DRAINAGE STATEMENT

For

NorthStar Capital, LLC

Point View Luxury Apartments

Block 113, Lots 41 & 43
842 & 850 Arnold Avenue
Borough of Point Pleasant, Ocean County, NJ

Prepared by:

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DEC # 3639-99-001

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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 the existing dentist office and single-family home, located at 842 and 850 Arnold Avenue in the Borough of Point Pleasant, Ocean County, New Jersey.

Under the present conditions, the site is developed as an existing dentist office and single-family home. The existing development has an impervious coverage of 12,693 SF (0.29 Acres). The proposed development is a Multi-Family Apartment Complex with associated parking, landscaping, lighting, and other site amenities. The proposed development's impervious coverage is 21,447 SF (0.49 Acres). The net increase in impervious area is 8,754 SF (0.20 Acres).

This Drainage Statement identifies and describes the manner by which the design provides the performance measures to minimize the adverse impact of stormwater runoff. As this project consists of less than one acre of land disturbance and proposes less than ¼ acre increase in impervious surface, it does not qualify as a "major" development, and is not subject to the new NJDEP stormwater management, water quality, or groundwater recharge regulations (NJAC 7:8). Therefore, the study has been prepared to comply with the New Jersey Soil Erosion and Sediment Control Standards for flow reduction requirements. The scope of the study includes the construction of the proposed building, associated driveways and parking areas, landscaping, stormwater collection system, and associated improvements as shown on the accompanying engineering drawings.

Hydrological evaluation is provided for the 2 and 10 year storm events utilizing the Urban Hydrology for Small Watershed TR55 method. The TR55 method is utilized to design the detention system. The Rational Method is used to size the storm drainage system.

The SCD flow reduction requirements are as follows:

2-year:	50% reduction of any increase in the existing impervious surface runoff
10-year:	25% reduction of any increase in the existing impervious surface runoff

II. EXISTING DRAINAGE CONDITIONS

The existing conditions of the tract have been verified by the Boundary and Topography Survey as prepared by InSite Surveying, LLC, dated July 24, 2020, last revised August 12, 2020. This information has been utilized to establish an Existing Conditions Drainage Area Map which is included within the Appendix of this Report.

The tract has been evaluated with the following existing drainage sub-watershed area:

Study Area South: This area consists of the existing dentist office and single-family home with associated impervious and open space areas. Under existing conditions stormwater runoff from this area is tributary to the southern property line.

Based on Ocean County soils survey information, the soil types native to the site include:

OCEAN COUNTY SOIL SURVEY INFORMATION		
SOIL TYPE (SYMBOL)	**SOIL TYPE (NAME)**	**HYDROLOGIC SOIL GROUP (HSG)**
EveB	Evesboro sand, 0 to 5 percent slopes	A

III. PROPOSED DRAINAGE CONDITIONS

The proposed development includes the construction of a Multifamily Apartment Complex. Additional site improvements include paved parking areas, landscaping, lighting and other site amenities. The proposed stormwater management facilities, more specifically the proposed aboveground infiltration basin and underground infiltration basin with bubbler outlet have been designed to account for the additional stormwater runoff from the proposed development.

The tract has been evaluated with the following drainage sub-watershed areas as depicted on the Proposed Conditions Drainage Area Map:

Study Area South: This area of the tract consists of proposed paved area on the eastern side of the proposed building and landscaped areas that drain to the open area at the south of the site.

Study Area Basin A: This area of the tract consists of proposed paved area north of the proposed building and landscaped areas that drain to the proposed aboveground basin on the western side of the site. The proposed basin system serves to control the release of stormwater from the 2 & 10 year design storms through a spillway near the southern property line.

Study Area Roof: This area consists of the roof of the proposed building. Under proposed conditions stormwater runoff from this area is deposited into an underground infiltration basin. The proposed basin system detains both the 2 & 10 year design storms with any overflow for larger storms through a proposed bubbler inlet located along the southern property line.

IV. 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.

The stormwater runoff conditions have been modeled utilizing the Hydraflow computer software based on the TR55 "Urban Hydrology for Small Watersheds" method of hydrologic design. The proposed aboveground infiltration basin and underground infiltration basin has been designed to meet the 2 and 10 year stormwater runoff rate reductions as required by the Standards for Soils Erosions and Sediment Control in New Jersey. The stormwater basins detain the stormwater runoff and releases the stormwater at a controlled rate through a spillway and bubbler inlet located at the southern property line.

