.00
54.00	3.38	3.15	0.00
55.00	3.38	3.15	0.00
56.00	3.38	3.15	0.00
57.00	3.38	3.15	0.00
58.00	3.38	3.15	0.00
59.00	3.38	3.15	0.00
60.00	3.38	3.15	0.00
61.00	3.38	3.15	0.00
62.00	3.38	3.15	0.00
63.00	3.38	3.15	0.00
64.00	3.38	3.15	0.00
65.00	3.38	3.15	0.00
66.00	3.38	3.15	0.00
67.00	3.38	3.15	0.00
68.00	3.38	3.15	0.00
69.00	3.38	3.15	0.00
70.00	3.38	3.15	0.00
71.00	3.38	3.15	0.00
72.00	3.38	3.15	0.00

Summary for Subcatchment EO (P): Exist. Offsite (Pervious)

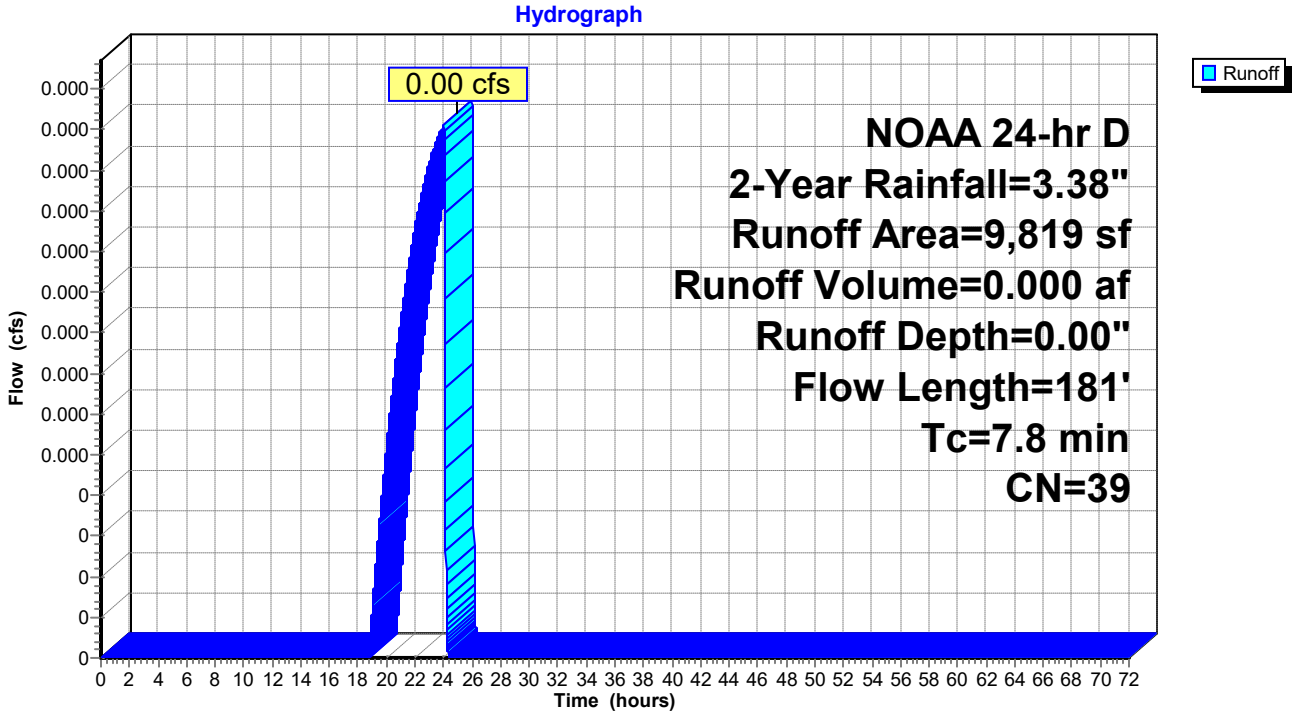
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link ET : Exist. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 2-Year Rainfall=3.38"

Area (sf)	CN	Description
9,819	39	>75% Grass cover, Good, HSG A
9,819		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	73	0.0370	0.21		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.9	27	0.0030	0.51		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.0	68	0.0030	1.11		**Shallow Concentrated Flow, SCF - CD** Paved Kv= 20.3 fps
0.1	13	0.0430	3.34		**Shallow Concentrated Flow, SCF - DE** Unpaved Kv= 16.1 fps
7.8	181	Total			

Subcatchment EO (P): Exist. Offsite (Pervious)



Hydrograph for Subcatchment EO (P): Exist. Offsite (Pervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.13	0.00	0.00
4.00	0.18	0.00	0.00
5.00	0.23	0.00	0.00
6.00	0.29	0.00	0.00
7.00	0.36	0.00	0.00
8.00	0.44	0.00	0.00
9.00	0.54	0.00	0.00
10.00	0.67	0.00	0.00
11.00	0.88	0.00	0.00
12.00	1.62	0.00	0.00
13.00	2.50	0.00	0.00
14.00	2.71	0.00	0.00
15.00	2.84	0.00	0.00
16.00	2.94	0.00	0.00
17.00	3.02	0.00	0.00
18.00	3.09	0.00	0.00
19.00	3.15	0.00	0.00
20.00	3.20	0.00	0.00
21.00	3.25	0.00	0.00
22.00	3.30	0.00	0.00
23.00	3.34	0.00	0.00
24.00	**3.38**	**0.00**	**0.00**
25.00	3.38	0.00	0.00
26.00	3.38	0.00	0.00
27.00	3.38	0.00	0.00
28.00	3.38	0.00	0.00
29.00	3.38	0.00	0.00
30.00	3.38	0.00	0.00
31.00	3.38	0.00	0.00
32.00	3.38	0.00	0.00
33.00	3.38	0.00	0.00
34.00	3.38	0.00	0.00
35.00	3.38	0.00	0.00
36.00	3.38	0.00	0.00
37.00	3.38	0.00	0.00
38.00	3.38	0.00	0.00
39.00	3.38	0.00	0.00
40.00	3.38	0.00	0.00
41.00	3.38	0.00	0.00
42.00	3.38	0.00	0.00
43.00	3.38	0.00	0.00
44.00	3.38	0.00	0.00
45.00	3.38	0.00	0.00
46.00	3.38	0.00	0.00
47.00	3.38	0.00	0.00
48.00	3.38	0.00	0.00
49.00	3.38	0.00	0.00
50.00	3.38	0.00	0.00
51.00	3.38	0.00	0.00
52.00	3.38	0.00	0.00
53.00	3.38	0.00	0.00
54.00	3.38	0.00	0.00
55.00	3.38	0.00	0.00
56.00	3.38	0.00	0.00
57.00	3.38	0.00	0.00
58.00	3.38	0.00	0.00
59.00	3.38	0.00	0.00
60.00	3.38	0.00	0.00
61.00	3.38	0.00	0.00
62.00	3.38	0.00	0.00
63.00	3.38	0.00	0.00
64.00	3.38	0.00	0.00
65.00	3.38	0.00	0.00
66.00	3.38	0.00	0.00
67.00	3.38	0.00	0.00
68.00	3.38	0.00	0.00
69.00	3.38	0.00	0.00
70.00	3.38	0.00	0.00
71.00	3.38	0.00	0.00
72.00	3.38	0.00	0.00

Summary for Subcatchment PD (I): Prop. Detained (Impervious)

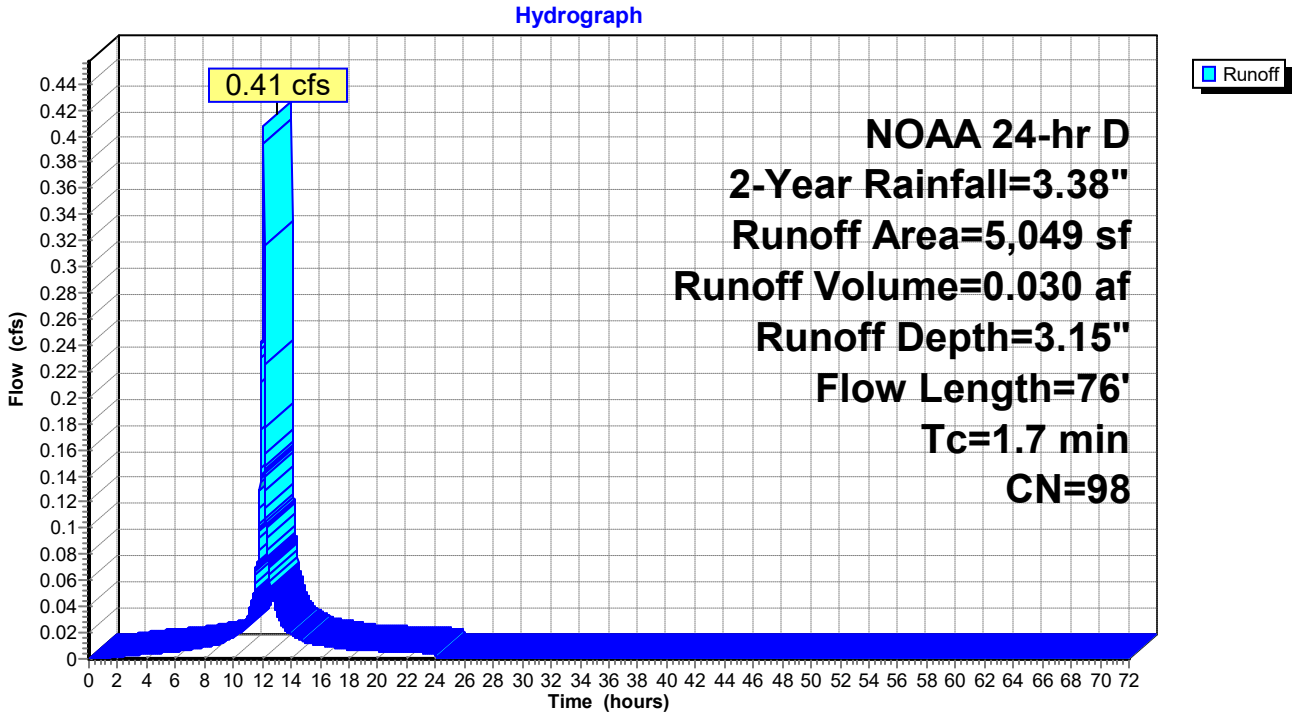
Runoff = 0.41 cfs @ 12.10 hrs, Volume= 0.030 af, Depth= 3.15"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 2-Year Rainfall=3.38"

	Area (sf)	CN	Description
*	4,774	98	Motor Vehicle Surfaces, HSG A
*	275	98	Non-Motor Vehicle Surfaces, HSG A
	5,049	98	Weighted Average
	5,049		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	8	0.0500	0.15		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.8	68	0.0270	1.48		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.7	76	Total			

Subcatchment PD (I): Prop. Detained (Impervious)



Hydrograph for Subcatchment PD (I): Prop. Detained (Impervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.01	0.00
3.00	0.13	0.03	0.00
4.00	0.18	0.05	0.00
5.00	0.23	0.09	0.00
6.00	0.29	0.14	0.01
7.00	0.36	0.19	0.01
8.00	0.44	0.26	0.01
9.00	0.54	0.35	0.01
10.00	0.67	0.48	0.02
11.00	0.88	0.67	0.03
12.00	1.62	1.40	**0.24**
13.00	2.50	2.27	**0.04**
14.00	2.71	2.48	0.02
15.00	2.84	2.61	0.01
16.00	2.94	2.71	0.01
17.00	3.02	2.79	0.01
18.00	3.09	2.86	0.01
19.00	3.15	2.92	0.01
20.00	3.20	2.97	0.01
21.00	3.25	3.02	0.01
22.00	3.30	3.07	0.01
23.00	3.34	3.11	0.00
24.00	**3.38**	**3.15**	0.00
25.00	3.38	3.15	0.00
26.00	3.38	3.15	0.00
27.00	3.38	3.15	0.00
28.00	3.38	3.15	0.00
29.00	3.38	3.15	0.00
30.00	3.38	3.15	0.00
31.00	3.38	3.15	0.00
32.00	3.38	3.15	0.00
33.00	3.38	3.15	0.00
34.00	3.38	3.15	0.00
35.00	3.38	3.15	0.00
36.00	3.38	3.15	0.00
37.00	3.38	3.15	0.00
38.00	3.38	3.15	0.00
39.00	3.38	3.15	0.00
40.00	3.38	3.15	0.00
41.00	3.38	3.15	0.00
42.00	3.38	3.15	0.00
43.00	3.38	3.15	0.00
44.00	3.38	3.15	0.00
45.00	3.38	3.15	0.00
46.00	3.38	3.15	0.00
47.00	3.38	3.15	0.00
48.00	3.38	3.15	0.00
49.00	3.38	3.15	0.00
50.00	3.38	3.15	0.00
51.00	3.38	3.15	0.00
52.00	3.38	3.15	0.00
53.00	3.38	3.15	0.00
54.00	3.38	3.15	0.00
55.00	3.38	3.15	0.00
56.00	3.38	3.15	0.00
57.00	3.38	3.15	0.00
58.00	3.38	3.15	0.00
59.00	3.38	3.15	0.00
60.00	3.38	3.15	0.00
61.00	3.38	3.15	0.00
62.00	3.38	3.15	0.00
63.00	3.38	3.15	0.00
64.00	3.38	3.15	0.00
65.00	3.38	3.15	0.00
66.00	3.38	3.15	0.00
67.00	3.38	3.15	0.00
68.00	3.38	3.15	0.00
69.00	3.38	3.15	0.00
70.00	3.38	3.15	0.00
71.00	3.38	3.15	0.00
72.00	3.38	3.15	0.00

Summary for Subcatchment PD (P): Prop. Detained (Pervious)

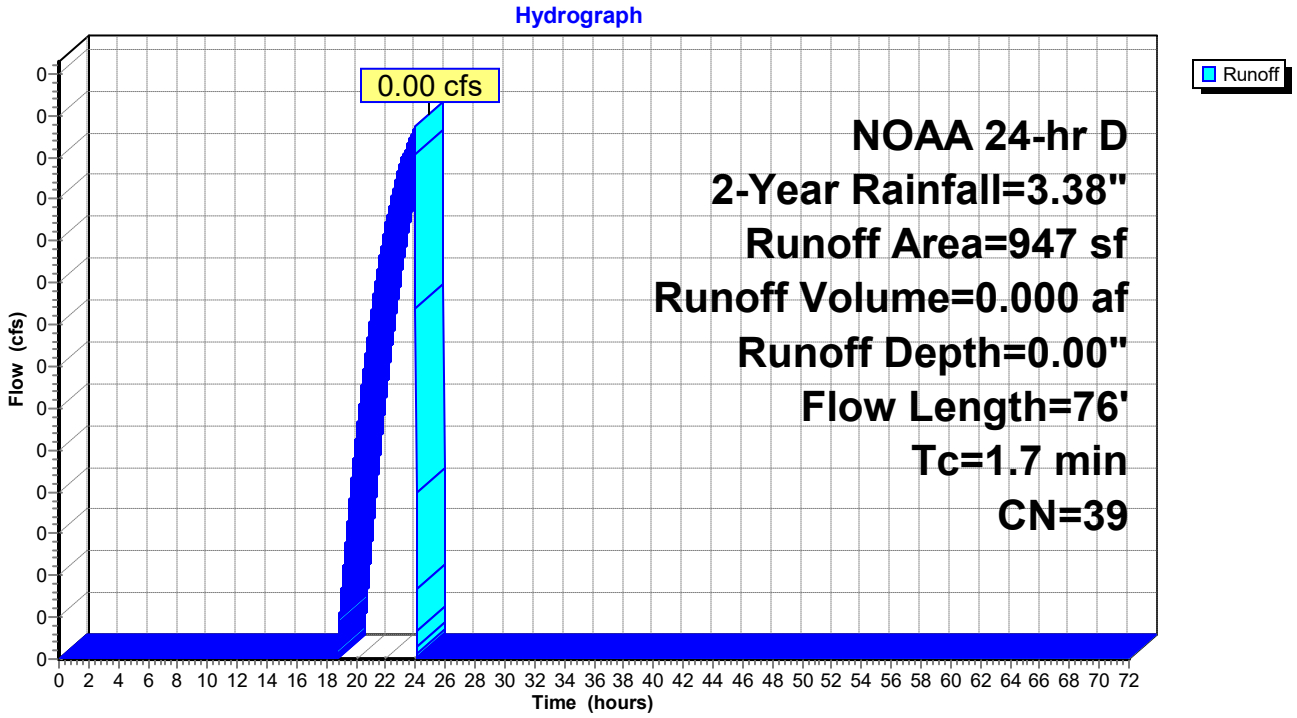
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 2-Year Rainfall=3.38"

Area (sf)	CN	Description
947	39	>75% Grass cover, Good, HSG A
947		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	8	0.0500	0.15		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.8	68	0.0270	1.48		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.7	76	Total			

Subcatchment PD (P): Prop. Detained (Pervious)



Hydrograph for Subcatchment PD (P): Prop. Detained (Pervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.13	0.00	0.00
4.00	0.18	0.00	0.00
5.00	0.23	0.00	0.00
6.00	0.29	0.00	0.00
7.00	0.36	0.00	0.00
8.00	0.44	0.00	0.00
9.00	0.54	0.00	0.00
10.00	0.67	0.00	0.00
11.00	0.88	0.00	0.00
12.00	1.62	0.00	0.00
13.00	2.50	0.00	0.00
14.00	2.71	0.00	0.00
15.00	2.84	0.00	0.00
16.00	2.94	0.00	0.00
17.00	3.02	0.00	0.00
18.00	3.09	0.00	0.00
19.00	3.15	0.00	0.00
20.00	3.20	0.00	0.00
21.00	3.25	0.00	0.00
22.00	3.30	0.00	0.00
23.00	3.34	0.00	0.00
24.00	**3.38**	**0.00**	**0.00**
25.00	3.38	0.00	0.00
26.00	3.38	0.00	0.00
27.00	3.38	0.00	0.00
28.00	3.38	0.00	0.00
29.00	3.38	0.00	0.00
30.00	3.38	0.00	0.00
31.00	3.38	0.00	0.00
32.00	3.38	0.00	0.00
33.00	3.38	0.00	0.00
34.00	3.38	0.00	0.00
35.00	3.38	0.00	0.00
36.00	3.38	0.00	0.00
37.00	3.38	0.00	0.00
38.00	3.38	0.00	0.00
39.00	3.38	0.00	0.00
40.00	3.38	0.00	0.00
41.00	3.38	0.00	0.00
42.00	3.38	0.00	0.00
43.00	3.38	0.00	0.00
44.00	3.38	0.00	0.00
45.00	3.38	0.00	0.00
46.00	3.38	0.00	0.00
47.00	3.38	0.00	0.00
48.00	3.38	0.00	0.00
49.00	3.38	0.00	0.00
50.00	3.38	0.00	0.00
51.00	3.38	0.00	0.00
52.00	3.38	0.00	0.00
53.00	3.38	0.00	0.00
54.00	3.38	0.00	0.00
55.00	3.38	0.00	0.00
56.00	3.38	0.00	0.00
57.00	3.38	0.00	0.00
58.00	3.38	0.00	0.00
59.00	3.38	0.00	0.00
60.00	3.38	0.00	0.00
61.00	3.38	0.00	0.00
62.00	3.38	0.00	0.00
63.00	3.38	0.00	0.00
64.00	3.38	0.00	0.00
65.00	3.38	0.00	0.00
66.00	3.38	0.00	0.00
67.00	3.38	0.00	0.00
68.00	3.38	0.00	0.00
69.00	3.38	0.00	0.00
70.00	3.38	0.00	0.00
71.00	3.38	0.00	0.00
72.00	3.38	0.00	0.00

Summary for Subcatchment PO (I): Prop. Offsite (Impervious)

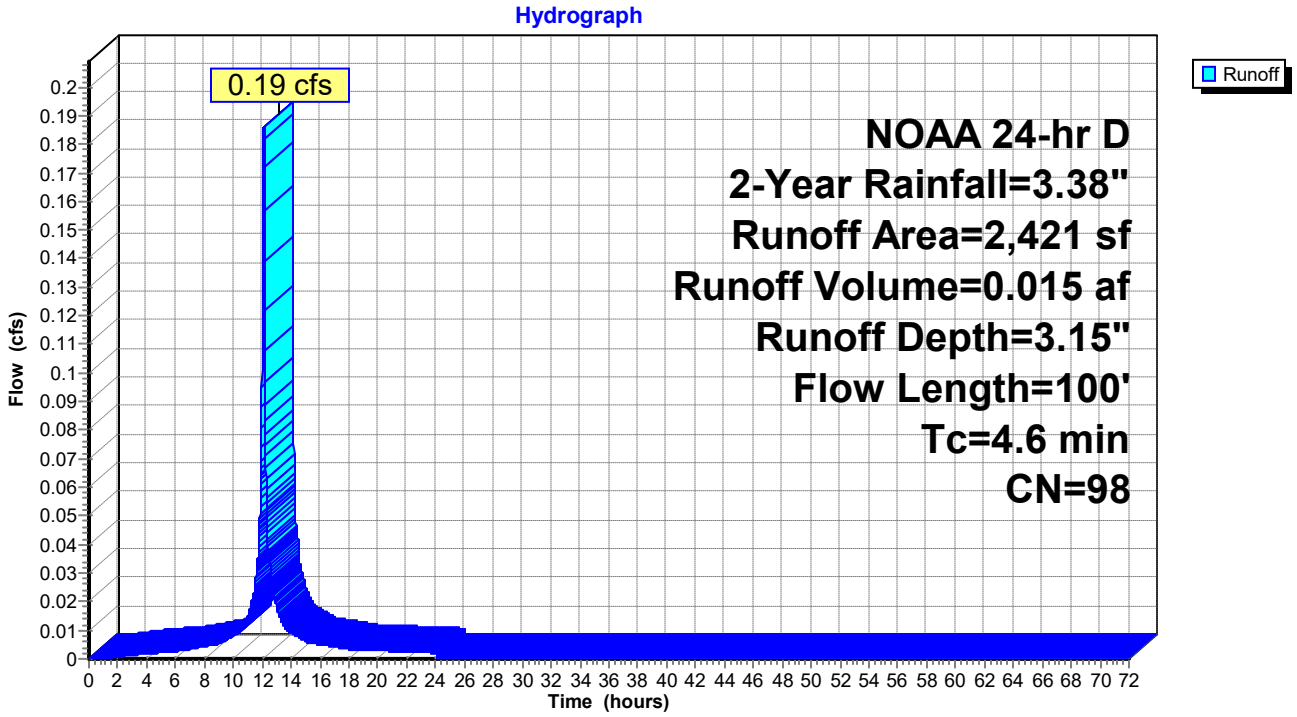
Runoff = 0.19 cfs @ 12.12 hrs, Volume= 0.015 af, Depth= 3.15"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 2-Year Rainfall=3.38"