VI. RUNOFF RATE REDUCTION PERFORMANCE

The proposed stormwater management system has been designed in accordance with Standards for Soils Erosions and Sediment Control in New Jersey. The aboveground system has been designed to ensure that the runoff reduction standards are achieved. Standards for Soils Erosions and Sediment Control in New Jersey requires that the proposed increase in runoff for the two (2) and the ten (10) year design storms modeled as 24-hour SCS Type III design storms must reduce the net increase of impervious coverage by 50% and 25%, respectively.

Design Storm	Overall Existing Runoff Rate	Net Increase in Impervious (Proposed - Existing) Flow Rate	Required Reduction of Net Increase in Impervious	Allowable Runoff Rate	Proposed Runoff Rate
2 Year	0.540 CFS	0.372 CFS	50%	0.354 CFS	0.279 CFS
10 Year	0.848 CFS	0.585 CFS	25%	0.701 CFS	0.438 CFS

VII. CONCLUSION

The proposed development has been designed with provisions for the safe and efficient control of stormwater runoff in a manner that will not adversely impact the existing drainage patterns, adjacent roadways, or adjacent parcels.

The stormwater management design shall reduce peak flow rates for the proposed development; therefore this project meets the minimum peak flow reduction for the 2 and the 10 year storm frequencies as required by the Standards for Soils Erosion and Sediment Control in New Jersey.

APPENDIX

RUNOFF CURVE NUMBER (CN)
CALCULATIONS - EXISTING

DYNAMIC ENGINEERING

EXISTING DRAINAGE AREA SUMMARY AND AVERAGE CURVE NUMBER(CN) CALCULATIONS

Project: Proposed Multi-Family Residential
Job #: 3639-99-001
Location: Borough of Point Pleasant

Computed By: JM
Checked By: KK
Date: Dec. 2020

Drainage Area	Impervious Area (acre)	Impervious Area (sf)	Curve Number (CN) Used	HSG A - Open Space Area (acre)	HSG A - Open Space Area (sf)	Curve Number (CN) Used	Total Area (acres)	TC (Min.)
Ex. SA South	0.29	12,693	98	0.45	19,607	39	0.74	13.3
Total	**0.29**	**12,693**		**0.45**	**19,607**		**0.74**	

Per NRCS Web Soil Survey -	EveB	HSG	A	Soil	Evesboro sand, 0 to 5 percent slopes

Description	Runoff Curve Number (CN)
Impervious Surface	98
Open Space (lawn) (good)	39

RUNOFF CURVE NUMBER (CN)
CALCULATIONS -PROPOSED

DYNAMIC ENGINEERING

PROPOSED DRAINAGE AREA SUMMARY AND AVERAGE CURVE NUMBER(CN) CALCULATIONS

Project: Proposed Multi-Family Residential
Job #: 3639-99-001
Location: Borough of Point Pleasant

Computed By: JM
Checked By: KK
Date: Dec. 2020

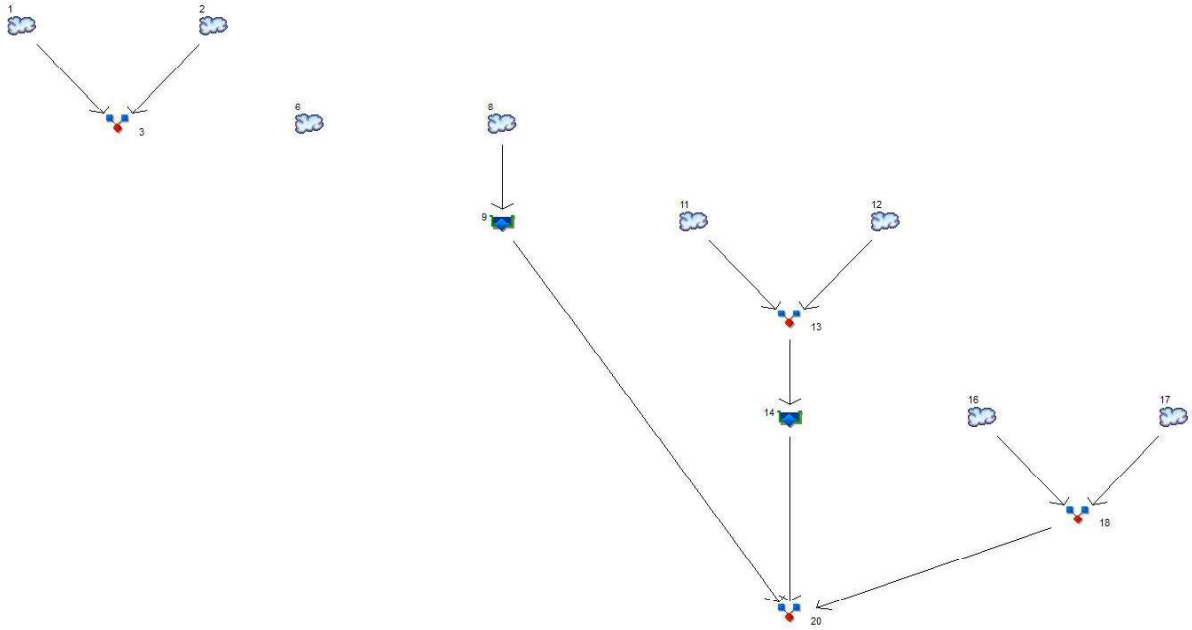
Drainage Area	Impervious Area (acre)	Impervious Area (sf)	Curve Number (CN) Used	HSG A - Open Space Area (acre)	HSG A - Open Space Area (sf)	Curve Number (CN) Used	Total Pervious Area (acres)	Total Area (acres)	TC (Min.)
Prop. SA South	0.15	6,588	98	0.15	6,527	39	0.15	0.30	10.0
Prop. SA Basin A	0.15	6,650	98	0.09	4,040	39	0.09	0.25	10.0
Prop. SA Roof	0.19	8,209	98	0.00	-	39	0.00	0.19	10.0
Total	**0.49**			**0.24**			**0.24**	**0.73**	

Per NRCS Web Soil Survey -	EveB	HSG	A	Soil	Evesboro sand, 0 to 5 percent slopes

Description	Runoff Curve Number (CN)
Impervious Surface	98
Open Space (lawn) (good)	39

HYDROGRAPH SUMMARY REPORTS
EXISTING AND PROPOSED CONDITIONS
2YR & 10YR STORMS

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	Ex SA South (Imp)
2	SCS Runoff	Ex SA South (Perv)
3	Combine	Ex SA South Total
6	SCS Runoff	Prop Inc in Imp
8	SCS Runoff	Prop SA Roof Total
9	Reservoir	Route to Roof Basin
11	SCS Runoff	Prop SA Basin A (Imp)
12	SCS Runoff	Prop SA Basin A (Perv)
13	Combine	Prop SA Basin A Total
14	Reservoir	Route to Basin A
16	SCS Runoff	Prop SA South (Imp)
17	SCS Runoff	Prop SA South (Perv)
18	Combine	Prop SA South Total
20	Combine	Prop total

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Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	0.540	5	730	3,333	--	--	--	Ex SA South (Imp)
2	SCS Runoff	0.001	5	1430	9	--	--	--	Ex SA South (Perv)
3	Combine	0.540	5	730	3,342	1, 2	--	--	Ex SA South Total
6	SCS Runoff	0.372	5	730	2,299	--	--	--	Prop Inc in Imp
8	SCS Runoff	0.354	5	730	2,184	--	--	--	Prop SA Roof Total
9	Reservoir	0.000	5	n/a	0	8	11.67	2,184	Route to Roof Basin
11	SCS Runoff	0.279	5	730	1,724	--	--	--	Prop SA Basin A (Imp)
12	SCS Runoff	0.000	5	1430	2	--	--	--	Prop SA Basin A (Perv)
13	Combine	0.279	5	730	1,726	11, 12	--	--	Prop SA Basin A Total
14	Reservoir	0.000	5	n/a	0	13	13.49	1,726	Route to Basin A
16	SCS Runoff	0.279	5	730	1,724	--	--	--	Prop SA South (Imp)
17	SCS Runoff	0.000	5	1430	3	--	--	--	Prop SA South (Perv)
18	Combine	0.279	5	730	1,727	16, 17	--	--	Prop SA South Total
20	Combine	0.279	5	730	1,727	9, 14, 18,	--	--	Prop total