	Area (sf)	CN	Description
*	1,111	98	Motor Vehicle Surfaces, HSG A
*	1,310	98	Non-Motor Vehicle Surfaces, HSG A
	2,421	98	Weighted Average
	2,421		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	46	0.0400	0.20		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.7	54	0.0240	1.34		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
4.6	100	Total			

Subcatchment PO (I): Prop. Offsite (Impervious)



Hydrograph for Subcatchment PO (I): Prop. Offsite (Impervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.01	0.00
3.00	0.13	0.03	0.00
4.00	0.18	0.05	0.00
5.00	0.23	0.09	0.00
6.00	0.29	0.14	0.00
7.00	0.36	0.19	0.00
8.00	0.44	0.26	0.00
9.00	0.54	0.35	0.01
10.00	0.67	0.48	0.01
11.00	0.88	0.67	0.02
12.00	1.62	1.40	**0.11**
13.00	2.50	2.27	**0.02**
14.00	2.71	2.48	0.01
15.00	2.84	2.61	0.01
16.00	2.94	2.71	0.01
17.00	3.02	2.79	0.00
18.00	3.09	2.86	0.00
19.00	3.15	2.92	0.00
20.00	3.20	2.97	0.00
21.00	3.25	3.02	0.00
22.00	3.30	3.07	0.00
23.00	3.34	3.11	0.00
24.00	**3.38**	**3.15**	0.00
25.00	3.38	3.15	0.00
26.00	3.38	3.15	0.00
27.00	3.38	3.15	0.00
28.00	3.38	3.15	0.00
29.00	3.38	3.15	0.00
30.00	3.38	3.15	0.00
31.00	3.38	3.15	0.00
32.00	3.38	3.15	0.00
33.00	3.38	3.15	0.00
34.00	3.38	3.15	0.00
35.00	3.38	3.15	0.00
36.00	3.38	3.15	0.00
37.00	3.38	3.15	0.00
38.00	3.38	3.15	0.00
39.00	3.38	3.15	0.00
40.00	3.38	3.15	0.00
41.00	3.38	3.15	0.00
42.00	3.38	3.15	0.00
43.00	3.38	3.15	0.00
44.00	3.38	3.15	0.00
45.00	3.38	3.15	0.00
46.00	3.38	3.15	0.00
47.00	3.38	3.15	0.00
48.00	3.38	3.15	0.00
49.00	3.38	3.15	0.00
50.00	3.38	3.15	0.00
51.00	3.38	3.15	0.00
52.00	3.38	3.15	0.00
53.00	3.38	3.15	0.00
54.00	3.38	3.15	0.00
55.00	3.38	3.15	0.00
56.00	3.38	3.15	0.00
57.00	3.38	3.15	0.00
58.00	3.38	3.15	0.00
59.00	3.38	3.15	0.00
60.00	3.38	3.15	0.00
61.00	3.38	3.15	0.00
62.00	3.38	3.15	0.00
63.00	3.38	3.15	0.00
64.00	3.38	3.15	0.00
65.00	3.38	3.15	0.00
66.00	3.38	3.15	0.00
67.00	3.38	3.15	0.00
68.00	3.38	3.15	0.00
69.00	3.38	3.15	0.00
70.00	3.38	3.15	0.00
71.00	3.38	3.15	0.00
72.00	3.38	3.15	0.00

Summary for Subcatchment PO (P): Prop. Offsite (Pervious)

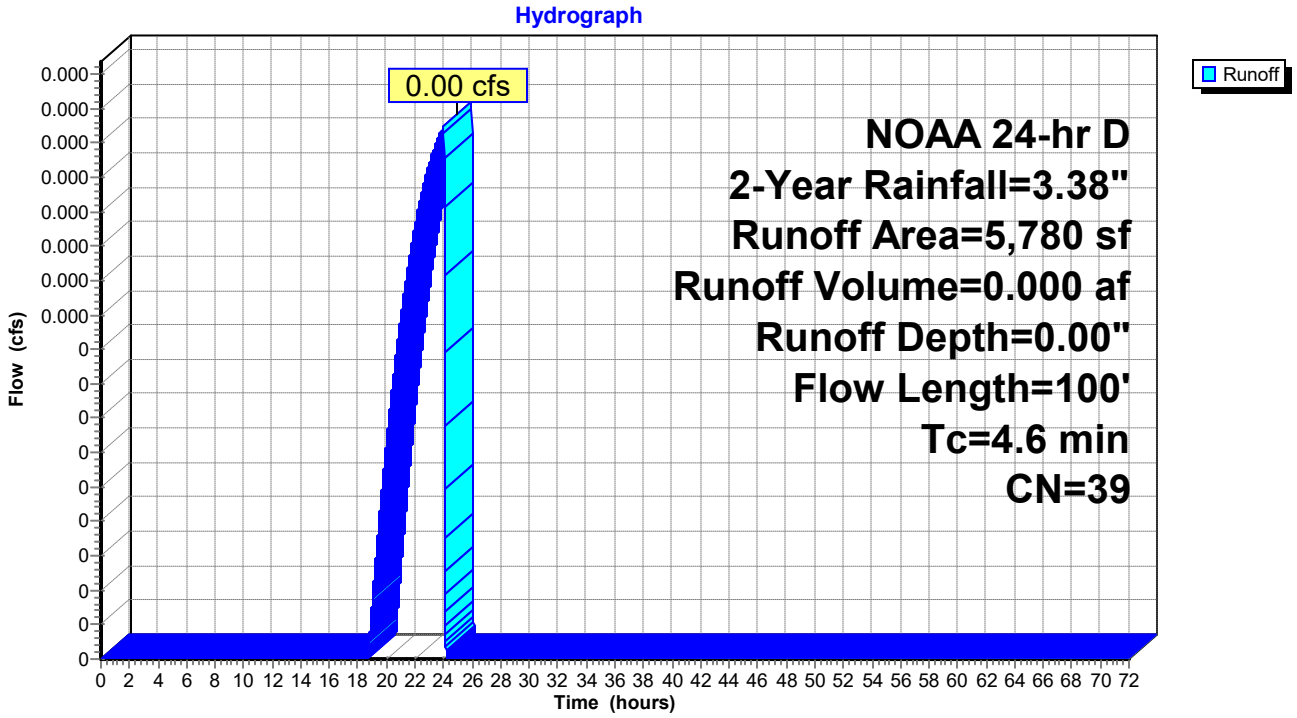
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 2-Year Rainfall=3.38"

Area (sf)	CN	Description
5,780	39	>75% Grass cover, Good, HSG A
5,780		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	46	0.0400	0.20		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.7	54	0.0240	1.34		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
4.6	100	Total			

Subcatchment PO (P): Prop. Offsite (Pervious)



Hydrograph for Subcatchment PO (P): Prop. Offsite (Pervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.00	0.00
3.00	0.13	0.00	0.00
4.00	0.18	0.00	0.00
5.00	0.23	0.00	0.00
6.00	0.29	0.00	0.00
7.00	0.36	0.00	0.00
8.00	0.44	0.00	0.00
9.00	0.54	0.00	0.00
10.00	0.67	0.00	0.00
11.00	0.88	0.00	0.00
12.00	1.62	0.00	0.00
13.00	2.50	0.00	0.00
14.00	2.71	0.00	0.00
15.00	2.84	0.00	0.00
16.00	2.94	0.00	0.00
17.00	3.02	0.00	0.00
18.00	3.09	0.00	0.00
19.00	3.15	0.00	0.00
20.00	3.20	0.00	0.00
21.00	3.25	0.00	0.00
22.00	3.30	0.00	0.00
23.00	3.34	0.00	0.00
24.00	**3.38**	**0.00**	**0.00**
25.00	3.38	0.00	0.00
26.00	3.38	0.00	0.00
27.00	3.38	0.00	0.00
28.00	3.38	0.00	0.00
29.00	3.38	0.00	0.00
30.00	3.38	0.00	0.00
31.00	3.38	0.00	0.00
32.00	3.38	0.00	0.00
33.00	3.38	0.00	0.00
34.00	3.38	0.00	0.00
35.00	3.38	0.00	0.00
36.00	3.38	0.00	0.00
37.00	3.38	0.00	0.00
38.00	3.38	0.00	0.00
39.00	3.38	0.00	0.00
40.00	3.38	0.00	0.00
41.00	3.38	0.00	0.00
42.00	3.38	0.00	0.00
43.00	3.38	0.00	0.00
44.00	3.38	0.00	0.00
45.00	3.38	0.00	0.00
46.00	3.38	0.00	0.00
47.00	3.38	0.00	0.00
48.00	3.38	0.00	0.00
49.00	3.38	0.00	0.00
50.00	3.38	0.00	0.00
51.00	3.38	0.00	0.00
52.00	3.38	0.00	0.00
53.00	3.38	0.00	0.00
54.00	3.38	0.00	0.00
55.00	3.38	0.00	0.00
56.00	3.38	0.00	0.00
57.00	3.38	0.00	0.00
58.00	3.38	0.00	0.00
59.00	3.38	0.00	0.00
60.00	3.38	0.00	0.00
61.00	3.38	0.00	0.00
62.00	3.38	0.00	0.00
63.00	3.38	0.00	0.00
64.00	3.38	0.00	0.00
65.00	3.38	0.00	0.00
66.00	3.38	0.00	0.00
67.00	3.38	0.00	0.00
68.00	3.38	0.00	0.00
69.00	3.38	0.00	0.00
70.00	3.38	0.00	0.00
71.00	3.38	0.00	0.00
72.00	3.38	0.00	0.00

Summary for Subcatchment PR: Prop. Roof

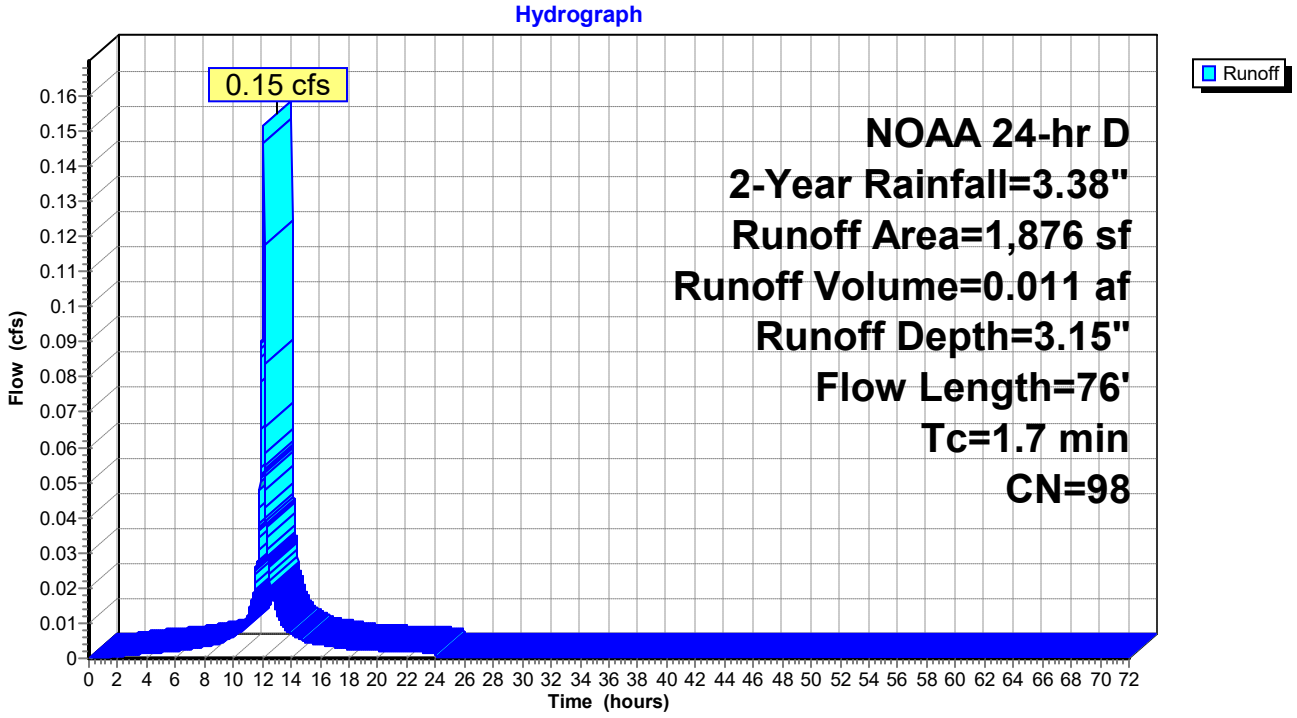
Runoff = 0.15 cfs @ 12.10 hrs, Volume= 0.011 af, Depth= 3.15"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 2-Year Rainfall=3.38"

Area (sf)	CN	Description
1,876	98	Unconnected roofs, HSG A
1,876		100.00% Impervious Area
1,876		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	8	0.0500	0.15		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.8	68	0.0270	1.48		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.7	76	Total			

Subcatchment PR: Prop. Roof



Hydrograph for Subcatchment PR: Prop. Roof

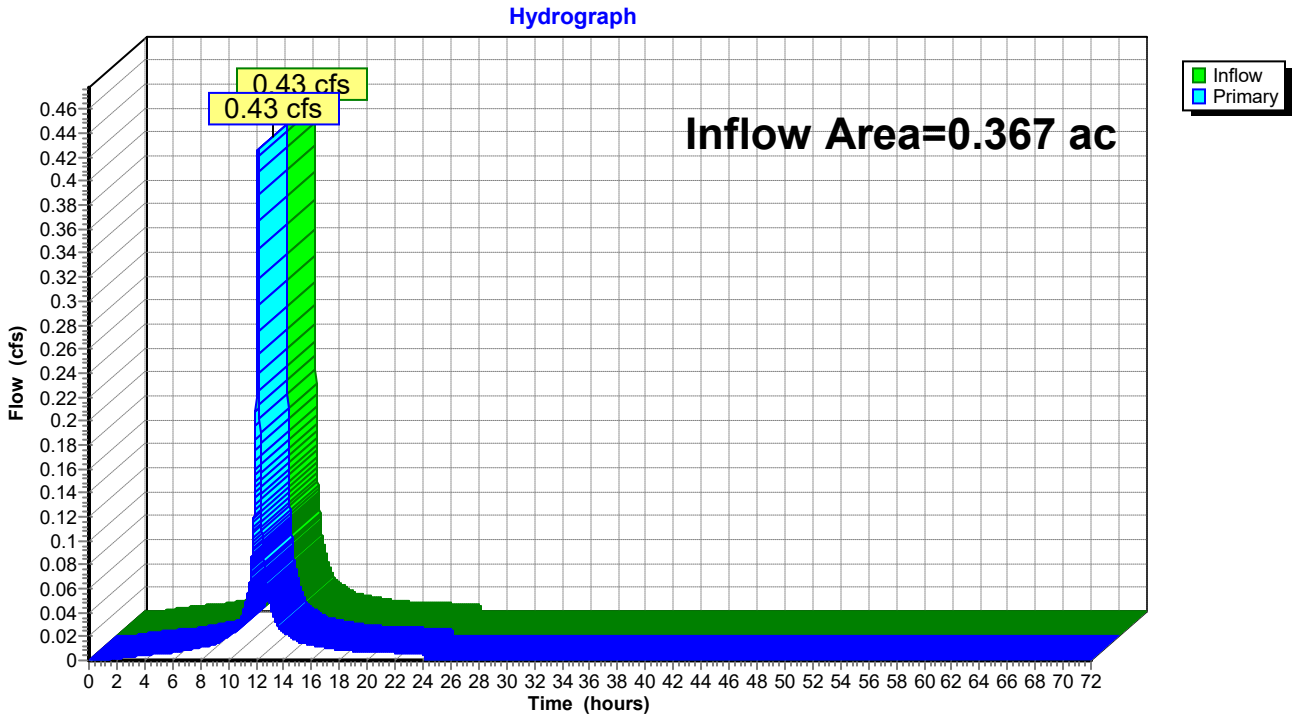
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.04	0.00	0.00
2.00	0.08	0.01	0.00
3.00	0.13	0.03	0.00
4.00	0.18	0.05	0.00
5.00	0.23	0.09	0.00
6.00	0.29	0.14	0.00
7.00	0.36	0.19	0.00
8.00	0.44	0.26	0.00
9.00	0.54	0.35	0.00
10.00	0.67	0.48	0.01
11.00	0.88	0.67	0.01
12.00	1.62	1.40	**0.09**
13.00	2.50	2.27	**0.01**
14.00	2.71	2.48	0.01
15.00	2.84	2.61	0.00
16.00	2.94	2.71	0.00
17.00	3.02	2.79	0.00
18.00	3.09	2.86	0.00
19.00	3.15	2.92	0.00
20.00	3.20	2.97	0.00
21.00	3.25	3.02	0.00
22.00	3.30	3.07	0.00
23.00	3.34	3.11	0.00
24.00	**3.38**	**3.15**	0.00
25.00	3.38	3.15	0.00
26.00	3.38	3.15	0.00
27.00	3.38	3.15	0.00
28.00	3.38	3.15	0.00
29.00	3.38	3.15	0.00
30.00	3.38	3.15	0.00
31.00	3.38	3.15	0.00
32.00	3.38	3.15	0.00
33.00	3.38	3.15	0.00
34.00	3.38	3.15	0.00
35.00	3.38	3.15	0.00
36.00	3.38	3.15	0.00
37.00	3.38	3.15	0.00
38.00	3.38	3.15	0.00
39.00	3.38	3.15	0.00
40.00	3.38	3.15	0.00
41.00	3.38	3.15	0.00
42.00	3.38	3.15	0.00
43.00	3.38	3.15	0.00
44.00	3.38	3.15	0.00
45.00	3.38	3.15	0.00
46.00	3.38	3.15	0.00
47.00	3.38	3.15	0.00
48.00	3.38	3.15	0.00
49.00	3.38	3.15	0.00
50.00	3.38	3.15	0.00
51.00	3.38	3.15	0.00
52.00	3.38	3.15	0.00
53.00	3.38	3.15	0.00
54.00	3.38	3.15	0.00
55.00	3.38	3.15	0.00
56.00	3.38	3.15	0.00
57.00	3.38	3.15	0.00
58.00	3.38	3.15	0.00
59.00	3.38	3.15	0.00
60.00	3.38	3.15	0.00
61.00	3.38	3.15	0.00
62.00	3.38	3.15	0.00
63.00	3.38	3.15	0.00
64.00	3.38	3.15	0.00
65.00	3.38	3.15	0.00
66.00	3.38	3.15	0.00
67.00	3.38	3.15	0.00
68.00	3.38	3.15	0.00
69.00	3.38	3.15	0.00
70.00	3.38	3.15	0.00
71.00	3.38	3.15	0.00
72.00	3.38	3.15	0.00

Summary for Link ET: Exist. Total

Inflow Area = 0.367 ac, 38.58% Impervious, Inflow Depth = 1.22" for 2-Year event
Inflow = 0.43 cfs @ 12.15 hrs, Volume= 0.037 af
Primary = 0.43 cfs @ 12.15 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Link ET: Exist. Total



Hydrograph for Link ET: Exist. Total

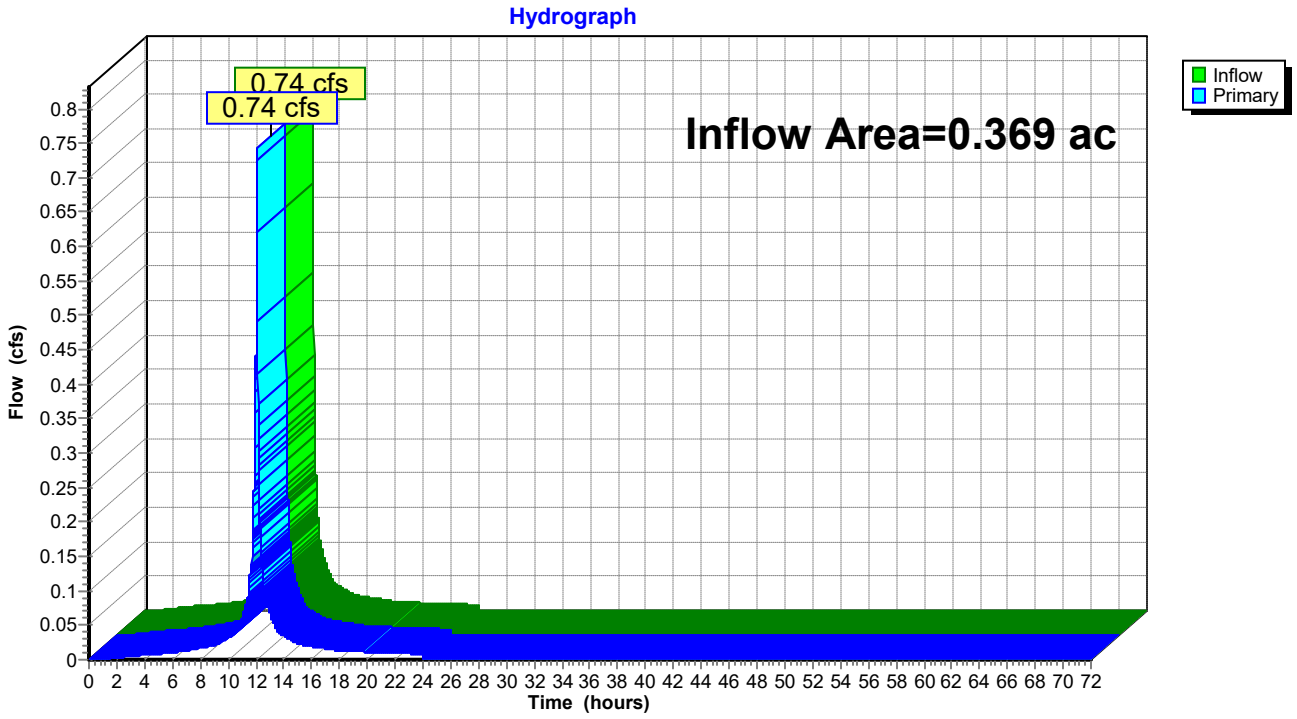
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	55.00	0.00	0.00	0.00
4.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	58.00	0.00	0.00	0.00
7.00	0.01	0.00	0.01	59.00	0.00	0.00	0.00
8.00	0.01	0.00	0.01	60.00	0.00	0.00	0.00
9.00	0.01	0.00	0.01	61.00	0.00	0.00	0.00
10.00	0.02	0.00	0.02	62.00	0.00	0.00	0.00
11.00	0.04	0.00	0.04	63.00	0.00	0.00	0.00
12.00	**0.22**	0.00	**0.22**	64.00	0.00	0.00	0.00
13.00	**0.05**	0.00	**0.05**	65.00	0.00	0.00	0.00
14.00	0.02	0.00	0.02	66.00	0.00	0.00	0.00
15.00	0.02	0.00	0.02	67.00	0.00	0.00	0.00
16.00	0.01	0.00	0.01	68.00	0.00	0.00	0.00
17.00	0.01	0.00	0.01	69.00	0.00	0.00	0.00
18.00	0.01	0.00	0.01	70.00	0.00	0.00	0.00
19.00	0.01	0.00	0.01	71.00	0.00	0.00	0.00
20.00	0.01	0.00	0.01	72.00	0.00	0.00	0.00
21.00	0.01	0.00	0.01				
22.00	0.01	0.00	0.01				
23.00	0.01	0.00	0.01				
24.00	0.01	0.00	0.01				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link PT: Prop. Total

Inflow Area = 0.369 ac, 58.15% Impervious, Inflow Depth = 1.83" for 2-Year event
Inflow = 0.74 cfs @ 12.10 hrs, Volume= 0.056 af
Primary = 0.74 cfs @ 12.10 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Link PT: Prop. Total



Hydrograph for Link PT: Prop. Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	55.00	0.00	0.00	0.00
4.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	58.00	0.00	0.00	0.00
7.00	0.01	0.00	0.01	59.00	0.00	0.00	0.00
8.00	0.02	0.00	0.02	60.00	0.00	0.00	0.00
9.00	0.02	0.00	0.02	61.00	0.00	0.00	0.00
10.00	0.03	0.00	0.03	62.00	0.00	0.00	0.00
11.00	0.06	0.00	0.06	63.00	0.00	0.00	0.00
12.00	**0.44**	0.00	**0.44**	64.00	0.00	0.00	0.00
13.00	**0.07**	0.00	**0.07**	65.00	0.00	0.00	0.00
14.00	0.04	0.00	0.04	66.00	0.00	0.00	0.00
15.00	0.02	0.00	0.02	67.00	0.00	0.00	0.00
16.00	0.02	0.00	0.02	68.00	0.00	0.00	0.00
17.00	0.02	0.00	0.02	69.00	0.00	0.00	0.00
18.00	0.01	0.00	0.01	70.00	0.00	0.00	0.00
19.00	0.01	0.00	0.01	71.00	0.00	0.00	0.00
20.00	0.01	0.00	0.01	72.00	0.00	0.00	0.00
21.00	0.01	0.00	0.01				
22.00	0.01	0.00	0.01				
23.00	0.01	0.00	0.01				
24.00	0.01	0.00	0.01				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Time span=0.00-72.00 hrs, dt=0.010 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment EO (I): Exist. Offsite Runoff Area=6,167 sf 100.00% Impervious Runoff Depth=4.99"
Flow Length=181' Tc=7.8 min CN=98 Runoff=0.66 cfs 0.059 af

Subcatchment EO (P): Exist. Offsite Runoff Area=9,819 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=181' Tc=7.8 min CN=39 Runoff=0.01 cfs 0.005 af

Subcatchment PD (I): Prop. Detained Runoff Area=5,049 sf 100.00% Impervious Runoff Depth=4.99"
Flow Length=76' Tc=1.7 min CN=98 Runoff=0.63 cfs 0.048 af

Subcatchment PD (P): Prop. Detained Runoff Area=947 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=76' Tc=1.7 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment PO (I): Prop. Offsite Runoff Area=2,421 sf 100.00% Impervious Runoff Depth=4.99"
Flow Length=100' Tc=4.6 min CN=98 Runoff=0.29 cfs 0.023 af

Subcatchment PO (P): Prop. Offsite Runoff Area=5,780 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=100' Tc=4.6 min CN=39 Runoff=0.01 cfs 0.003 af

Subcatchment PR: Prop. Roof Runoff Area=1,876 sf 100.00% Impervious Runoff Depth=4.99"
Flow Length=76' Tc=1.7 min CN=98 Runoff=0.24 cfs 0.018 af

Link ET: Exist. Total Inflow=0.66 cfs 0.064 af
Primary=0.66 cfs 0.064 af

Link PT: Prop. Total Inflow=1.16 cfs 0.092 af
Primary=1.16 cfs 0.092 af

Total Runoff Area = 0.736 ac Runoff Volume = 0.156 af Average Runoff Depth = 2.54"
51.61% Pervious = 0.380 ac 48.39% Impervious = 0.356 ac

Summary for Subcatchment EO (I): Exist. Offsite (Impervious)

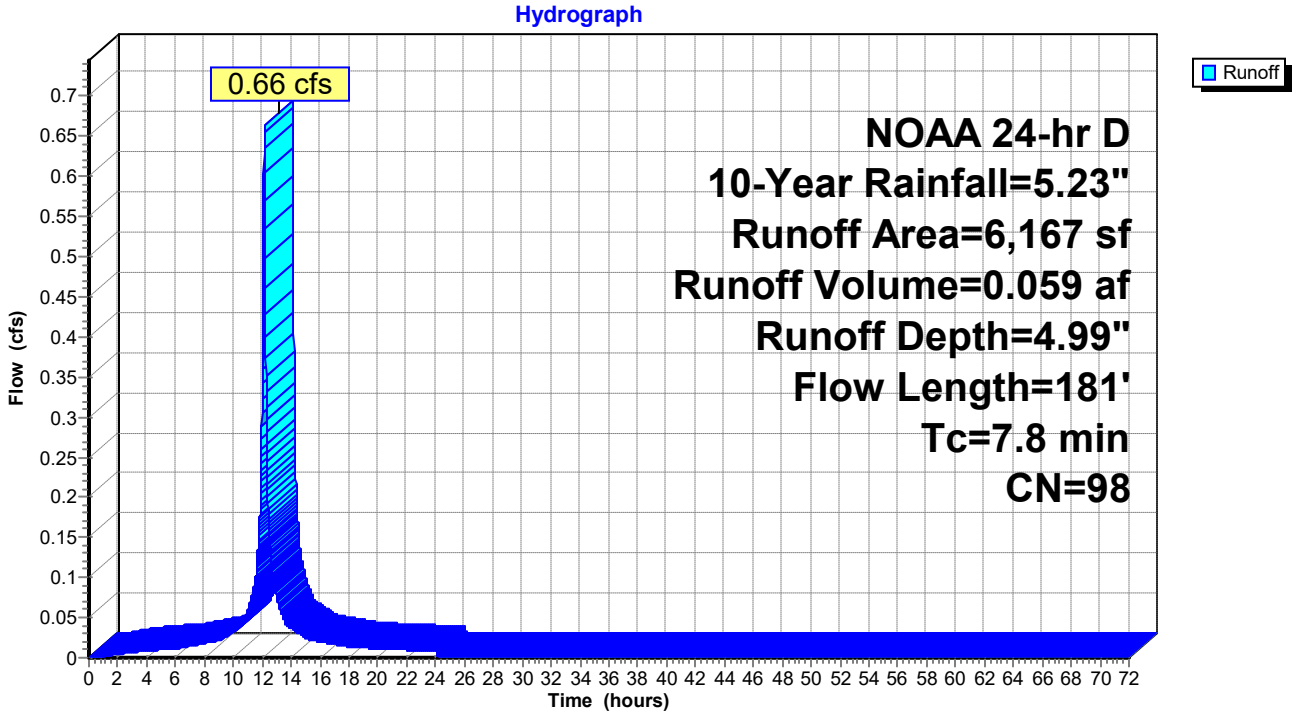
Runoff = 0.66 cfs @ 12.15 hrs, Volume= 0.059 af, Depth= 4.99"
Routed to Link ET : Exist. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 10-Year Rainfall=5.23"

	Area (sf)	CN	Description
*	2,967	98	Non-Motor Vehicle Surfaces, HSG A
*	3,200	98	Motor Vehicle Surfaces, HSG A
	6,167	98	Weighted Average
	6,167		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	73	0.0370	0.21		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.9	27	0.0030	0.51		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.0	68	0.0030	1.11		**Shallow Concentrated Flow, SCF - CD** Paved Kv= 20.3 fps
0.1	13	0.0430	3.34		**Shallow Concentrated Flow, SCF - DE** Unpaved Kv= 16.1 fps
7.8	181	Total			

Subcatchment EO (I): Exist. Offsite (Impervious)



Hydrograph for Subcatchment EO (I): Exist. Offsite (Impervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.02	0.00
3.00	0.20	0.07	0.01
4.00	0.27	0.12	0.01
5.00	0.36	0.19	0.01
6.00	0.45	0.27	0.01
7.00	0.55	0.36	0.01
8.00	0.68	0.48	0.02
9.00	0.83	0.63	0.02
10.00	1.04	0.83	0.03
11.00	1.36	1.14	0.06
12.00	2.51	2.28	**0.34**
13.00	3.87	3.64	**0.08**
14.00	4.19	3.96	0.04
15.00	4.40	4.16	0.03
16.00	4.55	4.32	0.02
17.00	4.68	4.44	0.02
18.00	4.78	4.55	0.01
19.00	4.87	4.64	0.01
20.00	4.96	4.72	0.01
21.00	5.03	4.80	0.01
22.00	5.10	4.87	0.01
23.00	5.17	4.93	0.01
24.00	**5.23**	**4.99**	0.01
25.00	5.23	4.99	0.00
26.00	5.23	4.99	0.00
27.00	5.23	4.99	0.00
28.00	5.23	4.99	0.00
29.00	5.23	4.99	0.00
30.00	5.23	4.99	0.00
31.00	5.23	4.99	0.00
32.00	5.23	4.99	0.00
33.00	5.23	4.99	0.00
34.00	5.23	4.99	0.00
35.00	5.23	4.99	0.00
36.00	5.23	4.99	0.00
37.00	5.23	4.99	0.00
38.00	5.23	4.99	0.00
39.00	5.23	4.99	0.00
40.00	5.23	4.99	0.00
41.00	5.23	4.99	0.00
42.00	5.23	4.99	0.00
43.00	5.23	4.99	0.00
44.00	5.23	4.99	0.00
45.00	5.23	4.99	0.00
46.00	5.23	4.99	0.00
47.00	5.23	4.99	0.00
48.00	5.23	4.99	0.00
49.00	5.23	4.99	0.00
50.00	5.23	4.99	0.00
51.00	5.23	4.99	0.00
52.00	5.23	4.99	0.00
53.00	5.23	4.99	0.00
54.00	5.23	4.99	0.00
55.00	5.23	4.99	0.00
56.00	5.23	4.99	0.00
57.00	5.23	4.99	0.00
58.00	5.23	4.99	0.00
59.00	5.23	4.99	0.00
60.00	5.23	4.99	0.00
61.00	5.23	4.99	0.00
62.00	5.23	4.99	0.00
63.00	5.23	4.99	0.00
64.00	5.23	4.99	0.00
65.00	5.23	4.99	0.00
66.00	5.23	4.99	0.00
67.00	5.23	4.99	0.00
68.00	5.23	4.99	0.00
69.00	5.23	4.99	0.00
70.00	5.23	4.99	0.00
71.00	5.23	4.99	0.00
72.00	5.23	4.99	0.00

Summary for Subcatchment EO (P): Exist. Offsite (Pervious)

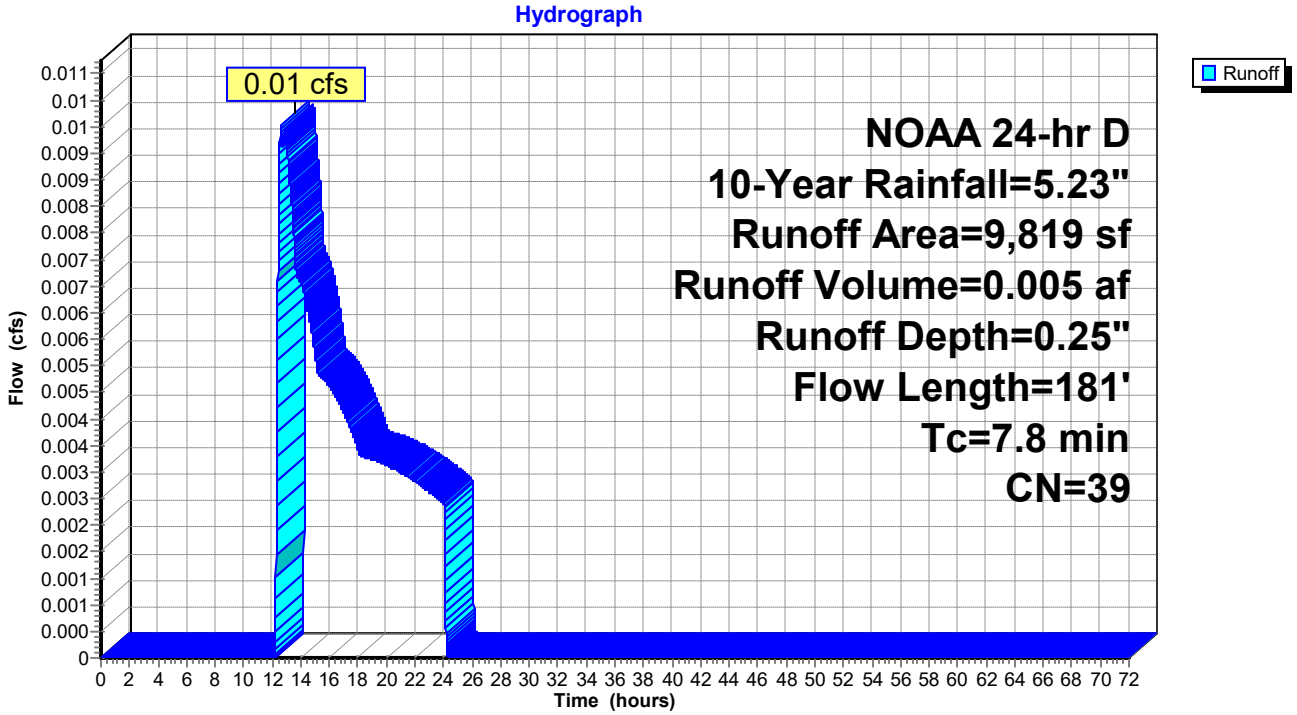
Runoff = 0.01 cfs @ 12.57 hrs, Volume= 0.005 af, Depth= 0.25"
Routed to Link ET : Exist. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 10-Year Rainfall=5.23"

Area (sf)	CN	Description
9,819	39	>75% Grass cover, Good, HSG A
9,819		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	73	0.0370	0.21		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.9	27	0.0030	0.51		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.0	68	0.0030	1.11		**Shallow Concentrated Flow, SCF - CD** Paved Kv= 20.3 fps
0.1	13	0.0430	3.34		**Shallow Concentrated Flow, SCF - DE** Unpaved Kv= 16.1 fps
7.8	181	Total			

Subcatchment EO (P): Exist. Offsite (Pervious)



Hydrograph for Subcatchment EO (P): Exist. Offsite (Pervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.00	0.00
3.00	0.20	0.00	0.00
4.00	0.27	0.00	0.00
5.00	0.36	0.00	0.00
6.00	0.45	0.00	0.00
7.00	0.55	0.00	0.00
8.00	0.68	0.00	0.00
9.00	0.83	0.00	0.00
10.00	1.04	0.00	0.00
11.00	1.36	0.00	0.00
12.00	2.51	0.00	**0.00**
13.00	3.87	0.03	**0.01**
14.00	4.19	0.07	0.01
15.00	4.40	0.10	0.01
16.00	4.55	0.12	0.01
17.00	4.68	0.14	0.00
18.00	4.78	0.16	0.00
19.00	4.87	0.18	0.00
20.00	4.96	0.19	0.00
21.00	5.03	0.21	0.00
22.00	5.10	0.22	0.00
23.00	5.17	0.24	0.00
24.00	**5.23**	**0.25**	0.00
25.00	5.23	0.25	0.00
26.00	5.23	0.25	0.00
27.00	5.23	0.25	0.00
28.00	5.23	0.25	0.00
29.00	5.23	0.25	0.00
30.00	5.23	0.25	0.00
31.00	5.23	0.25	0.00
32.00	5.23	0.25	0.00
33.00	5.23	0.25	0.00
34.00	5.23	0.25	0.00
35.00	5.23	0.25	0.00
36.00	5.23	0.25	0.00
37.00	5.23	0.25	0.00
38.00	5.23	0.25	0.00
39.00	5.23	0.25	0.00
40.00	5.23	0.25	0.00
41.00	5.23	0.25	0.00
42.00	5.23	0.25	0.00
43.00	5.23	0.25	0.00
44.00	5.23	0.25	0.00
45.00	5.23	0.25	0.00
46.00	5.23	0.25	0.00
47.00	5.23	0.25	0.00
48.00	5.23	0.25	0.00
49.00	5.23	0.25	0.00
50.00	5.23	0.25	0.00
51.00	5.23	0.25	0.00
52.00	5.23	0.25	0.00
53.00	5.23	0.25	0.00
54.00	5.23	0.25	0.00
55.00	5.23	0.25	0.00
56.00	5.23	0.25	0.00
57.00	5.23	0.25	0.00
58.00	5.23	0.25	0.00
59.00	5.23	0.25	0.00
60.00	5.23	0.25	0.00
61.00	5.23	0.25	0.00
62.00	5.23	0.25	0.00
63.00	5.23	0.25	0.00
64.00	5.23	0.25	0.00
65.00	5.23	0.25	0.00
66.00	5.23	0.25	0.00
67.00	5.23	0.25	0.00
68.00	5.23	0.25	0.00
69.00	5.23	0.25	0.00
70.00	5.23	0.25	0.00
71.00	5.23	0.25	0.00
72.00	5.23	0.25	0.00

Summary for Subcatchment PD (I): Prop. Detained (Impervious)

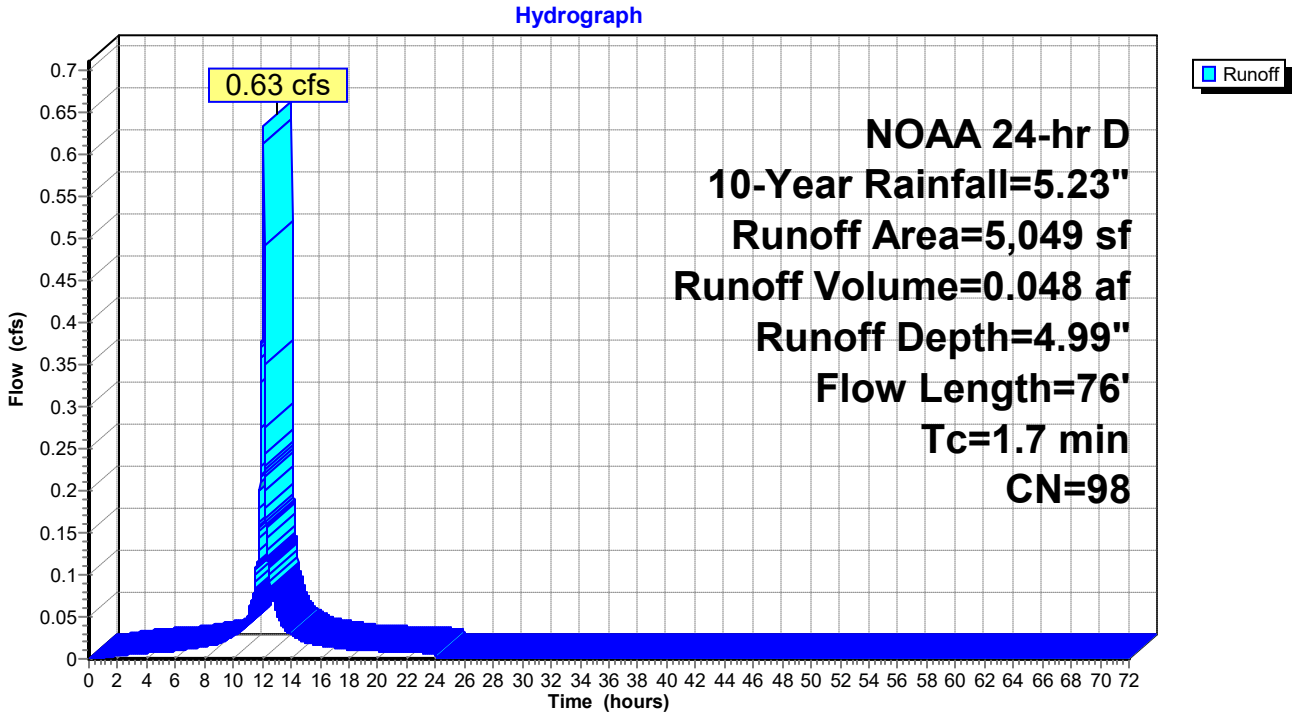
Runoff = 0.63 cfs @ 12.10 hrs, Volume= 0.048 af, Depth= 4.99"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 10-Year Rainfall=5.23"