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

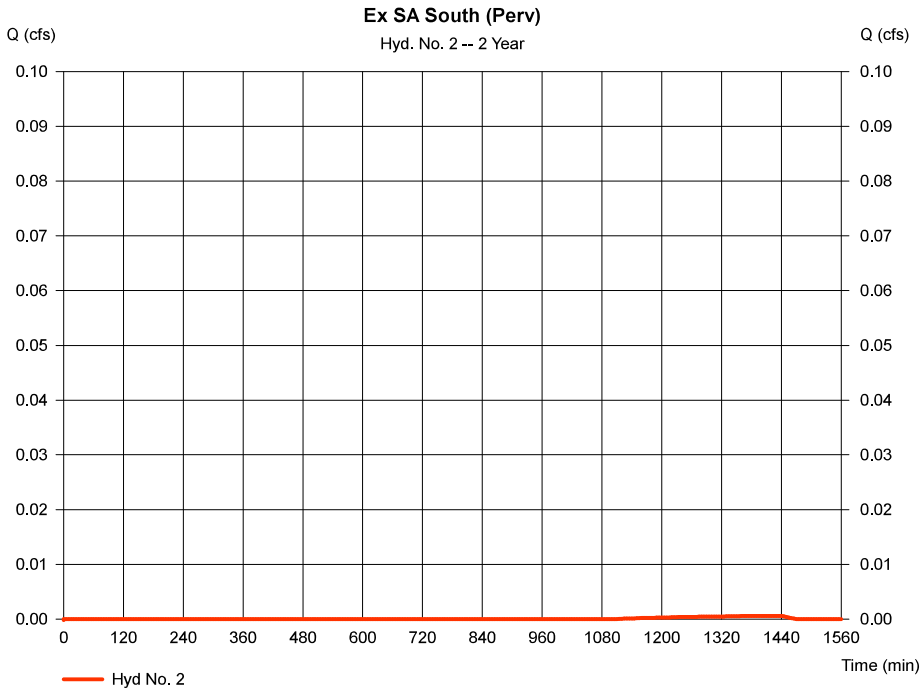
Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	--	--	0.540	--	--	0.848	--	--	--	Ex SA South (Imp)
2	SCS Runoff	--	--	0.001	--	--	0.022	--	--	--	Ex SA South (Perv)
3	Combine	1, 2	--	0.540	--	--	0.848	--	--	--	Ex SA South Total
6	SCS Runoff	--	--	0.372	--	--	0.585	--	--	--	Prop Inc in Imp
8	SCS Runoff	--	--	0.354	--	--	0.555	--	--	--	Prop SA Roof Total
9	Reservoir	8	--	0.000	--	--	0.000	--	--	--	Route to Roof Basin
11	SCS Runoff	--	--	0.279	--	--	0.438	--	--	--	Prop SA Basin A (Imp)
12	SCS Runoff	--	--	0.000	--	--	0.004	--	--	--	Prop SA Basin A (Perv)
13	Combine	11, 12	--	0.279	--	--	0.438	--	--	--	Prop SA Basin A Total
14	Reservoir	13	--	0.000	--	--	0.159	--	--	--	Route to Basin A
16	SCS Runoff	--	--	0.279	--	--	0.438	--	--	--	Prop SA South (Imp)
17	SCS Runoff	--	--	0.000	--	--	0.007	--	--	--	Prop SA South (Perv)
18	Combine	16, 17	--	0.279	--	--	0.438	--	--	--	Prop SA South Total
20	Combine	9, 14, 18,	--	0.279	--	--	0.438	--	--	--	Prop total

Hydrograph Report

Hyd. No. 2

Ex SA South (Perv)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.001 cfs
Storm frequency	=	2 yrs	Time to peak	=	1430 min
Time interval	=	5 min	Hyd. volume	=	9 cuft
Drainage area	=	0.450 ac	Curve number	=	39
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	13.30 min
Total precip.	=	3.42 in	Distribution	=	Custom
Storm duration	=	NOAA Atlas 14 Type-D.cds	Shape factor	=	285