	Area (sf)	CN	Description
*	4,774	98	Motor Vehicle Surfaces, HSG A
*	275	98	Non-Motor Vehicle Surfaces, HSG A
	5,049	98	Weighted Average
	5,049		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	8	0.0500	0.15		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.8	68	0.0270	1.48		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.7	76	Total			

Subcatchment PD (I): Prop. Detained (Impervious)



Hydrograph for Subcatchment PD (I): Prop. Detained (Impervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.02	0.00
3.00	0.20	0.07	0.01
4.00	0.27	0.12	0.01
5.00	0.36	0.19	0.01
6.00	0.45	0.27	0.01
7.00	0.55	0.36	0.01
8.00	0.68	0.48	0.02
9.00	0.83	0.63	0.02
10.00	1.04	0.83	0.03
11.00	1.36	1.14	0.05
12.00	2.51	2.28	**0.38**
13.00	3.87	3.64	**0.06**
14.00	4.19	3.96	0.03
15.00	4.40	4.16	0.02
16.00	4.55	4.32	0.02
17.00	4.68	4.44	0.01
18.00	4.78	4.55	0.01
19.00	4.87	4.64	0.01
20.00	4.96	4.72	0.01
21.00	5.03	4.80	0.01
22.00	5.10	4.87	0.01
23.00	5.17	4.93	0.01
24.00	**5.23**	**4.99**	0.01
25.00	5.23	4.99	0.00
26.00	5.23	4.99	0.00
27.00	5.23	4.99	0.00
28.00	5.23	4.99	0.00
29.00	5.23	4.99	0.00
30.00	5.23	4.99	0.00
31.00	5.23	4.99	0.00
32.00	5.23	4.99	0.00
33.00	5.23	4.99	0.00
34.00	5.23	4.99	0.00
35.00	5.23	4.99	0.00
36.00	5.23	4.99	0.00
37.00	5.23	4.99	0.00
38.00	5.23	4.99	0.00
39.00	5.23	4.99	0.00
40.00	5.23	4.99	0.00
41.00	5.23	4.99	0.00
42.00	5.23	4.99	0.00
43.00	5.23	4.99	0.00
44.00	5.23	4.99	0.00
45.00	5.23	4.99	0.00
46.00	5.23	4.99	0.00
47.00	5.23	4.99	0.00
48.00	5.23	4.99	0.00
49.00	5.23	4.99	0.00
50.00	5.23	4.99	0.00
51.00	5.23	4.99	0.00
52.00	5.23	4.99	0.00
53.00	5.23	4.99	0.00
54.00	5.23	4.99	0.00
55.00	5.23	4.99	0.00
56.00	5.23	4.99	0.00
57.00	5.23	4.99	0.00
58.00	5.23	4.99	0.00
59.00	5.23	4.99	0.00
60.00	5.23	4.99	0.00
61.00	5.23	4.99	0.00
62.00	5.23	4.99	0.00
63.00	5.23	4.99	0.00
64.00	5.23	4.99	0.00
65.00	5.23	4.99	0.00
66.00	5.23	4.99	0.00
67.00	5.23	4.99	0.00
68.00	5.23	4.99	0.00
69.00	5.23	4.99	0.00
70.00	5.23	4.99	0.00
71.00	5.23	4.99	0.00
72.00	5.23	4.99	0.00

Summary for Subcatchment PD (P): Prop. Detained (Pervious)

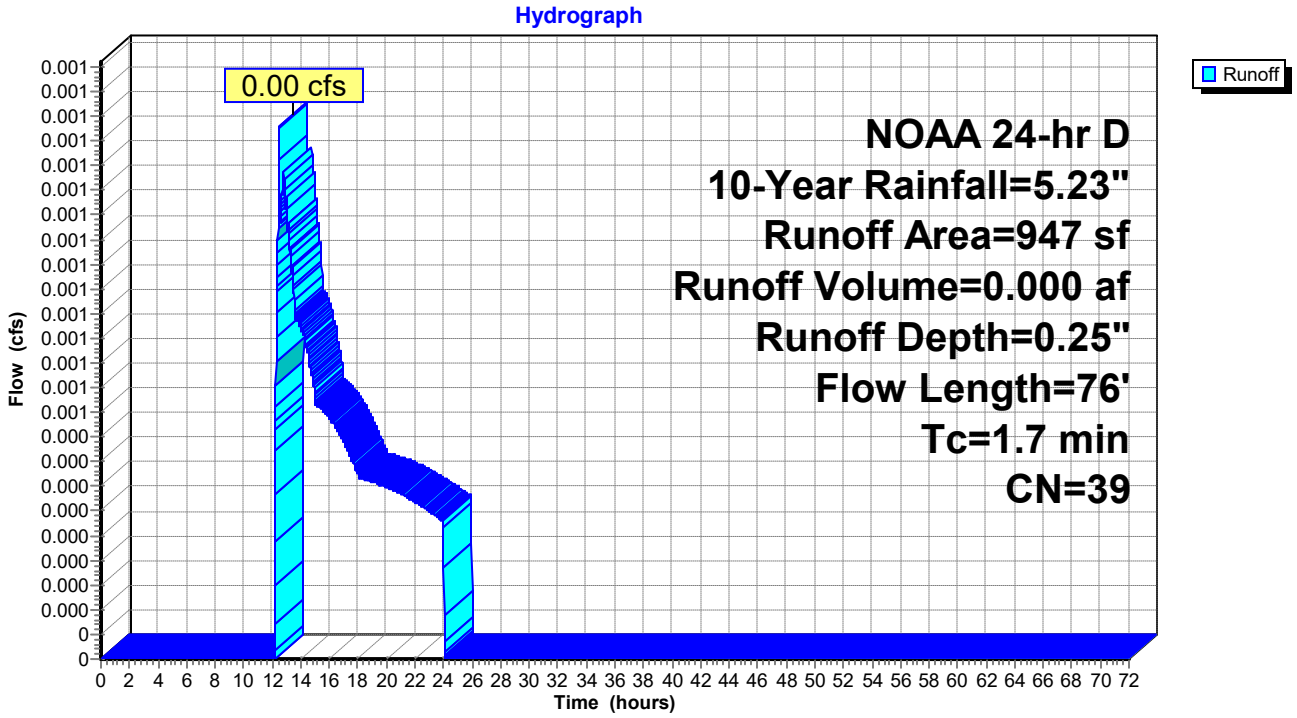
Runoff = 0.00 cfs @ 12.51 hrs, Volume= 0.000 af, Depth= 0.25"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 10-Year Rainfall=5.23"

Area (sf)	CN	Description
947	39	>75% Grass cover, Good, HSG A
947		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	8	0.0500	0.15		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.8	68	0.0270	1.48		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.7	76	Total			

Subcatchment PD (P): Prop. Detained (Pervious)



Hydrograph for Subcatchment PD (P): Prop. Detained (Pervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.00	0.00
3.00	0.20	0.00	0.00
4.00	0.27	0.00	0.00
5.00	0.36	0.00	0.00
6.00	0.45	0.00	0.00
7.00	0.55	0.00	0.00
8.00	0.68	0.00	0.00
9.00	0.83	0.00	0.00
10.00	1.04	0.00	0.00
11.00	1.36	0.00	0.00
12.00	2.51	0.00	**0.00**
13.00	3.87	0.03	**0.00**
14.00	4.19	0.07	0.00
15.00	4.40	0.10	0.00
16.00	4.55	0.12	0.00
17.00	4.68	0.14	0.00
18.00	4.78	0.16	0.00
19.00	4.87	0.18	0.00
20.00	4.96	0.19	0.00
21.00	5.03	0.21	0.00
22.00	5.10	0.22	0.00
23.00	5.17	0.24	0.00
24.00	**5.23**	**0.25**	0.00
25.00	5.23	0.25	0.00
26.00	5.23	0.25	0.00
27.00	5.23	0.25	0.00
28.00	5.23	0.25	0.00
29.00	5.23	0.25	0.00
30.00	5.23	0.25	0.00
31.00	5.23	0.25	0.00
32.00	5.23	0.25	0.00
33.00	5.23	0.25	0.00
34.00	5.23	0.25	0.00
35.00	5.23	0.25	0.00
36.00	5.23	0.25	0.00
37.00	5.23	0.25	0.00
38.00	5.23	0.25	0.00
39.00	5.23	0.25	0.00
40.00	5.23	0.25	0.00
41.00	5.23	0.25	0.00
42.00	5.23	0.25	0.00
43.00	5.23	0.25	0.00
44.00	5.23	0.25	0.00
45.00	5.23	0.25	0.00
46.00	5.23	0.25	0.00
47.00	5.23	0.25	0.00
48.00	5.23	0.25	0.00
49.00	5.23	0.25	0.00
50.00	5.23	0.25	0.00
51.00	5.23	0.25	0.00
52.00	5.23	0.25	0.00
53.00	5.23	0.25	0.00
54.00	5.23	0.25	0.00
55.00	5.23	0.25	0.00
56.00	5.23	0.25	0.00
57.00	5.23	0.25	0.00
58.00	5.23	0.25	0.00
59.00	5.23	0.25	0.00
60.00	5.23	0.25	0.00
61.00	5.23	0.25	0.00
62.00	5.23	0.25	0.00
63.00	5.23	0.25	0.00
64.00	5.23	0.25	0.00
65.00	5.23	0.25	0.00
66.00	5.23	0.25	0.00
67.00	5.23	0.25	0.00
68.00	5.23	0.25	0.00
69.00	5.23	0.25	0.00
70.00	5.23	0.25	0.00
71.00	5.23	0.25	0.00
72.00	5.23	0.25	0.00

Summary for Subcatchment PO (I): Prop. Offsite (Impervious)

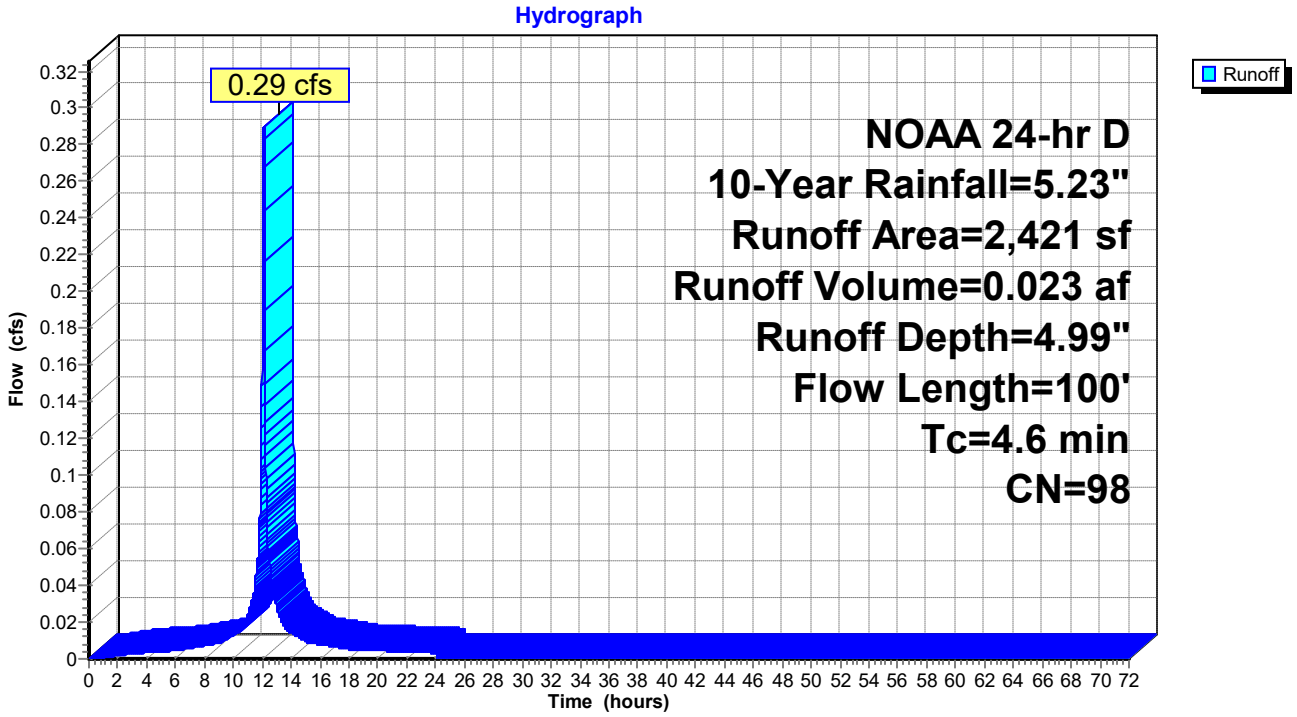
Runoff = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af, Depth= 4.99"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 10-Year Rainfall=5.23"

	Area (sf)	CN	Description
*	1,111	98	Motor Vehicle Surfaces, HSG A
*	1,310	98	Non-Motor Vehicle Surfaces, HSG A
	2,421	98	Weighted Average
	2,421		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	46	0.0400	0.20		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.7	54	0.0240	1.34		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
4.6	100	Total			

Subcatchment PO (I): Prop. Offsite (Impervious)



Hydrograph for Subcatchment PO (I): Prop. Offsite (Impervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.02	0.00
3.00	0.20	0.07	0.00
4.00	0.27	0.12	0.00
5.00	0.36	0.19	0.00
6.00	0.45	0.27	0.00
7.00	0.55	0.36	0.01
8.00	0.68	0.48	0.01
9.00	0.83	0.63	0.01
10.00	1.04	0.83	0.01
11.00	1.36	1.14	0.02
12.00	2.51	2.28	**0.17**
13.00	3.87	3.64	**0.03**
14.00	4.19	3.96	0.01
15.00	4.40	4.16	0.01
16.00	4.55	4.32	0.01
17.00	4.68	4.44	0.01
18.00	4.78	4.55	0.01
19.00	4.87	4.64	0.00
20.00	4.96	4.72	0.00
21.00	5.03	4.80	0.00
22.00	5.10	4.87	0.00
23.00	5.17	4.93	0.00
24.00	**5.23**	**4.99**	0.00
25.00	5.23	4.99	0.00
26.00	5.23	4.99	0.00
27.00	5.23	4.99	0.00
28.00	5.23	4.99	0.00
29.00	5.23	4.99	0.00
30.00	5.23	4.99	0.00
31.00	5.23	4.99	0.00
32.00	5.23	4.99	0.00
33.00	5.23	4.99	0.00
34.00	5.23	4.99	0.00
35.00	5.23	4.99	0.00
36.00	5.23	4.99	0.00
37.00	5.23	4.99	0.00
38.00	5.23	4.99	0.00
39.00	5.23	4.99	0.00
40.00	5.23	4.99	0.00
41.00	5.23	4.99	0.00
42.00	5.23	4.99	0.00
43.00	5.23	4.99	0.00
44.00	5.23	4.99	0.00
45.00	5.23	4.99	0.00
46.00	5.23	4.99	0.00
47.00	5.23	4.99	0.00
48.00	5.23	4.99	0.00
49.00	5.23	4.99	0.00
50.00	5.23	4.99	0.00
51.00	5.23	4.99	0.00
52.00	5.23	4.99	0.00
53.00	5.23	4.99	0.00
54.00	5.23	4.99	0.00
55.00	5.23	4.99	0.00
56.00	5.23	4.99	0.00
57.00	5.23	4.99	0.00
58.00	5.23	4.99	0.00
59.00	5.23	4.99	0.00
60.00	5.23	4.99	0.00
61.00	5.23	4.99	0.00
62.00	5.23	4.99	0.00
63.00	5.23	4.99	0.00
64.00	5.23	4.99	0.00
65.00	5.23	4.99	0.00
66.00	5.23	4.99	0.00
67.00	5.23	4.99	0.00
68.00	5.23	4.99	0.00
69.00	5.23	4.99	0.00
70.00	5.23	4.99	0.00
71.00	5.23	4.99	0.00
72.00	5.23	4.99	0.00

Summary for Subcatchment PO (P): Prop. Offsite (Pervious)

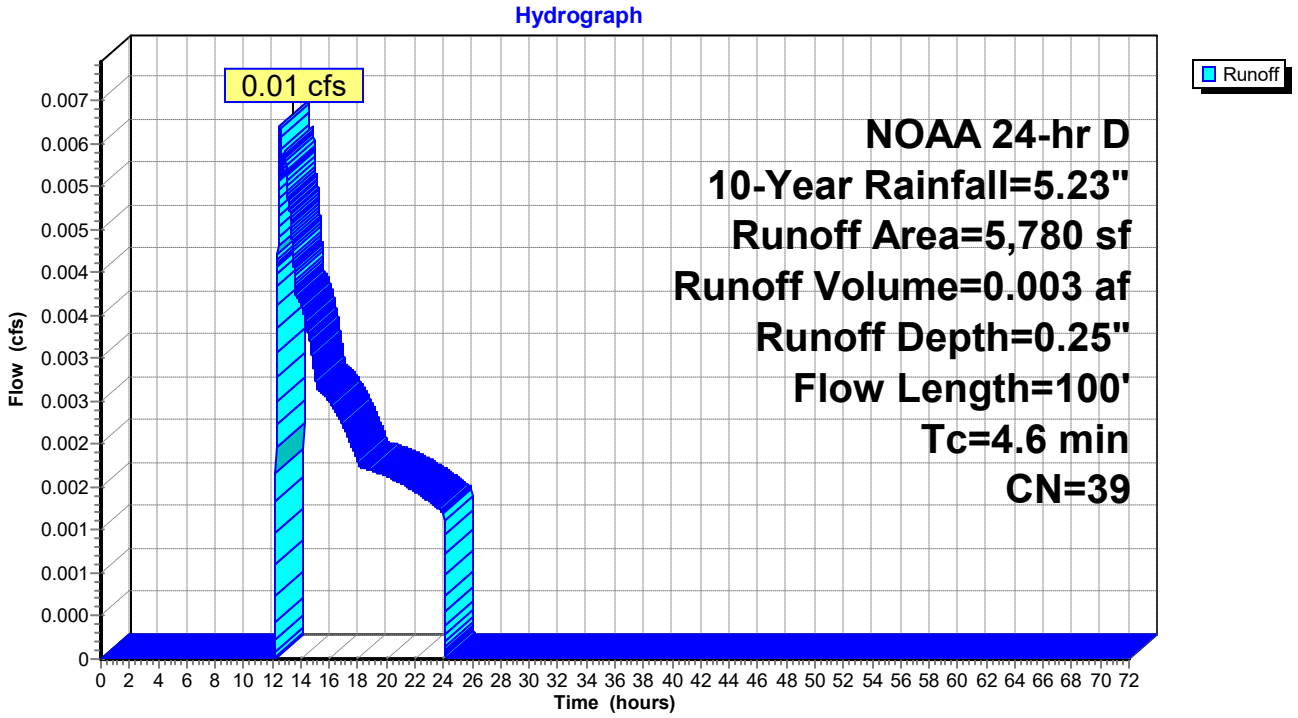
Runoff = 0.01 cfs @ 12.53 hrs, Volume= 0.003 af, Depth= 0.25"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 10-Year Rainfall=5.23"

Area (sf)	CN	Description
5,780	39	>75% Grass cover, Good, HSG A
5,780		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	46	0.0400	0.20		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.7	54	0.0240	1.34		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
4.6	100	Total			

Subcatchment PO (P): Prop. Offsite (Pervious)



Hydrograph for Subcatchment PO (P): Prop. Offsite (Pervious)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.00	0.00
3.00	0.20	0.00	0.00
4.00	0.27	0.00	0.00
5.00	0.36	0.00	0.00
6.00	0.45	0.00	0.00
7.00	0.55	0.00	0.00
8.00	0.68	0.00	0.00
9.00	0.83	0.00	0.00
10.00	1.04	0.00	0.00
11.00	1.36	0.00	0.00
12.00	2.51	0.00	**0.00**
13.00	3.87	0.03	**0.01**
14.00	4.19	0.07	0.00
15.00	4.40	0.10	0.00
16.00	4.55	0.12	0.00
17.00	4.68	0.14	0.00
18.00	4.78	0.16	0.00
19.00	4.87	0.18	0.00
20.00	4.96	0.19	0.00
21.00	5.03	0.21	0.00
22.00	5.10	0.22	0.00
23.00	5.17	0.24	0.00
24.00	**5.23**	**0.25**	0.00
25.00	5.23	0.25	0.00
26.00	5.23	0.25	0.00
27.00	5.23	0.25	0.00
28.00	5.23	0.25	0.00
29.00	5.23	0.25	0.00
30.00	5.23	0.25	0.00
31.00	5.23	0.25	0.00
32.00	5.23	0.25	0.00
33.00	5.23	0.25	0.00
34.00	5.23	0.25	0.00
35.00	5.23	0.25	0.00
36.00	5.23	0.25	0.00
37.00	5.23	0.25	0.00
38.00	5.23	0.25	0.00
39.00	5.23	0.25	0.00
40.00	5.23	0.25	0.00
41.00	5.23	0.25	0.00
42.00	5.23	0.25	0.00
43.00	5.23	0.25	0.00
44.00	5.23	0.25	0.00
45.00	5.23	0.25	0.00
46.00	5.23	0.25	0.00
47.00	5.23	0.25	0.00
48.00	5.23	0.25	0.00
49.00	5.23	0.25	0.00
50.00	5.23	0.25	0.00
51.00	5.23	0.25	0.00
52.00	5.23	0.25	0.00
53.00	5.23	0.25	0.00
54.00	5.23	0.25	0.00
55.00	5.23	0.25	0.00
56.00	5.23	0.25	0.00
57.00	5.23	0.25	0.00
58.00	5.23	0.25	0.00
59.00	5.23	0.25	0.00
60.00	5.23	0.25	0.00
61.00	5.23	0.25	0.00
62.00	5.23	0.25	0.00
63.00	5.23	0.25	0.00
64.00	5.23	0.25	0.00
65.00	5.23	0.25	0.00
66.00	5.23	0.25	0.00
67.00	5.23	0.25	0.00
68.00	5.23	0.25	0.00
69.00	5.23	0.25	0.00
70.00	5.23	0.25	0.00
71.00	5.23	0.25	0.00
72.00	5.23	0.25	0.00

Summary for Subcatchment PR: Prop. Roof

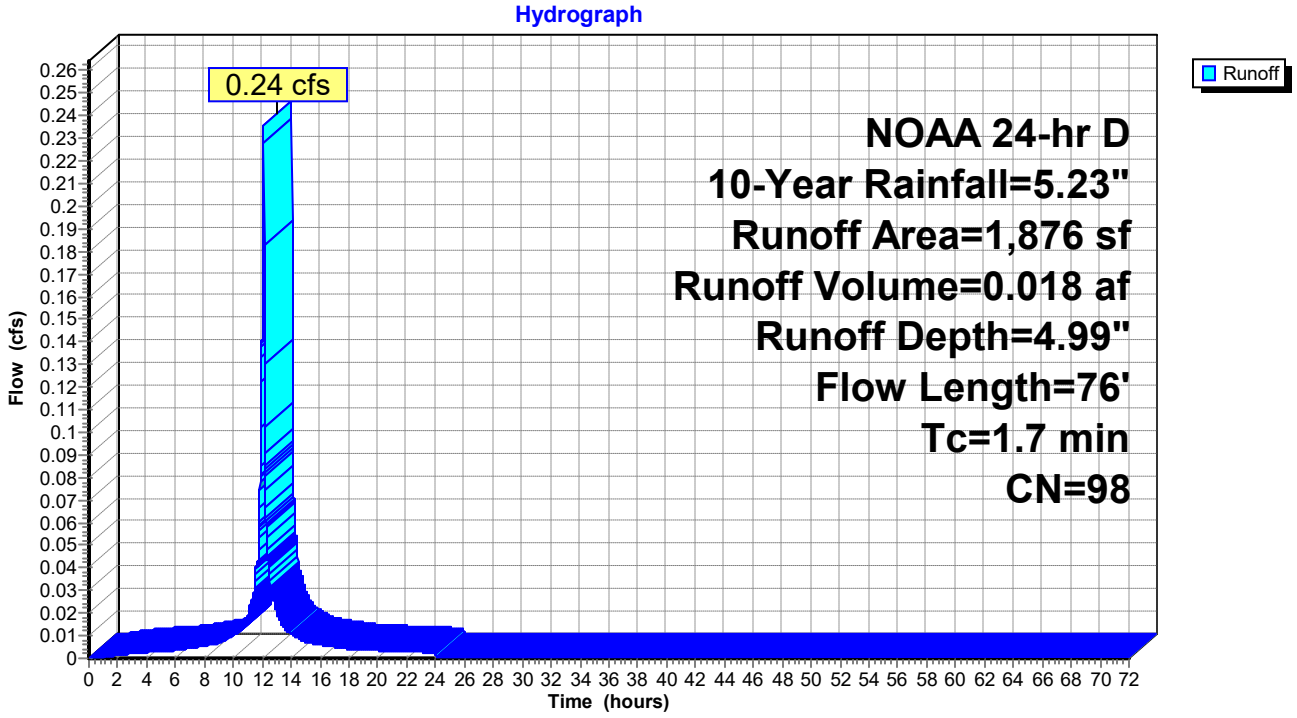
Runoff = 0.24 cfs @ 12.10 hrs, Volume= 0.018 af, Depth= 4.99"
Routed to Link PT : Prop. Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs
NOAA 24-hr D 10-Year Rainfall=5.23"

Area (sf)	CN	Description
1,876	98	Unconnected roofs, HSG A
1,876		100.00% Impervious Area
1,876		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	8	0.0500	0.15		**Sheet Flow, Sheet Flow - AB** Grass: Short n= 0.150 P2= 3.38"
0.8	68	0.0270	1.48		**Sheet Flow, Sheet Flow - BC** Smooth surfaces n= 0.011 P2= 3.38"
1.7	76	Total			

Subcatchment PR: Prop. Roof



Hydrograph for Subcatchment PR: Prop. Roof

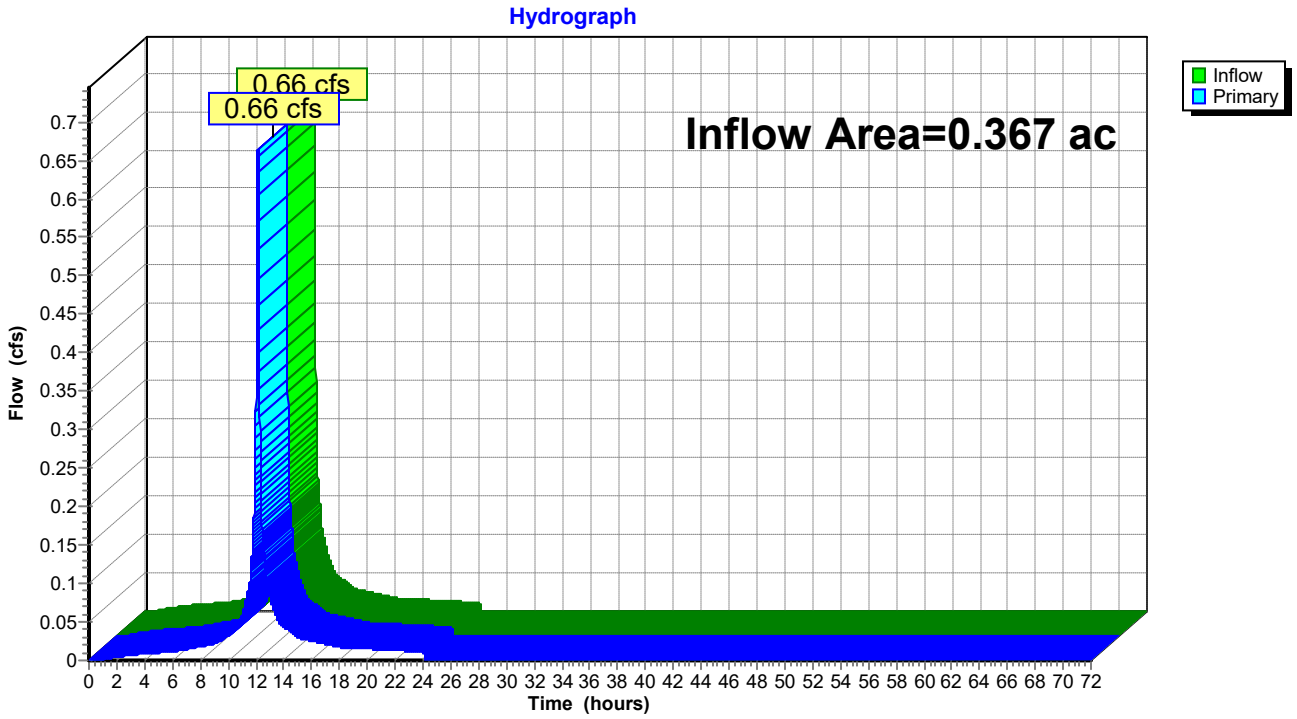
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.13	0.02	0.00
3.00	0.20	0.07	0.00
4.00	0.27	0.12	0.00
5.00	0.36	0.19	0.00
6.00	0.45	0.27	0.00
7.00	0.55	0.36	0.00
8.00	0.68	0.48	0.01
9.00	0.83	0.63	0.01
10.00	1.04	0.83	0.01
11.00	1.36	1.14	0.02
12.00	2.51	2.28	**0.14**
13.00	3.87	3.64	**0.02**
14.00	4.19	3.96	0.01
15.00	4.40	4.16	0.01
16.00	4.55	4.32	0.01
17.00	4.68	4.44	0.01
18.00	4.78	4.55	0.00
19.00	4.87	4.64	0.00
20.00	4.96	4.72	0.00
21.00	5.03	4.80	0.00
22.00	5.10	4.87	0.00
23.00	5.17	4.93	0.00
24.00	**5.23**	**4.99**	0.00
25.00	5.23	4.99	0.00
26.00	5.23	4.99	0.00
27.00	5.23	4.99	0.00
28.00	5.23	4.99	0.00
29.00	5.23	4.99	0.00
30.00	5.23	4.99	0.00
31.00	5.23	4.99	0.00
32.00	5.23	4.99	0.00
33.00	5.23	4.99	0.00
34.00	5.23	4.99	0.00
35.00	5.23	4.99	0.00
36.00	5.23	4.99	0.00
37.00	5.23	4.99	0.00
38.00	5.23	4.99	0.00
39.00	5.23	4.99	0.00
40.00	5.23	4.99	0.00
41.00	5.23	4.99	0.00
42.00	5.23	4.99	0.00
43.00	5.23	4.99	0.00
44.00	5.23	4.99	0.00
45.00	5.23	4.99	0.00
46.00	5.23	4.99	0.00
47.00	5.23	4.99	0.00
48.00	5.23	4.99	0.00
49.00	5.23	4.99	0.00
50.00	5.23	4.99	0.00
51.00	5.23	4.99	0.00
52.00	5.23	4.99	0.00
53.00	5.23	4.99	0.00
54.00	5.23	4.99	0.00
55.00	5.23	4.99	0.00
56.00	5.23	4.99	0.00
57.00	5.23	4.99	0.00
58.00	5.23	4.99	0.00
59.00	5.23	4.99	0.00
60.00	5.23	4.99	0.00
61.00	5.23	4.99	0.00
62.00	5.23	4.99	0.00
63.00	5.23	4.99	0.00
64.00	5.23	4.99	0.00
65.00	5.23	4.99	0.00
66.00	5.23	4.99	0.00
67.00	5.23	4.99	0.00
68.00	5.23	4.99	0.00
69.00	5.23	4.99	0.00
70.00	5.23	4.99	0.00
71.00	5.23	4.99	0.00
72.00	5.23	4.99	0.00

Summary for Link ET: Exist. Total

Inflow Area = 0.367 ac, 38.58% Impervious, Inflow Depth = 2.08" for 10-Year event
Inflow = 0.66 cfs @ 12.15 hrs, Volume= 0.064 af
Primary = 0.66 cfs @ 12.15 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Link ET: Exist. Total



Hydrograph for Link ET: Exist. Total

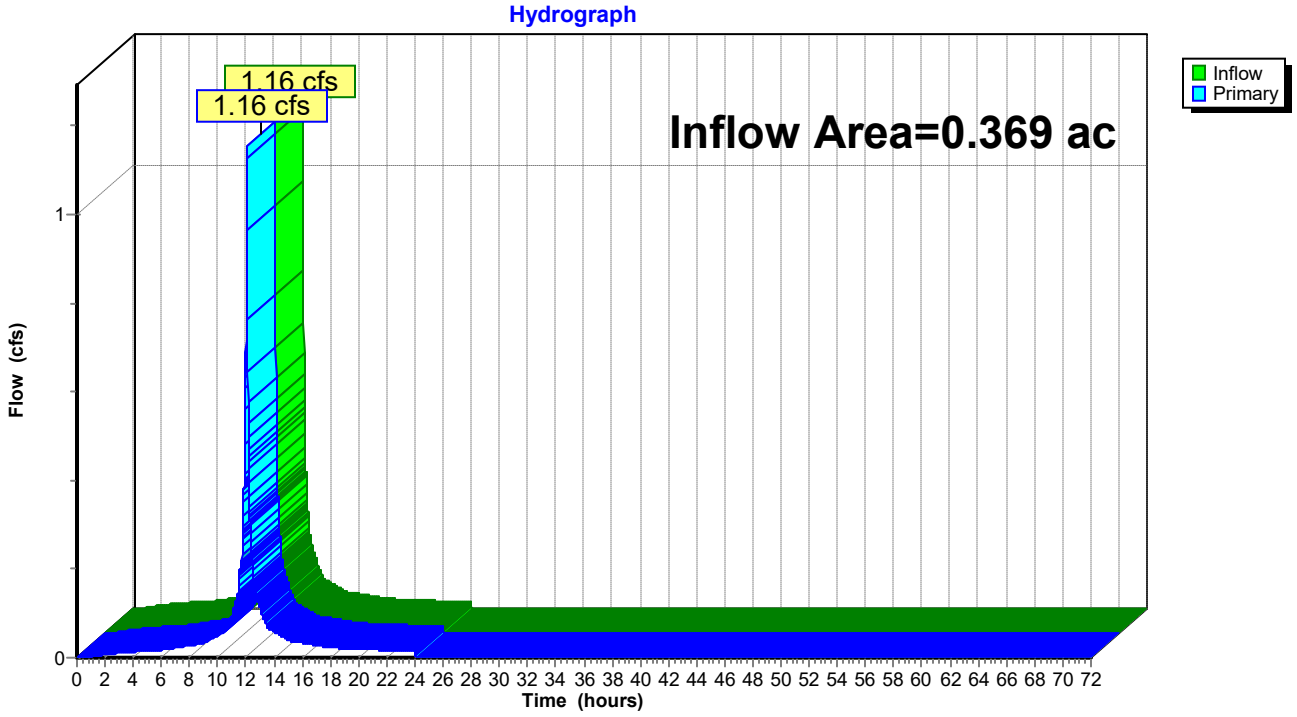
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.00	0.00	0.00	54.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	55.00	0.00	0.00	0.00
4.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
5.00	0.01	0.00	0.01	57.00	0.00	0.00	0.00
6.00	0.01	0.00	0.01	58.00	0.00	0.00	0.00
7.00	0.01	0.00	0.01	59.00	0.00	0.00	0.00
8.00	0.02	0.00	0.02	60.00	0.00	0.00	0.00
9.00	0.02	0.00	0.02	61.00	0.00	0.00	0.00
10.00	0.03	0.00	0.03	62.00	0.00	0.00	0.00
11.00	0.06	0.00	0.06	63.00	0.00	0.00	0.00
12.00	**0.34**	0.00	**0.34**	64.00	0.00	0.00	0.00
13.00	**0.08**	0.00	**0.08**	65.00	0.00	0.00	0.00
14.00	0.04	0.00	0.04	66.00	0.00	0.00	0.00
15.00	0.03	0.00	0.03	67.00	0.00	0.00	0.00
16.00	0.03	0.00	0.03	68.00	0.00	0.00	0.00
17.00	0.02	0.00	0.02	69.00	0.00	0.00	0.00
18.00	0.02	0.00	0.02	70.00	0.00	0.00	0.00
19.00	0.02	0.00	0.02	71.00	0.00	0.00	0.00
20.00	0.02	0.00	0.02	72.00	0.00	0.00	0.00
21.00	0.01	0.00	0.01				
22.00	0.01	0.00	0.01				
23.00	0.01	0.00	0.01				
24.00	0.01	0.00	0.01				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

Summary for Link PT: Prop. Total

Inflow Area = 0.369 ac, 58.15% Impervious, Inflow Depth = 3.01" for 10-Year event
Inflow = 1.16 cfs @ 12.10 hrs, Volume= 0.092 af
Primary = 1.16 cfs @ 12.10 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.010 hrs

Link PT: Prop. Total



Hydrograph for Link PT: Prop. Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	52.00	0.00	0.00	0.00
1.00	0.00	0.00	0.00	53.00	0.00	0.00	0.00
2.00	0.01	0.00	0.01	54.00	0.00	0.00	0.00
3.00	0.01	0.00	0.01	55.00	0.00	0.00	0.00
4.00	0.01	0.00	0.01	56.00	0.00	0.00	0.00
5.00	0.02	0.00	0.02	57.00	0.00	0.00	0.00
6.00	0.02	0.00	0.02	58.00	0.00	0.00	0.00
7.00	0.02	0.00	0.02	59.00	0.00	0.00	0.00
8.00	0.03	0.00	0.03	60.00	0.00	0.00	0.00
9.00	0.03	0.00	0.03	61.00	0.00	0.00	0.00
10.00	0.05	0.00	0.05	62.00	0.00	0.00	0.00
11.00	0.09	0.00	0.09	63.00	0.00	0.00	0.00
12.00	**0.69**	0.00	**0.69**	64.00	0.00	0.00	0.00
13.00	**0.11**	0.00	**0.11**	65.00	0.00	0.00	0.00
14.00	0.06	0.00	0.06	66.00	0.00	0.00	0.00
15.00	0.04	0.00	0.04	67.00	0.00	0.00	0.00
16.00	0.03	0.00	0.03	68.00	0.00	0.00	0.00
17.00	0.03	0.00	0.03	69.00	0.00	0.00	0.00
18.00	0.02	0.00	0.02	70.00	0.00	0.00	0.00
19.00	0.02	0.00	0.02	71.00	0.00	0.00	0.00
20.00	0.02	0.00	0.02	72.00	0.00	0.00	0.00
21.00	0.02	0.00	0.02				
22.00	0.02	0.00	0.02				
23.00	0.02	0.00	0.02				
24.00	0.01	0.00	0.01				
25.00	0.00	0.00	0.00				
26.00	0.00	0.00	0.00				
27.00	0.00	0.00	0.00				
28.00	0.00	0.00	0.00				
29.00	0.00	0.00	0.00				
30.00	0.00	0.00	0.00				
31.00	0.00	0.00	0.00				
32.00	0.00	0.00	0.00				
33.00	0.00	0.00	0.00				
34.00	0.00	0.00	0.00				
35.00	0.00	0.00	0.00				
36.00	0.00	0.00	0.00				
37.00	0.00	0.00	0.00				
38.00	0.00	0.00	0.00				
39.00	0.00	0.00	0.00				
40.00	0.00	0.00	0.00				
41.00	0.00	0.00	0.00				
42.00	0.00	0.00	0.00				
43.00	0.00	0.00	0.00				
44.00	0.00	0.00	0.00				
45.00	0.00	0.00	0.00				
46.00	0.00	0.00	0.00				
47.00	0.00	0.00	0.00				
48.00	0.00	0.00	0.00				
49.00	0.00	0.00	0.00				
50.00	0.00	0.00	0.00				
51.00	0.00	0.00	0.00				

DRAINAGE DESIGN: 2 & 10 YR REDUCTIONS

DYNAMIC ENGINEERING

DRAINAGE DESIGN: 2 & 10 YR REDUCTIONS

Project: Proposed Parking Lot Improvements
Job #: 5152-24-00429
Location: Neptune, NJ

Computed By: CR
Checked By: MW
Date: 2/21/25

Storm	Existing Runoff Volume (CF)	Proposed Runoff Volume (CF)	Difference (CF)
2 yr	1,612.00	2,440.00	828
10 yr	2,788.00	4,008.00	1220

15" PIPE STORAGE		
Total Pipe Length (A)	122	LF
Pipe Quantity (B)	4	FT
Pipe Diameter (C)	1.25	FT
Pipe Area (D)	1.23	SF
Total Storage Volume (E)	598.87	CF

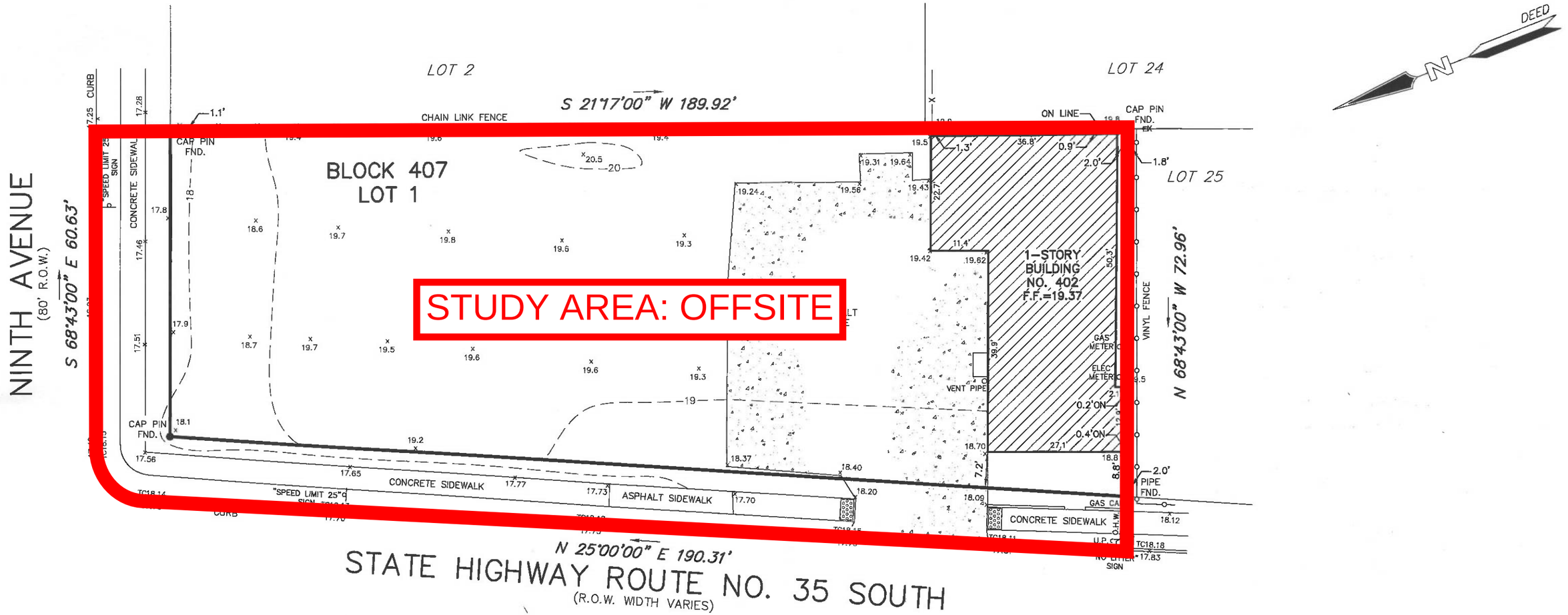
15" PIPE OUTER STONE STORAGE		
Total Stone Length (F)	122	FT
Total Stone Width (G)	8.33	FT
Total Stone Height (H)	2.25	FT
Void Ratio (I)	0.40	
Total Storage Volume (J)	675.09	CF

TOTAL STORAGE VOLUME (K)	1273.95	CF

Total Storage Volume (E) = (A) x (B) x (D)
Total Storage Volume (J) = ((F) x (G) x (H) - (E)) x (I)
Total Storage Volume (K) = (E) + (J)

Underground pipe detention system has capacity for the increase in volume of the 10 year storm.