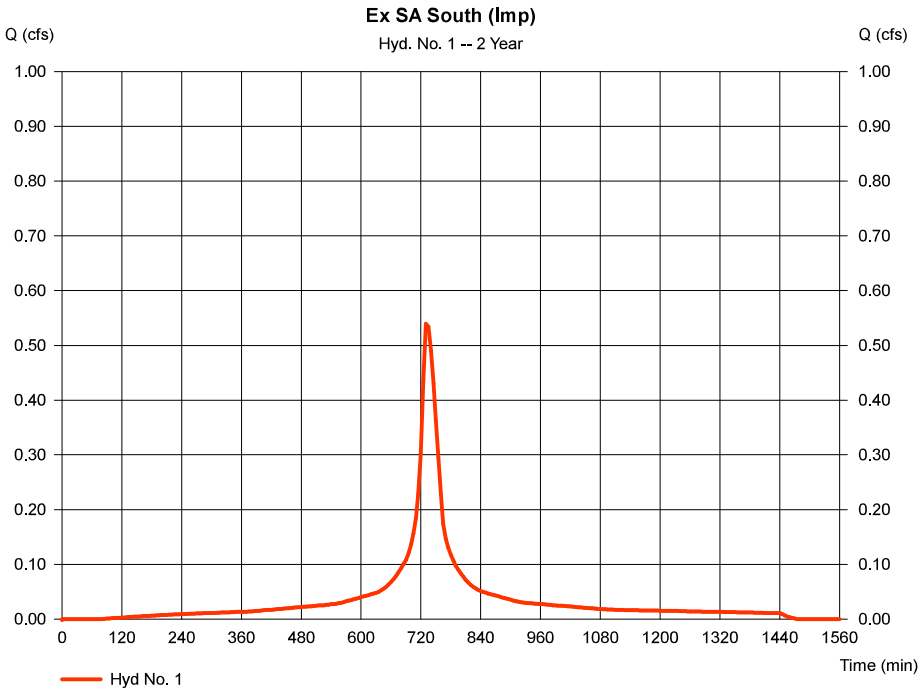


Hydrograph Report

Hyd. No. 1

Ex SA South (Imp)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.540 cfs
Storm frequency	=	2 yrs	Time to peak	=	730 min
Time interval	=	5 min	Hyd. volume	=	3,333 cuft
Drainage area	=	0.290 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.42 in	Distribution	=	Custom
Storm duration	=	NOAA Atlas 14 Type-D.cds	Shape factor	=	285

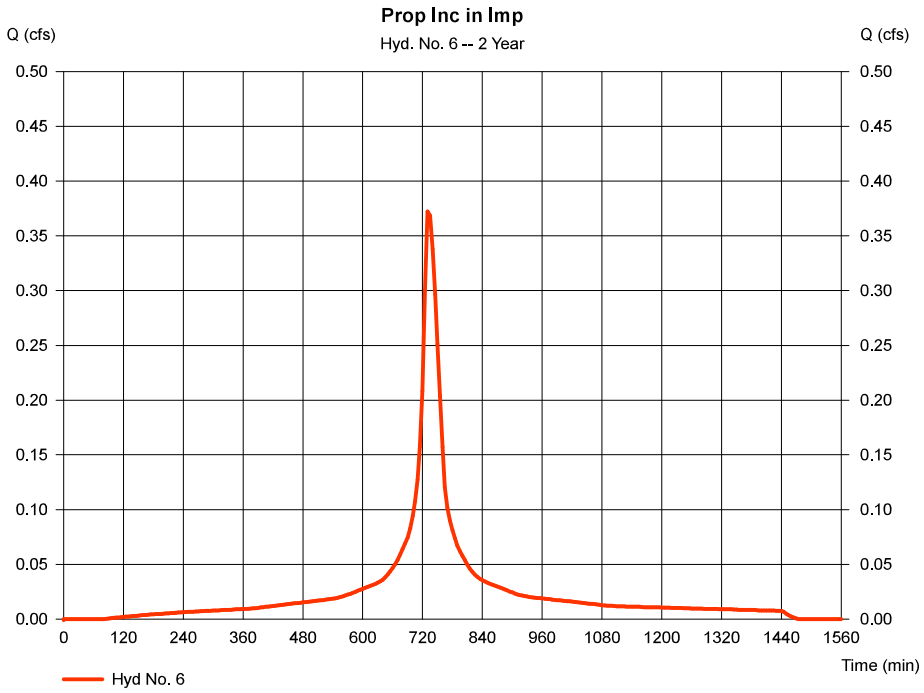


Hydrograph Report

Hyd. No. 6

Prop Inc in Imp

Hydrograph type	= SCS Runoff	Peak discharge	= 0.372 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 2,299 cuft
Drainage area	= 0.200 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.42 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285