DRAINAGE AREA MAPS



NOTE: ELEVATIONS TIED TO NAVD'88 DATUM (DM7183)

1	05-08-24	UPDATED SURVEY

TOPOGRAPHIC PLAN

402 STATE HIGHWAY ROUTE NO. 35 SOUTH
LOT 1 BLOCK 407

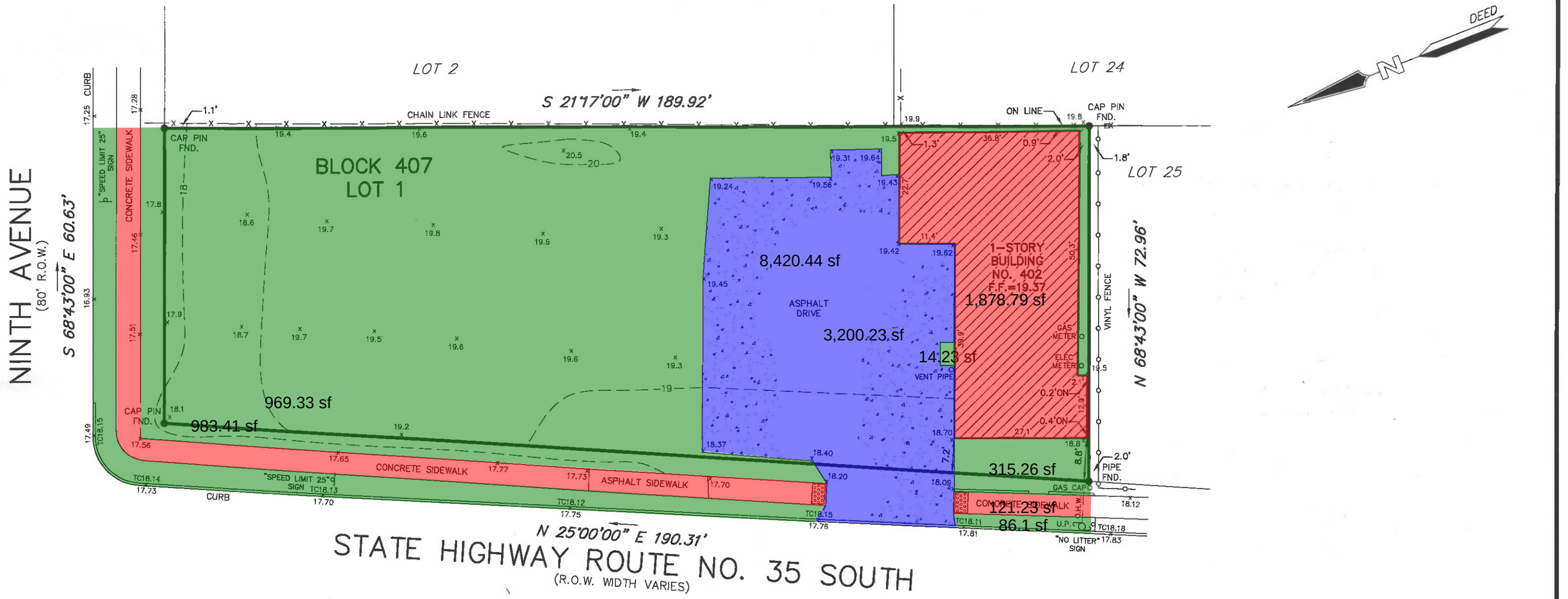
TOWNSHIP OF NEPTUNE | MONMOUTH COUNTY | NEW JERSEY

Charles Surmonte P.E. & P.L.S.
New Jersey Professional Engineer and Land Surveyor
License No. 35885

301 Main Street, 2nd Floor
Allenhurst, New Jersey, 07711
Phone 732-660-0606
Fax 732-660-0404

PROJECT No.	DATE:	SCALE:	SHEET:
23-866	02-16-24	1"=20'	1 OF 1

DRAINAGE AREA MAP



NOTE: ELEVATIONS TIED TO NAVD'88 DATUM (DM7183)

1	05-08-24	UPDATED SURVEY

EX. OFF-SITE (IMPERVIOUS - NON-MOTOR VEHICLE) = 1,876 + 121.23 + 969.33 = 2,967 SF

EX. OFF-SITE (IMPERVIOUS - MOTOR VEHICLE) = 3,200 SF

EX. OFF-SITE (PERVIOUS) = 315.26 + 86.1 + 8,420.44 + 983.41 + 14.23 = 9,819 SF

CN / AREA MAP

TOPOGRAPHIC PLAN

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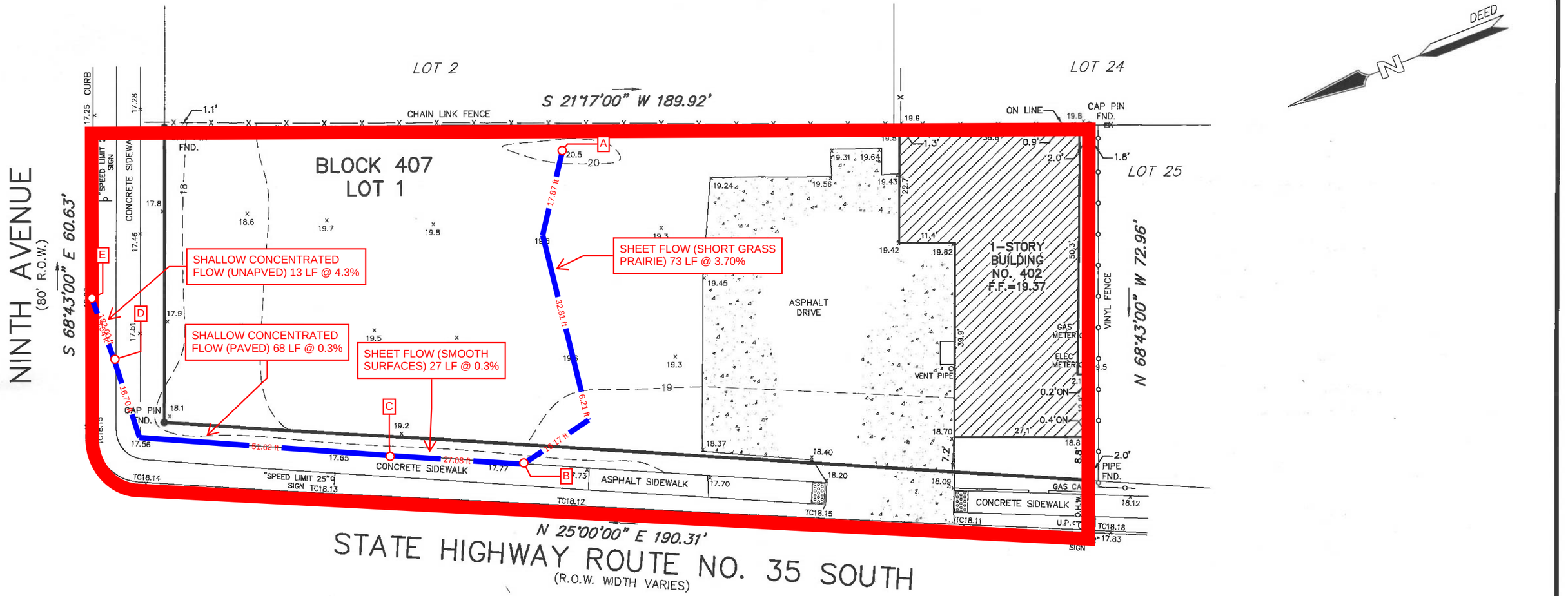
PROJECT No.	DATE:	SCALE:	SHEET:
23-866	02-16-24	1"=20'	1 OF 1



NOTE: ELEVATIONS TIED TO NAVD'88 DATUM (DM7183)

1	05-08-24	UPDATED SURVEY

TOPOGRAPHIC PLAN

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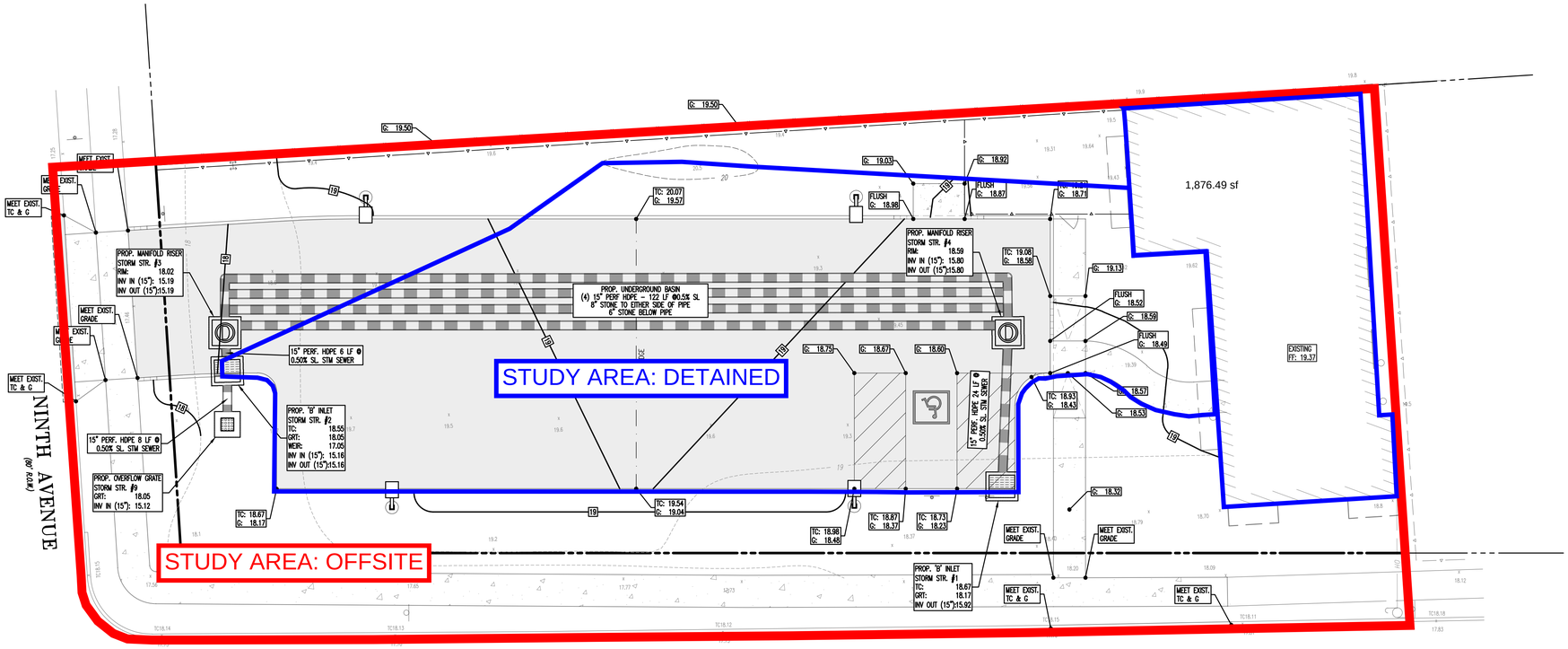
PROJECT No.	DATE:	SCALE:	SHEET:
23-866	02-16-24	1"=20'	1 OF 1

TC MAP



GRADING NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557, MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MIN. SLOPE AGAINST ALL ISLAND CUTTERS/CURBS AND 1.0% ON ALL CONCRETE SURFACES, AND 1.5% MIN. ON ASPHALT UNLESS OTHERWISE NOTED. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MIN. OF 0.75% GUTTER GRADE ALONG CURB FACE RECEIVING SURFACE RUNOFF. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.
4. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
5. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. CONTRACTOR MUST NOTIFY ENGINEER OF RECORD OF ANY CONFLICT IMMEDIATELY.
7. MAXIMUM CROSS SLOPE OF 1:48 (2.08%) ON ALL SIDEWALKS.
8. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER'S GEOTECHNICAL ENGINEER PRIOR TO ONSET OF CONSTRUCTION TO SUBMIT AND CONFIRM THE CONTRACTOR'S PROPOSED MEANS AND MATERIALS AND TO SCHEDULE INSPECTIONS FOR BOTTOM OF BASIN, REMOVAL OF UNSUITABLE SOIL, FILL PLACEMENT, AND FINAL BASIN PERMEABILITY TESTING.
9. THE CONTRACTOR IS RESPONSIBLE FOR AS-BUILT PLANS AND GRADE CONTROL UNLESS DEFINED OTHERWISE ELSEWHERE IN THE CONTRACT DOCUMENTS.

ADA NOTES

1. ALL SLOPES INDICATED ARE ACTUAL. CONTRACTOR TO CONSTRUCT IMPROVEMENTS IN COMPLIANCE WITH THE LATEST ADA GUIDELINES AND BUILDING CODE REQUIREMENTS. AT THE TIME OF PLAN DESIGN, THESE REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO:
   A. SIDEWALKS/ ACCESSIBLE ROUTES:
      - WIDTH: 36" MIN. EXCLUSIVE OF THE WIDTH OF ANY CURB
      - PASSING SPACE: MIN. 60" x 60" AT INTERVALS OF 200' MAX IF ACCESSIBLE ROUTE WIDTH IS LESS THAN 60"
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX., 1.0% MIN.
      - INTERSECTION SLOPE: 1:48 (2.08%) MAX. IN ALL DIRECTIONS
      - CHANGE IN LEVELS: 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL
   B. CURB RAMPS:
      - SLOPE 1:12 (8.3%) MAX.
      - SIDE FLARE SLOPE: 1:10 (10%) MAX OR 1:12 (8.3%) MAX IN ALTERATIONS WHERE TOP LANDING IS UNAVAILABLE (WHERE PEDS CROSS RAMP)
      - BOTTOM LANDING: 48" MIN. LENGTH; WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) IN ALL DIRECTIONS
      - TOP LANDING: 36" MIN. LENGTH; WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) CROSS SLOPE AND 1:20 (5%) RUNNING SLOPE WHEN ONLY CONNECTING ACCESSIBLE ROUTE RUNS PARALLEL TO THE RAMP RUN.
      - COUNTER SLOPE: 1:20 (5%) MAX.
   C. ACCESSIBLE PARKING STALLS:
      - SPACE AND ACCESS AISLE SLOPE: 1:48 MAX. (2.08%) IN ALL DIRECTIONS ACROSS ACCESSIBLE PARKING STALLS AND STRIPED ACCESS AISLES
   D. CROSSWALKS
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX.
      - CHANGE IN LEVELS: 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE. BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL
   E. RAMPS
      - SLOPE: 1:12 (8.3%) MAX.
      - MAX. RISE: 30"
      - MIN. CLEAR WIDTH: 36"
      - MIN. LANDING CLEAR LENGTH: 60"
      - MAX. CROSS SLOPE: 1:48 (2.08%)
   F. CONTRACTOR SHALL CLARIFY ANY QUESTIONS CONCERNING CONSTRUCTION AND/OR GRADING IN ADA AREAS WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.

DRAINAGE NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK-OUT THEIR UTILITIES.
2. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
3. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
4. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURE RECOMMENDATIONS.
5. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"-30" PIPE) AND ASTM F2881 (36"-60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
6. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

GRAPHIC SCALE

−10 0 5 10 20 40

(IN FEET)

1 INCH = 10 FT.

GRADING/UTILITY GRAPHIC LEGEND

- PROPERTY LINE (PARCEL IN QUESTION)
- OFF-SITE PROPERTY LINES
- EXIST. CABLE LINE
- PROP. CABLE LINE
- EXIST. ELECTRIC LINE
- PROP. ELECTRIC LINE
- PROP. FIBER OPTIC LINE
- EXIST. GAS LINE
- PROP. GAS LINE
- EXIST. OVERHEAD WIRES
- PROP. OVERHEAD WIRES
- EXIST. TELEPHONE LINE
- PROP. TELEPHONE LINE
- EXIST. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- PROP. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- EXIST. WATER LINE
- PROP. WATER LINE
- EXIST. FIRE SERVICE
- PROP. FIRE SERVICE
- EXIST. SANITARY SEWER LINE
- PROP. SANITARY SEWER LINE
- EXIST. FORCE MAIN
- PROP. FORCE MAIN
- EXIST. STORM DRAIN LINE
- PROP. STORM DRAIN LINE
- UNDERGROUND UTILITY QUALITY LEVEL (A) (B) (C) (D)
- EXIST. MINOR CONTOUR & ELEVATION
- EXIST. MAJOR CONTOUR & ELEVATION
- PROP. FINISH GRADE CONTOUR & ELEVATION
- EXIST. MONITORING WELL
- APPROX. TEST PIT LOCATION
- EXIST. SPOT ELEVATIONS
- EXIST. GUTTER ELEV.
- EXIST. TOP OF CURB ELEV.
- EXIST. FINISH FLOOR ELEV.
- EXIST. GARAGE FLOOR ELEV.
- EXIST. FIRE HYDRANT
- EXIST. WATER VALVE
- EXIST. GAS VALVE
- EXIST. GAS METER
- EXIST. ELECTRIC METER
- EXIST. ELECTRIC BOX
- EXIST. CLEAN OUT
- EXIST. WELL
- EXIST. WATER SHUT OFF VALVE
- EXIST. TELEPHONE BOX
- EXIST. CABLE TV BOX
- EXIST. UTILITY POLE
- EXIST. GUY WIRE
- EXIST. LIGHT POLE
- EXIST. BUILDING LIGHT
- EXIST. SHOE BOX LIGHT
- EXIST. COBRA LIGHT POLE
- EXIST. TRAFFIC SIGNAL POLE
- EXIST. MANHOLE
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- EXIST. "B" INLET
- EXIST. "E" INLET
- EXIST. YARD INLET
- EXIST. FLARED END SECTION
- EXIST. HEADWALL
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- TC: 000.00 / G: 000.00 — PROP. TOP OF CURB & FINISHED GRADE ELEV.
- FF: 000.00 — PROP. FINISHED FLOOR ELEV.
- TW: 000.00 / GL: 000.00 — PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
- TC: 000.00 / GH: 000.00 / GL: 000.00 — PROP. TOP OF EXTENDED CURB, (GH) FINISHED GRADE @ HIGH SIDE OF EXTENDED CURB & (GL) FINISHED GRADE @ LOW SIDE OF EXTENDED CURB
- PROP. DIRECTION OF DRAINAGE FLOW ARROW
- PROP. WATER VALVE
- PROP. GAS VALVE
- PROP. STORM CLEANOUT
- PROP. SANITARY CLEANOUT
- PROP. AREA LIGHT
- PROP. OUTLET CONTROL STRUCTURE
- PROP. DRAINAGE MANHOLE
- PROP. SANITARY SEWER MANHOLE
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UTILITY NOTES

1. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK-OUT THEIR UTILITIES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
4. WATER SERVICE MATERIALS SHALL BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTORS PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
5. ALL WATER MAIN SHALL BE CEMENT-LINED, CLASS 52 DUCTILE IRON PIPE, UNLESS OTHERWISE DESIGNATED.
6. THE MINIMUM DIAMETER FOR DOMESTIC WATER SERVICES SHALL BE 1 INCH.
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9. WHERE SANITARY SEWER LATERALS ARE GREATER THAN 10' DEEP AT CONNECTION TO THE SEWER MAIN, CONCRETE DEEP LATERAL CONNECTIONS ARE TO BE UTILIZED.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILIZATION OF THE EXISTING SEWER MAIN, STRUCTURES AND APPURTENANCES DURING CONNECTION.
11. LOCATION & LAYOUT OF GAS, ELECTRIC & TELECOMMUNICATION UTILITY LINES AND SERVICES SHOWN ON THESE PLANS ARE SCHEMATIC IN NATURE. ACTUAL LOCATION & LAYOUT OF THESE UTILITIES & SERVICES ARE TO BE PER THE APPROPRIATE UTILITY PROVIDER.
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13. ALL SEWER AND WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATORY AUTHORITY'S RULES AND REGULATIONS.
14. ALL PROPOSED UTILITIES TO BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
15. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
16. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
17. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"-30" PIPE) AND ASTM F2881 (36"-60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
18. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

EXISTING UTILITY NOTES

EXISTING WATER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING WATER SERVICE CONNECTION IF FEASIBLE. OTHERWISE REMOVE EXISTING WATER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL WATER COMPANY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL WATER COMPANY PRIOR TO COMPLETION. IF THE EXISTING WATER SERVICE CAN NOT BE UTILIZED, THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL WATER COMPANY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

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SANITARY SEWER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING SEWER SERVICE CONNECTION IF OF ADEQUATE SIZE AND INTEGRITY AND ACCEPTABLE TO LOCAL SEWER AUTHORITY. OTHERWISE CONTRACTOR TO REMOVE EXISTING SEWER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL SEWER AUTHORITY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL SEWER AUTHORITY PRIOR TO COMPLETION. IF EXISTING SEWER SERVICE CAN NOT BE UTILIZED THEN THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL SEWER AUTHORITY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev.	Date	By	Comments

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Toms River, New Jersey T: 732.974.0198 | Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400 | Delray Beach, Florida T: 561.921.8570
Newtown, Pennsylvania T: 267.685.0276 | Philadelphia, Pennsylvania T: 215.233.4888 | Bethlehem, Pennsylvania T: 610.598.4400 | Annapolis, Maryland T: 410.567.5000
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521
www.dynamicec.com

TITLE: DRAINAGE AREA MAP

PROJECT: B & B COMMERCIAL, LLC
PROPOSED SITE IMPROVEMENTS
BLOCK 407, LOT 1
402 STATE HIGHWAY ROUTE 35
TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY

JOB No: 5152-24-00429
DATE: 02/01/2025
DRAWN BY: ARK
SCALE: (H) 1"=10' (V)
DESIGNED BY: MAW
CHECKED BY: MAW
CHECKED BY: _
SHEET No: 5 OF 13
Rev. # 0

DRAFT

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PROFESSIONAL ENGINEER
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Plotted: 02/07/25 - 4:31 PM, By: akocienski, - Product Ver: 24.3a (LMS Tech)
File: F:\decpc projects\5152 b&b commercial llc\24-00429 neptune\Dwg\Site Plans\05152400429SXC.dwg, ---> 05 GRADING DRAINAGE & UTILITY PLAN

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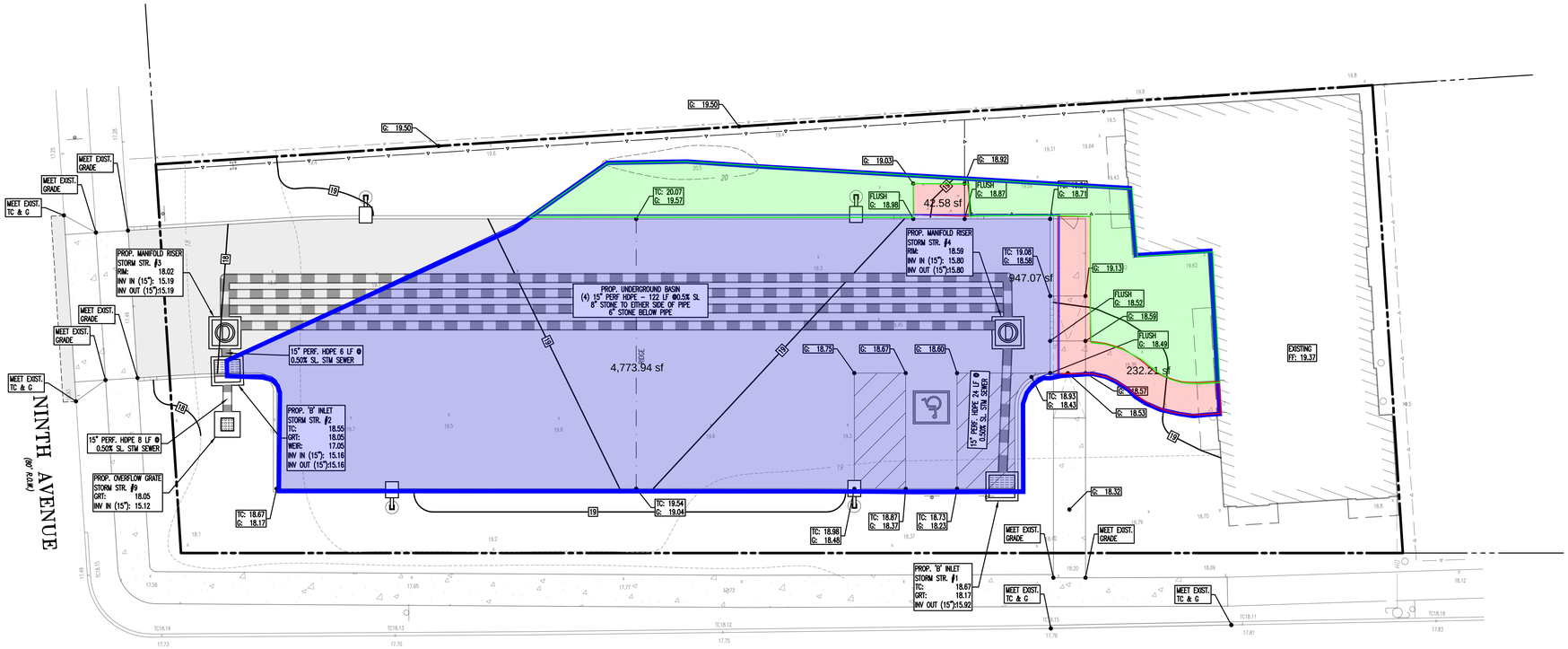

PROP. DETAINED (IMPERVIOUS - NON-MOTOR VEHICLE) = 42.58 + 232.21 = 275 SF

PROP. DETAINED (IMPERVIOUS - MOTOR VEHICLE) = 4,774 SF

PROP. DETAINED (PERVIOUS) = 947 SF

PROP. ROOF = 1,876 SF

PROP. OFF-SITE (PERVIOUS) = 2,556.13 + 2,215.36 + 861.98 + 39.48 +106.75 = 5,780 SF

PROP. OFF-SITE (IMPERVIOUS - NON MOTOR VEHICLE) = 1,261.89 + 47.63 = 1,310 SF

PROP. OFF-SITE (IMPERVIOUS - MOTOR VEHICLE) = 1,111 SF

GRADING/UTILITY GRAPHIC LEGEND

- PROPERTY LINE (PARCEL IN QUESTION)
- OFF-SITE PROPERTY LINES
- EXIST. CABLE LINE
- PROP. CABLE LINE
- EXIST. ELECTRIC LINE
- PROP. ELECTRIC LINE
- PROP. FIBER OPTIC LINE
- EXIST. GAS LINE
- PROP. GAS LINE
- EXIST. OVERHEAD WIRES
- PROP. OVERHEAD WIRES
- EXIST. TELEPHONE LINE
- PROP. TELEPHONE LINE
- EXIST. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- PROP. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- EXIST. WATER LINE
- PROP. WATER LINE
- EXIST. FIRE SERVICE
- PROP. FIRE SERVICE
- EXIST. SANITARY SEWER LINE
- PROP. SANITARY SEWER LINE
- EXIST. FORCE MAIN
- PROP. FORCE MAIN
- EXIST. STORM DRAIN LINE
- PROP. STORM DRAIN LINE
- UNDERGROUND UTILITY QUALITY LEVEL (A) (B) (C) (D)
- EXIST. MINOR CONTOUR & ELEVATION
- EXIST. MAJOR CONTOUR & ELEVATION
- PROP. FINISH GRADE CONTOUR & ELEVATION
- EXIST. MONITORING WELL
- APPROX. TEST PIT LOCATION
- EXIST. SPOT ELEVATIONS
- EXIST. GUTTER ELEV.
- EXIST. TOP OF CURB ELEV.
- EXIST. FINISH FLOOR ELEV.
- EXIST. GARAGE FLOOR ELEV.
- EXIST. FIRE HYDRANT
- EXIST. WATER VALVE
- EXIST. GAS VALVE
- EXIST. GAS METER
- EXIST. ELECTRIC METER
- EXIST. ELECTRIC BOX
- EXIST. CLEAN OUT
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GRADING NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557, MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MIN. SLOPE AGAINST ALL ISLAND CUTTERS/CURBS AND 1.0% ON ALL CONCRETE SURFACES, AND 1.5% MIN. ON ASPHALT UNLESS OTHERWISE NOTED. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MIN. OF 0.75% GUTTER GRADE ALONG CURB FACE RECEIVING SURFACE RUNOFF. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.
4. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
5. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. CONTRACTOR MUST NOTIFY ENGINEER OF RECORD OF ANY CONFLICT IMMEDIATELY.
7. MAXIMUM CROSS SLOPE OF 1:48 (2.08%) ON ALL SIDEWALKS.
8. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER'S GEOTECHNICAL ENGINEER PRIOR TO ONSET OF CONSTRUCTION TO SUBMIT AND CONFIRM THE CONTRACTOR'S PROPOSED MEANS AND MATERIALS AND TO SCHEDULE INSPECTIONS FOR BOTTOM OF BASIN, REMOVAL OF UNSUITABLE SOIL, FILL PLACEMENT, AND FINAL BASIN PERMEABILITY TESTING.
9. THE CONTRACTOR IS RESPONSIBLE FOR AS-BUILT PLANS AND GRADE CONTROL UNLESS DEFINED OTHERWISE ELSEWHERE IN THE CONTRACT DOCUMENTS.

ADA NOTES

1. ALL SLOPES INDICATED ARE ACTUAL. CONTRACTOR TO CONSTRUCT IMPROVEMENTS IN COMPLIANCE WITH THE LATEST ADA GUIDELINES AND BUILDING CODE REQUIREMENTS. AT THE TIME OF PLAN DESIGN, THESE REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO:
   A. SIDEWALKS/ ACCESSIBLE ROUTES:
      - WIDTH: 36" MIN. EXCLUSIVE OF THE WIDTH OF ANY CURB
      - PASSING SPACE: MIN. 60" x 60" AT INTERVALS OF 200' MAX IF ACCESSIBLE ROUTE WIDTH IS LESS THAN 60"
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX., 1.0% MIN.
      - INTERSECTION SLOPE: 1:48 (2.08%) MAX. IN ALL DIRECTIONS
      - CHANGE IN LEVELS 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL
   B. CURB RAMPS:
      - SLOPE 1:12 (8.3%) MAX.
      - SIDE FLARE SLOPE: 1:10 (10%) MAX OR 1:12 (8.3%) MAX IN ALTERATIONS WHERE TOP LANDING IS UNAVAILABLE (WHERE PEDS CROSS RAMP)
      - BOTTOM LANDING: 48" MIN. LENGTH; WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) IN ALL DIRECTIONS
      - TOP LANDING: 36" MIN. LENGTH; WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) CROSS SLOPE AND 1:20 (5%) RUNNING SLOPE WHEN ONLY CONNECTING ACCESSIBLE ROUTE RUNS PARALLEL TO THE RAMP RUN.
      - COUNTER SLOPE: 1:20 (5%) MAX.
   C. ACCESSIBLE PARKING STALLS:
      - SPACE AND ACCESS AISLE SLOPE: 1:48 MAX. (2.08%) IN ALL DIRECTIONS ACROSS ACCESSIBLE PARKING STALLS AND STRIPED ACCESS AISLES
   D. CROSSWALKS
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX.
      - CHANGE IN LEVELS 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE. BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL
   E. RAMPS
      - SLOPE: 1:12 (8.3%) MAX.
      - MAX. RISE: 30"
      - MIN. CLEAR WIDTH: 36"
      - MIN. LANDING CLEAR LENGTH: 60"
      - MAX. CROSS SLOPE: 1:48 (2.08%)
   F. CONTRACTOR SHALL CLARIFY ANY QUESTIONS CONCERNING CONSTRUCTION AND/OR GRADING IN ADA AREAS WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.

DRAINAGE NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK-OUT THEIR UTILITIES.
2. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
3. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
4. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
5. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"-30" PIPE) AND ASTM F2881 (36"-60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
6. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

GRAPHIC SCALE

−10 0 5 10 20 40

(IN FEET)

1 INCH = 10 FT.

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

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Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521
www.dynamicec.com

TITLE: CN / AREA (DETAINED) MAP

PROJECT: B & B COMMERCIAL, LLC
PROPOSED SITE IMPROVEMENTS
BLOCK 407, LOT 1
402 STATE HIGHWAY ROUTE 35
TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY

JOB No: 5152-24-00429
DATE: 02/01/2025
DRAWN BY: ARK
SCALE: (H) 1"=10' (V)
DESIGNED BY: MAW
CHECKED BY: MAW
CHECKED BY: —
SHEET No: 5 OF 13
Rev. #: 0

DRAFT

BRIAN C. BAKER
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 41417

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File: F:\decpc projects\5152 b&b commercial llc\24-00429 neptune\Dwg\Site Plans\05152400429SXC.dwg, ---> 05 GRADING DRAINAGE & UTILITY PLAN

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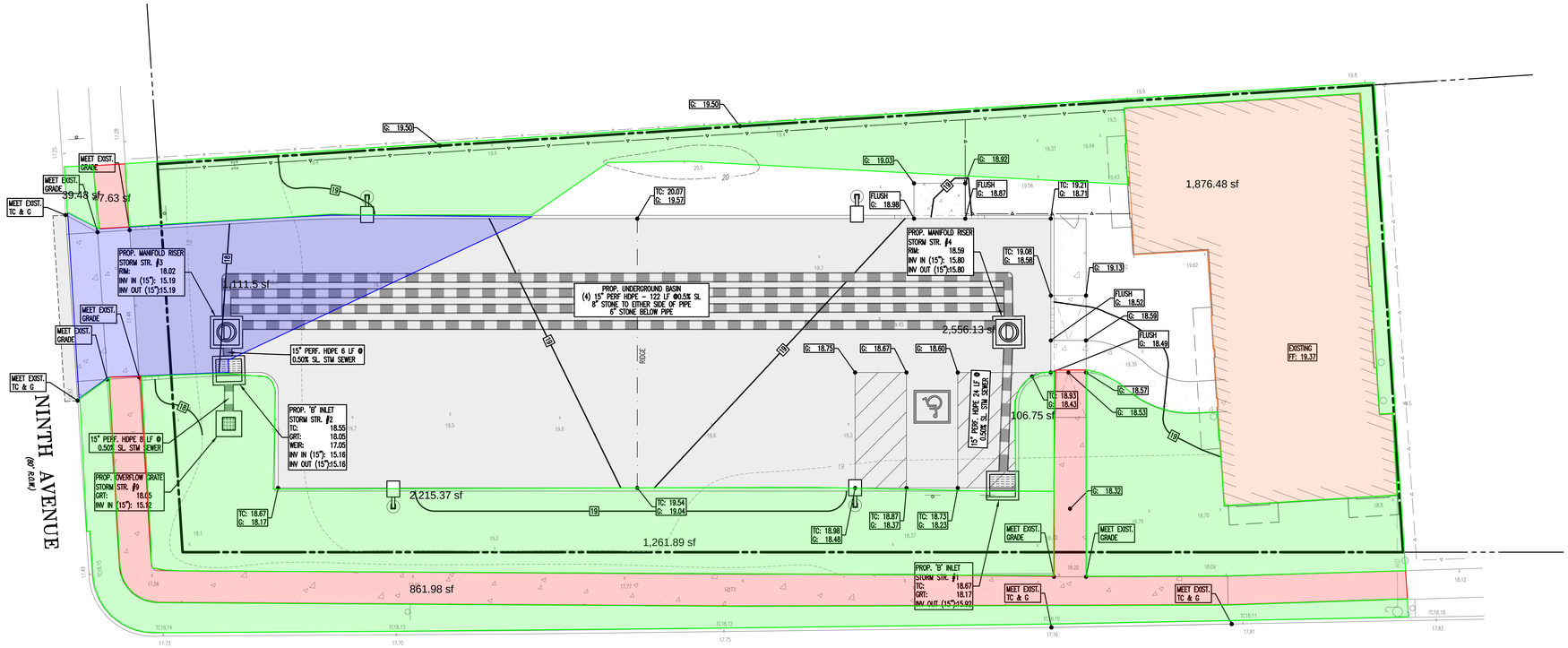

PROP. DETAINED (IMPERVIOUS - NON-MOTOR VEHICLE) = 42.58 + 232.21 = 275 SF

PROP. DETAINED (IMPERVIOUS - MOTOR VEHICLE) = 4,774 SF

PROP. DETAINED (PERVIOUS) = 947 SF

PROP. ROOF = 1,876 SF

PROP. OFF-SITE (PERVIOUS) = 2,556.13 + 2,215.36 + 861.98 + 39.48 +106.75 = 5,780 SF

PROP. OFF-SITE (IMPERVIOUS - NON MOTOR VEHICLE) = 1,261.89 + 47.63 = 1,310 SF

PROP. OFF-SITE (IMPERVIOUS - MOTOR VEHICLE) = 1,111 SF

GRADING/UTILITY GRAPHIC LEGEND

- PROPERTY LINE (PARCEL IN QUESTION)
- OFF-SITE PROPERTY LINES
- EXIST. CABLE LINE
- PROP. CABLE LINE
- EXIST. ELECTRIC LINE
- PROP. ELECTRIC LINE
- PROP. FIBER OPTIC LINE
- EXIST. GAS LINE
- PROP. GAS LINE
- EXIST. OVERHEAD WIRES
- PROP. OVERHEAD WIRES
- EXIST. TELEPHONE LINE
- PROP. TELEPHONE LINE
- EXIST. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- PROP. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- EXIST. WATER LINE
- PROP. WATER LINE
- EXIST. FIRE SERVICE
- PROP. FIRE SERVICE
- EXIST. SANITARY SEWER LINE
- PROP. SANITARY SEWER LINE
- EXIST. FORCE MAIN
- PROP. FORCE MAIN
- EXIST. STORM DRAIN LINE
- PROP. STORM DRAIN LINE
- UNDERGROUND UTILITY QUALITY LEVEL (A) (B) (C) (D)
- EXIST. MINOR CONTOUR & ELEVATION
- EXIST. MAJOR CONTOUR & ELEVATION
- PROP. FINISH GRADE CONTOUR & ELEVATION
- EXIST. MONITORING WELL
- EXIST. TEST PIT LOCATION
- EXIST. SPOT ELEVATIONS
- EXIST. GUTTER ELEV.
- EXIST. TOP OF CURB ELEV.
- EXIST. FINISH FLOOR ELEV.
- EXIST. GARAGE FLOOR ELEV.
- EXIST. FIRE HYDRANT
- EXIST. WATER VALVE
- EXIST. GAS VALVE
- EXIST. GAS METER
- EXIST. ELECTRIC METER
- EXIST. ELECTRIC BOX
- EXIST. CLEAN OUT
- EXIST. WELL
- EXIST. WATER SHUT OFF VALVE
- EXIST. TELEPHONE BOX
- EXIST. CABLE TV BOX
- EXIST. UTILITY POLE
- EXIST. GUY WIRE
- EXIST. LIGHT POLE
- EXIST. BUILDING LIGHT
- EXIST. SHOE BOX LIGHT
- EXIST. COBRA LIGHT POLE
- EXIST. TRAFFIC SIGNAL POLE
- EXIST. MANHOLE
- EXIST. "A" INLET
- EXIST. "B" INLET
- EXIST. "E" INLET
- EXIST. YARD INLET
- EXIST. FLARED END SECTION
- EXIST. HEADWALL
- G: 000.00 — PROP. GRADE SPOT ELEV.
- TC: 000.00 G: 000.00 — PROP. TOP OF CURB & FINISHED GRADE ELEV.
- FF: 000.00 — PROP. FINISHED FLOOR ELEV.
- TW: 000.00 GL: 000.00 — PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
- TC: 000.00 GH: 000.00 GL: 000.00 — PROP. TOP OF EXTENDED CURB, (GH) FINISHED GRADE @ HIGH SIDE OF EXTENDED CURB & (GL) FINISHED GRADE @ LOW SIDE OF EXTENDED CURB
- PROP. DIRECTION OF DRAINAGE FLOW ARROW
- PROP. WATER VALVE
- PROP. GAS VALVE
- PROP. STORM CLEANOUT
- PROP. SANITARY CLEANOUT
- PROP. AREA LIGHT
- PROP. OUTLET CONTROL STRUCTURE
- PROP. DRAINAGE MANHOLE
- PROP. SANITARY SEWER MANHOLE
- PROP. 'A' INLET
- PROP. 'B' INLET
- PROP. 'E' INLET
- PROP. YARD INLET
- PROP. FLARED END SECTION
- PROP. HEADWALL

UTILITY NOTES

1. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK-OUT THEIR UTILITIES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
4. WATER SERVICE MATERIALS SHALL BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTORS PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
5. ALL WATER MAIN SHALL BE CEMENT-LINED, CLASS 52 DUCTILE IRON PIPE, UNLESS OTHERWISE DESIGNATED.
6. THE MINIMUM DIAMETER FOR DOMESTIC WATER SERVICES SHALL BE 1 INCH.
7. ALL SANITARY SEWER MAINS SHALL BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH SEPARATION IS NOT POSSIBLE, THE PIPES SHALL BE IN SEPARATE TRENCHES WITH THE SEWER MAIN AT LEAST 18 INCHES BELOW THE WATER MAIN OR SUCH OTHER SEPARATION AS APPROVED BY THE APPROVING AUTHORITY. WHERE APPROPRIATE CROSSING SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER MAIN AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER SHALL BE PROVIDED. THE APPROVING AUTHORITY MAY REQUIRE ADDITIONAL STRUCTURAL SUPPORT FOR STORM SEWER CROSSING OVER SEWER LINES.
8. ALL SANITARY SEWER MAINS SHALL BE SDR-35 PVC PIPE MATERIAL UNLESS OTHERWISE DESIGNATED. SEWER PIPES INSTALLED WITH LESS THAN 3 FEET OF COVER, GREATER THAN 20 FEET OF COVER OR WITHIN 18 INCHES OF A WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE. ALL DUCTILE IRON SEWER PIPE SHALL BE CEMENT-LINED, CLASS 52 PIPE, FURNISHED WITH SEWER COAT, OR APPROVED EQUAL.
9. WHERE SANITARY SEWER LATERALS ARE GREATER THAN 10' DEEP AT CONNECTION TO THE SEWER MAIN, CONCRETE DEEP LATERAL CONNECTIONS ARE TO BE UTILIZED.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILIZATION OF THE EXISTING SEWER MAIN, STRUCTURES AND APPURTENANCES DURING CONNECTION.
11. LOCATION & LAYOUT OF GAS, ELECTRIC & TELECOMMUNICATION UTILITY LINES AND SERVICES SHOWN ON THESE PLANS ARE SCHEMATIC IN NATURE. ACTUAL LOCATION & LAYOUT OF THESE UTILITIES & SERVICES ARE TO BE PER THE APPROPRIATE UTILITY PROVIDER.
12. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
13. ALL SEWER AND WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATORY AUTHORITY'S RULES AND REGULATIONS.
14. ALL PROPOSED UTILITIES TO BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
15. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
16. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
17. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"-30" PIPE) AND ASTM F2881 (36"-60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
18. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

EXISTING UTILITY NOTES

EXISTING WATER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING WATER SERVICE CONNECTION IF FEASIBLE. OTHERWISE REMOVE EXISTING WATER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL WATER COMPANY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL WATER COMPANY PRIOR TO COMPLETION. IF THE EXISTING WATER SERVICE CAN NOT BE UTILIZED, THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL WATER COMPANY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

EXISTING GAS SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING GAS SERVICE CONNECTION IF FEASIBLE. OTHERWISE REMOVE EXISTING GAS SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL GAS COMPANY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL GAS COMPANY PRIOR TO COMPLETION. ANY NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL GAS COMPANY. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

SANITARY SEWER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING SEWER SERVICE CONNECTION IF OF ADEQUATE SIZE AND INTEGRITY AND ACCEPTABLE TO LOCAL SEWER AUTHORITY. OTHERWISE CONTRACTOR TO REMOVE EXISTING SEWER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL SEWER AUTHORITY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL SEWER AUTHORITY PRIOR TO COMPLETION. IF EXISTING SEWER SERVICE CAN NOT BE UTILIZED THEN THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL SEWER AUTHORITY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

GRADING NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557, MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MIN. SLOPE AGAINST ALL ISLAND CUTTERS/CURBS AND 1.0% ON ALL CONCRETE SURFACES, AND 1.5% MIN. ON ASPHALT UNLESS OTHERWISE NOTED. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MIN. OF 0.75% GUTTER GRADE ALONG CURB FACE RECEIVING SURFACE RUNOFF. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.
4. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
5. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. CONTRACTOR MUST NOTIFY ENGINEER OF RECORD OF ANY CONFLICT IMMEDIATELY.
7. MAXIMUM CROSS SLOPE OF 1:48 (2.08%) ON ALL SIDEWALKS.
8. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER'S GEOTECHNICAL ENGINEER PRIOR TO ONSET OF CONSTRUCTION TO SUBMIT AND CONFIRM THE CONTRACTOR'S PROPOSED MEANS AND MATERIALS AND TO SCHEDULE INSPECTIONS FOR BOTTOM OF BASIN, REMOVAL OF UNSUITABLE SOIL, FILL PLACEMENT, AND FINAL BASIN PERMEABILITY TESTING.
9. THE CONTRACTOR IS RESPONSIBLE FOR AS-BUILT PLANS AND GRADE CONTROL UNLESS DEFINED OTHERWISE ELSEWHERE IN THE CONTRACT DOCUMENTS.