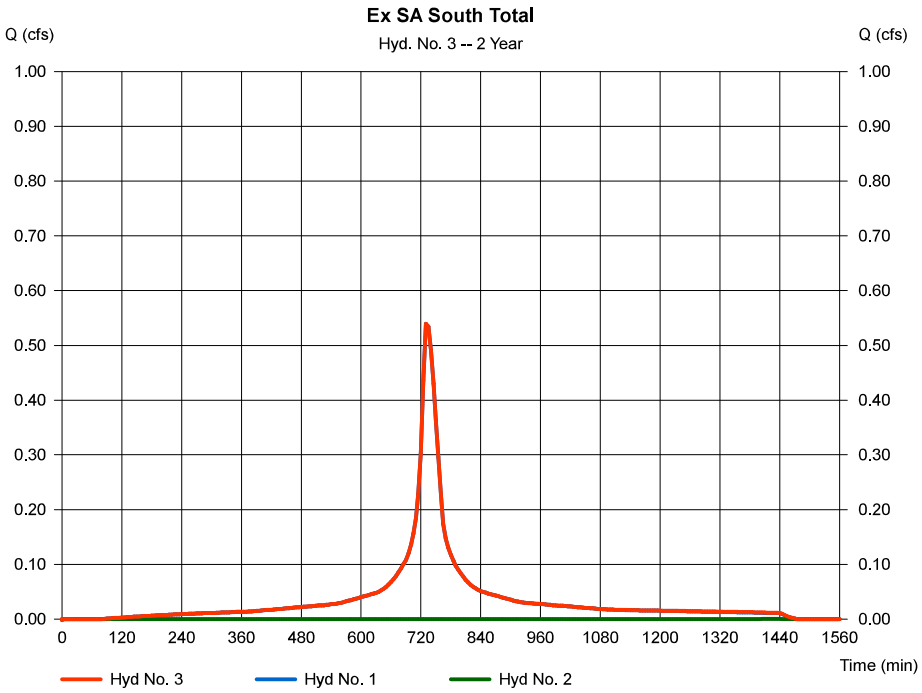


Hydrograph Report

Hyd. No. 3

Ex SA South Total

Hydrograph type	= Combine	Peak discharge	= 0.540 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 3,342 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 0.740 ac



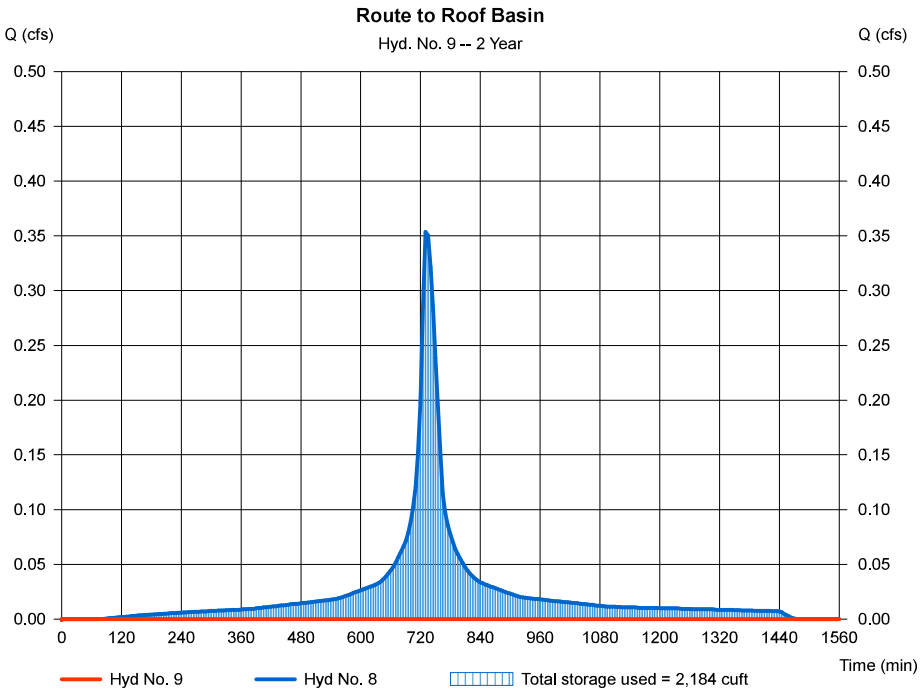
Hydrograph Report

Hyd. No. 9

Route to Roof Basin

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	n/a
Time interval	=	5 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	8 - Prop SA Roof Total	Max. Elevation	=	11.67 ft
Reservoir name	=	UG Roof Basin	Max. Storage	=	2,184 cuft

Storage Indication method used.

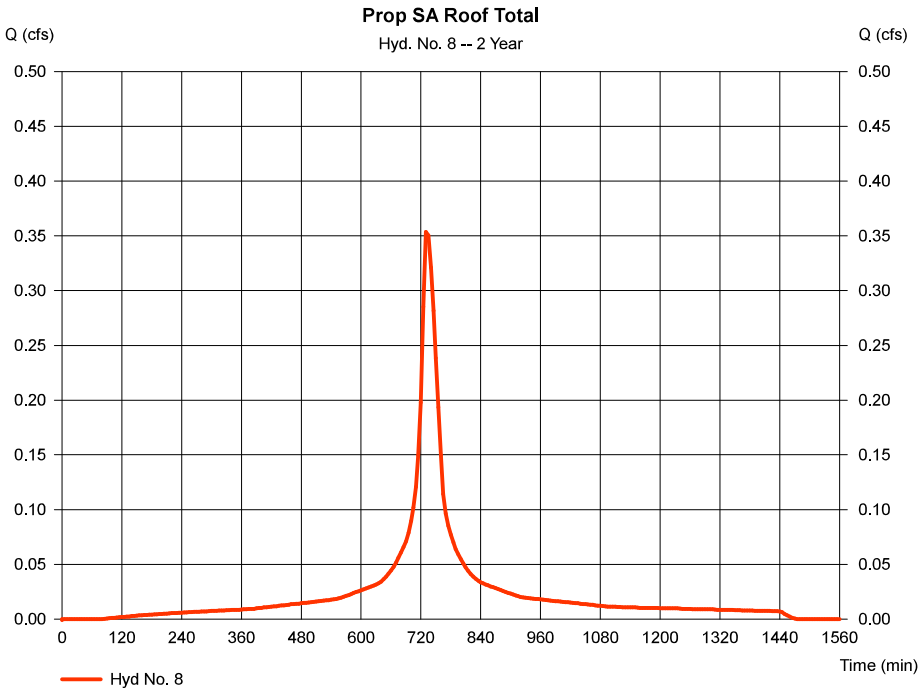


Hydrograph Report

Hyd. No. 8

Prop SA Roof Total

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.354 cfs
Storm frequency	=	2 yrs	Time to peak	=	730 min
Time interval	=	5 min	Hyd. volume	=	2,184 cuft
Drainage area	=	0.190 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.42 in	Distribution	=	Custom
Storm duration	=	NOAA Atlas 14 Type-D.cds	Shape factor	=	285



Pond Report

Pond No. 2 - UG Roof Basin

Pond Data

UG Chambers - Invert elev. = 10.00 ft, Rise x Span = 2.00 x 2.00 ft, Barrel Len = 65.00 ft, No. Barrels = 4, Slope = 0.00%, Headers = Yes
Encasement - Invert elev. = 9.50 ft, Width = 3.50 ft, Height = 3.50 ft, Voids = 100.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	9.50	n/a	0	0
0.35	9.85	n/a	353	353
0.70	10.20	n/a	353	706
1.05	10.55	n/a	353	1,059
1.40	10.90	n/a	353	1,411
1.75	11.25	n/a	353	1,764
2.10	11.60	n/a	353	2,117
2.45	11.95	n/a	353	2,470
2.80	12.30	n/a	353	2,823
3.15	12.65	n/a	353	3,176
3.50	13.00	n/a	353	3,529