ADA NOTES

1. ALL SLOPES INDICATED ARE ACTUAL. CONTRACTOR TO CONSTRUCT IMPROVEMENTS IN COMPLIANCE WITH THE LATEST ADA GUIDELINES AND BUILDING CODE REQUIREMENTS. AT THE TIME OF PLAN DESIGN, THESE REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO:
   A. SIDEWALKS/ ACCESSIBLE ROUTES:
      - WIDTH: 36" MIN. EXCLUSIVE OF THE WIDTH OF ANY CURB
      - PASSING SPACE: MIN. 60" x 60" AT INTERVALS OF 200' MAX IF ACCESSIBLE ROUTE WIDTH IS LESS THAN 60"
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX., 1.0% MIN.
      - INTERSECTION SLOPE: 1:48 (2.08%) MAX. IN ALL DIRECTIONS
      - CHANGE IN LEVELS 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL
   B. CURB RAMPS:
      - SLOPE 1:12 (8.3%) MAX.
      - SIDE FLARE SLOPE: 1:10 (10%) MAX OR 1:12 (8.3%) MAX IN ALTERATIONS WHERE TOP LANDING IS UNAVAILABLE (WHERE PEDS CROSS RAMP)
      - BOTTOM LANDING: 48" MIN. LENGTH; WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) IN ALL DIRECTIONS
      - TOP LANDING: 36" MIN. LENGTH; WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) CROSS SLOPE AND 1:20 (5%) RUNNING SLOPE WHEN ONLY CONNECTING ACCESSIBLE ROUTE RUNS PARALLEL TO THE RAMP RUN.
      - COUNTER SLOPE: 1:20 (5%) MAX.
   C. ACCESSIBLE PARKING STALLS:
      - SPACE AND ACCESS AISLE SLOPE: 1:48 MAX. (2.08%) IN ALL DIRECTIONS ACROSS ACCESSIBLE PARKING STALLS AND STRIPED ACCESS AISLES
   D. CROSSWALKS
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX.
      - CHANGE IN LEVELS 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE. BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL
   E. RAMPS
      - SLOPE: 1:12 (8.3%) MAX.
      - MAX. RISE: 30"
      - MIN. CLEAR WIDTH: 36"
      - MIN. LANDING CLEAR LENGTH: 60"
      - MAX. CROSS SLOPE: 1:48 (2.08%)
   F. CONTRACTOR SHALL CLARIFY ANY QUESTIONS CONCERNING CONSTRUCTION AND/OR GRADING IN ADA AREAS WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.

DRAINAGE NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK-OUT THEIR UTILITIES.
2. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
3. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
4. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
5. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"-30" PIPE) AND ASTM F2881 (36"-60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
6. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

GRAPHIC SCALE

−10 0 5 10 20 40

(IN FEET)

1 INCH = 10 FT.

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

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TITLE: CN / AREA (OFFSITE) MAP

PROJECT: B & B COMMERCIAL, LLC
PROPOSED SITE IMPROVEMENTS
BLOCK 407, LOT 1
402 STATE HIGHWAY ROUTE 35
TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY

JOB No: 5152-24-00429	DATE: 02/01/2025
DRAWN BY: ARK	SCALE: (H) 1"=10' (V)
DESIGNED BY: MAW	SHEET No: 5 OF 13
CHECKED BY: MAW	
CHECKED BY: _	

DRAFT TAKER
PROFESSIONAL ENGINEER
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File: F:\decpc projects\5152 b&b commercial llc\24-00429 neptune\Dwg\Site Plans\05152400429SXC.dwg, ---> 05 GRADING DRAINAGE & UTILITY PLAN

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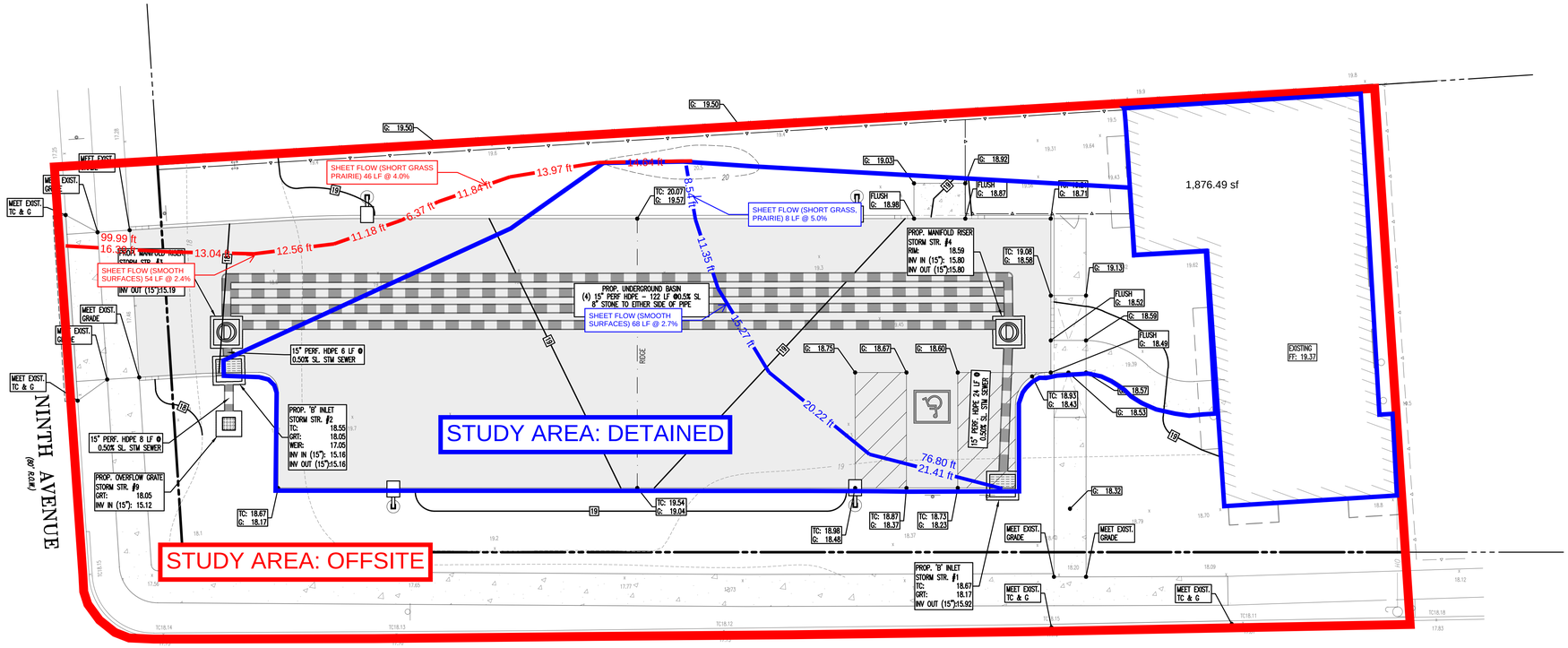

STATE HIGHWAY ROUTE NO. 35 SOUTH

(R.O.W. WIDTH VARIES)

GRADING/UTILITY GRAPHIC LEGEND

- PROPERTY LINE (PARCEL IN QUESTION)
- OFF-SITE PROPERTY LINES
- EXIST. CABLE LINE
- PROP. CABLE LINE
- EXIST. ELECTRIC LINE
- PROP. ELECTRIC LINE
- EXIST. FIBER OPTIC LINE
- PROP. FIBER OPTIC LINE
- EXIST. GAS LINE
- PROP. GAS LINE
- EXIST. OVERHEAD WIRES
- PROP. OVERHEAD WIRES
- EXIST. TELEPHONE LINE
- PROP. TELEPHONE LINE
- EXIST. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- PROP. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- EXIST. WATER LINE
- PROP. WATER LINE
- EXIST. FIRE SERVICE
- PROP. FIRE SERVICE
- EXIST. SANITARY SEWER LINE
- PROP. SANITARY SEWER LINE
- EXIST. FORCE MAIN
- PROP. FORCE MAIN
- EXIST. STORM DRAIN LINE
- PROP. STORM DRAIN LINE
- (A) (B) (C) (D) UNDERGROUND UTILITY QUALITY LEVEL
- EXIST. MINOR CONTOUR & ELEVATION
- EXIST. MAJOR CONTOUR & ELEVATION
- PROP. FINISH GRADE CONTOUR & ELEVATION
- EXIST. MONITORING WELL
- APPROX. TEST PIT LOCATION
- EXIST. SPOT ELEVATIONS
- EXIST. GUTTER ELEV.
- EXIST. TOP OF CURB ELEV.
- EXIST. FINISH FLOOR ELEV.
- EXIST. GARAGE FLOOR ELEV.
- EXIST. FIRE HYDRANT
- EXIST. WATER VALVE
- EXIST. GAS VALVE
- EXIST. GAS METER
- EXIST. ELECTRIC METER
- EXIST. ELECTRIC BOX
- EXIST. CLEAN OUT
- EXIST. WELL
- EXIST. WATER SHUT OFF VALVE
- EXIST. TELEPHONE BOX
- EXIST. CABLE TV BOX
- EXIST. UTILITY POLE
- EXIST. GUY WIRE
- EXIST. LIGHT POLE
- EXIST. BUILDING LIGHT
- EXIST. SHOE BOX LIGHT
- EXIST. COBRA LIGHT POLE
- EXIST. TRAFFIC SIGNAL POLE
- EXIST. MANHOLE
- EXIST. "A" INLET
- EXIST. "B" INLET
- EXIST. "E" INLET
- EXIST. YARD INLET
- EXIST. FLARED END SECTION
- EXIST. HEADWALL
- G: 000.00 PROP. GRADE SPOT ELEV.
- TC: 000.00 / G: 000.00 PROP. TOP OF CURB & FINISHED GRADE ELEV.
- FF: 000.00 PROP. FINISHED FLOOR ELEV.
- TW: 000.00 / G: 000.00 PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
- TC: 000.00 / GH: 000.00 / G: 000.00 PROP. TOP OF EXTENDED CURB, (GH) FINISHED GRADE @ HIGH SIDE OF EXTENDED CURB & (G) FINISHED GRADE @ LOW SIDE OF EXTENDED CURB
- PROP. DIRECTION OF DRAINAGE FLOW ARROW
- PROP. WATER VALVE
- PROP. GAS VALVE
- PROP. STORM CLEANOUT
- PROP. SANITARY CLEANOUT
- PROP. AREA LIGHT
- PROP. OUTLET CONTROL STRUCTURE
- PROP. DRAINAGE MANHOLE
- PROP. SANITARY SEWER MANHOLE
- PROP. "A" INLET
- PROP. "B" INLET
- PROP. "E" INLET
- PROP. YARD INLET
- PROP. FLARED END SECTION
- PROP. HEADWALL

UTILITY NOTES

1. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK-OUT THEIR UTILITIES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
4. WATER SERVICE MATERIALS SHALL BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTORS PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
5. ALL WATER MAIN SHALL BE CEMENT-LINED, CLASS 52 DUCTILE IRON PIPE, UNLESS OTHERWISE DESIGNATED.
6. THE MINIMUM DIAMETER FOR DOMESTIC WATER SERVICES SHALL BE 1 INCH.
7. ALL SANITARY SEWER MAINS SHALL BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH SEPARATION IS NOT POSSIBLE, THE PIPES SHALL BE IN SEPARATE TRENCHES WITH THE SEWER MAIN AT LEAST 18 INCHES BELOW THE WATER MAIN OR SUCH OTHER SEPARATION AS APPROVED BY THE APPROVING AUTHORITY. WHERE APPROPRIATE CROSSING SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER MAIN AS POSSIBLE. WHERE A WATER MAIN CROSSES OVER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER SHALL BE PROVIDED. THE APPROVING AUTHORITY MAY REQUIRE ADDITIONAL STRUCTURAL SUPPORT FOR STORM SEWER CROSSING OVER SEWER LINES.
8. ALL SANITARY SEWER MAINS SHALL BE SDR-35 PVC PIPE MATERIAL UNLESS OTHERWISE DESIGNATED. SEWER PIPES INSTALLED WITH LESS THAN 3 FEET OF COVER, GREATER THAN 20 FEET OF COVER OR WITHIN 18 INCHES OF A WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE. ALL DUCTILE IRON SEWER PIPE SHALL BE CEMENT-LINED, CLASS 52 PIPE, FURNISHED WITH SEWER COAT, OR APPROVED EQUAL.
9. WHERE SANITARY SEWER LATERALS ARE GREATER THAN 10' DEEP AT CONNECTION TO THE SEWER MAIN, CONCRETE DEEP LATERAL CONNECTIONS ARE TO BE UTILIZED.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILIZATION OF THE EXISTING SEWER MAIN, STRUCTURES AND APPURTENANCES DURING CONNECTION.
11. LOCATION & LAYOUT OF GAS, ELECTRIC & TELECOMMUNICATION UTILITY LINES AND SERVICES SHOWN ON THESE PLANS ARE SCHEMATIC IN NATURE. ACTUAL LOCATION & LAYOUT OF THESE UTILITIES & SERVICES ARE TO BE PER THE APPROPRIATE UTILITY PROVIDER.
12. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
13. ALL SEWER AND WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATORY AUTHORITY'S RULES AND REGULATIONS.
14. ALL PROPOSED UTILITIES TO BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
15. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
16. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
17. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"-30" PIPE) AND ASTM F2881 (36"-60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
18. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

EXISTING UTILITY NOTES

EXISTING WATER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING WATER SERVICE CONNECTION IF FEASIBLE. OTHERWISE REMOVE EXISTING WATER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL WATER COMPANY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL WATER COMPANY PRIOR TO COMPLETION. IF THE EXISTING WATER SERVICE CAN NOT BE UTILIZED, THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL WATER COMPANY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

EXISTING GAS SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING GAS SERVICE CONNECTION IF FEASIBLE. OTHERWISE REMOVE EXISTING GAS SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL GAS COMPANY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL GAS COMPANY PRIOR TO COMPLETION. ANY NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL GAS COMPANY. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

SANITARY SEWER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING SEWER SERVICE CONNECTION IF OF ADEQUATE SIZE AND INTEGRITY AND ACCEPTABLE TO LOCAL SEWER AUTHORITY. OTHERWISE CONTRACTOR TO REMOVE EXISTING SEWER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL SEWER AUTHORITY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL SEWER AUTHORITY PRIOR TO COMPLETION. IF EXISTING SEWER SERVICE CAN NOT BE UTILIZED THEN THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL SEWER AUTHORITY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

GRADING NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557, MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MIN. SLOPE AGAINST ALL ISLAND CUTTERS/CURBS AND 1.0% ON ALL CONCRETE SURFACES, AND 1.5% MIN. ON ASPHALT UNLESS OTHERWISE NOTED. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MIN. OF 0.75% GUTTER GRADE ALONG CURB FACE RECEIVING SURFACE RUNOFF. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.
4. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
5. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. CONTRACTOR MUST NOTIFY ENGINEER OF RECORD OF ANY CONFLICT IMMEDIATELY.
7. MAXIMUM CROSS SLOPE OF 1:48 (2.08%) ON ALL SIDEWALKS.
8. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER'S GEOTECHNICAL ENGINEER PRIOR TO ONSET OF CONSTRUCTION TO SUBMIT AND CONFIRM THE CONTRACTOR'S PROPOSED MEANS AND MATERIALS AND TO SCHEDULE INSPECTIONS FOR BOTTOM OF BASIN, REMOVAL OF UNSUITABLE SOIL, FILL PLACEMENT, AND FINAL BASIN PERMEABILITY TESTING.
9. THE CONTRACTOR IS RESPONSIBLE FOR AS-BUILT PLANS AND GRADE CONTROL UNLESS DEFINED OTHERWISE ELSEWHERE IN THE CONTRACT DOCUMENTS.

ADA NOTES

1. ALL SLOPES INDICATED ARE ACTUAL. CONTRACTOR TO CONSTRUCT IMPROVEMENTS IN COMPLIANCE WITH THE LATEST ADA GUIDELINES AND BUILDING CODE REQUIREMENTS. AT THE TIME OF PLAN DESIGN, THESE REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO:
   A. SIDEWALKS/ ACCESSIBLE ROUTES:
      - WIDTH: 36" MIN. EXCLUSIVE OF THE WIDTH OF ANY CURB
      - PASSING SPACE: MIN. 60" x 60" AT INTERVALS OF 200' MAX IF ACCESSIBLE ROUTE WIDTH IS LESS THAN 60"
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX., 1.0% MIN.
      - INTERSECTION SLOPE: 1:48 (2.08%) MAX. IN ALL DIRECTIONS
      - CHANGE IN LEVELS: 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL

   B. CURB RAMPS:
      - SLOPE 1:12 (8.3%) MAX.
      - SIDE FLARE SLOPE: 1:10 (10%) MAX OR 1:12 (8.3%) MAX IN ALTERATIONS WHERE TOP LANDING IS UNAVAILABLE (WHERE PEDS CROSS RAMP)
      - BOTTOM LANDING: 48" MIN. LENGTH; WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) IN ALL DIRECTIONS
      - TOP LANDING: 36" MIN. LENGTH, WIDTH TO MATCH CURB RAMP; 1:48 MAX. (2.08%) CROSS SLOPE AND 1:20 (5%) RUNNING SLOPE WHEN ONLY CONNECTING ACCESSIBLE ROUTE RUNS PARALLEL TO THE RAMP RUN.
      - COUNTER SLOPE: 1:20 (5%) MAX.

   C. ACCESSIBLE PARKING STALLS:
      - SPACE AND ACCESS AISLE SLOPE: 1:48 MAX. (2.08%) IN ALL DIRECTIONS ACROSS ACCESSIBLE PARKING STALLS AND STRIPED ACCESS AISLES

   D. CROSSWALKS
      - RUNNING SLOPE: 1:20 (5%) MAX.
      - CROSS SLOPE: 1:48 (2.08%) MAX.
      - CHANGE IN LEVELS: 1/4" MAX. HEIGHT OR 1/2" MAX. HEIGHT WITH BEVELED EDGE. BEVELED EDGE SLOPE OF 1:2 (50%) MAX.
      - GAPS: 1/2" MAX. WIDTH ELONGATED OPENINGS SHALL BE PLACED SO LONG DIMENSION IS PERPENDICULAR TO PATH OF TRAVEL

   E. RAMPS
      - SLOPE: 1:12 (8.3%) MAX.
      - MAX. RISE: 30"
      - MIN. CLEAR WIDTH: 36"
      - MIN. LANDING CLEAR LENGTH: 60"
      - MAX. CROSS SLOPE: 1:48 (2.08%)

   F. CONTRACTOR SHALL CLARIFY ANY QUESTIONS CONCERNING CONSTRUCTION AND/OR GRADING IN ADA AREAS WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.

DRAINAGE NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK-OUT THEIR UTILITIES.
2. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
3. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
4. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURE RECOMMENDATIONS.
5. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"-30" PIPE) AND ASTM F2881 (36"-60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
6. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

GRAPHIC SCALE

−10 0 5 10 20 40

(IN FEET)

1 INCH = 10 FT.

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

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PROJECT: B & B COMMERCIAL, LLC
PROPOSED SITE IMPROVEMENTS
BLOCK 407, LOT 1
402 STATE HIGHWAY ROUTE 35
TOWNSHIP OF NEPTUNE, MONMOUTH COUNTY, NEW JERSEY

JOB No: 5152-24-00429	DATE: 02/01/2025
DRAWN BY: ARK	SCALE: (H) 1"=10' (V)
DESIGNED BY: MAW	SHEET No: 5
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