Culvert / Orifice Structures

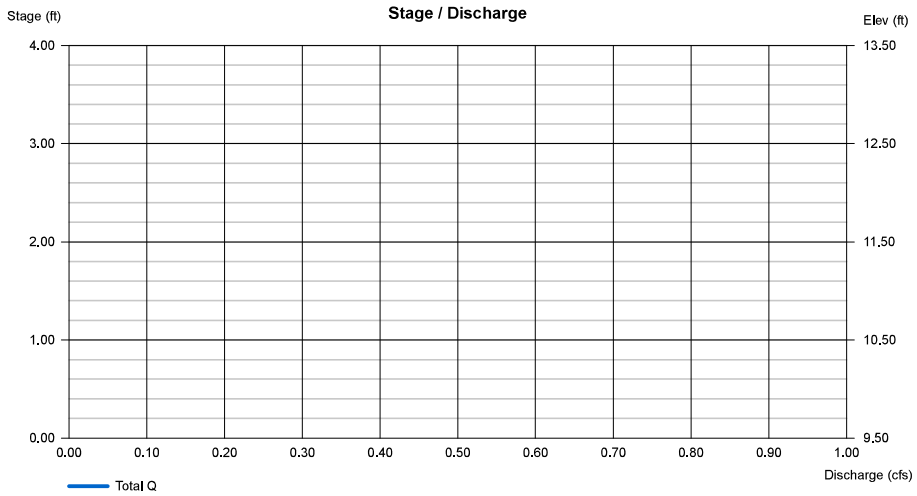
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	0.00	0.00	0.00	0.00
Span (in)	0.00	0.00	0.00	0.00
No. Barrels	0	0	0	0
Invert El. (ft)	0.00	0.00	0.00	0.00
Length (ft)	0.00	0.00	0.00	0.00
Slope (%)	0.00	0.00	0.00	n/a
N-Value	.013	.013	.013	n/a
Orifice Coeff.	0.60	0.60	0.60	0.60
Multi-Stage	n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	0.00	0.00	0.00	0.00
Crest El. (ft)	0.00	0.00	0.00	0.00
Weir Coeff.	3.33	3.33	3.33	3.33
Weir Type	---	---	---	---
Multi-Stage	No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

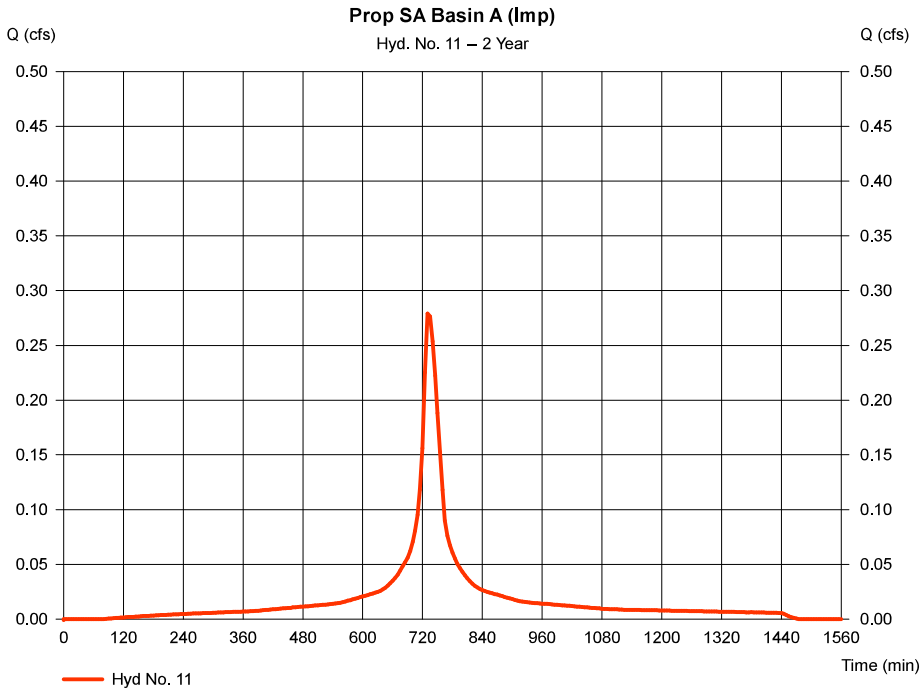


Hydrograph Report

Hyd. No. 11

Prop SA Basin A (Imp)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.279 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 1,724 cuft
Drainage area	= 0.150 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.42 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285

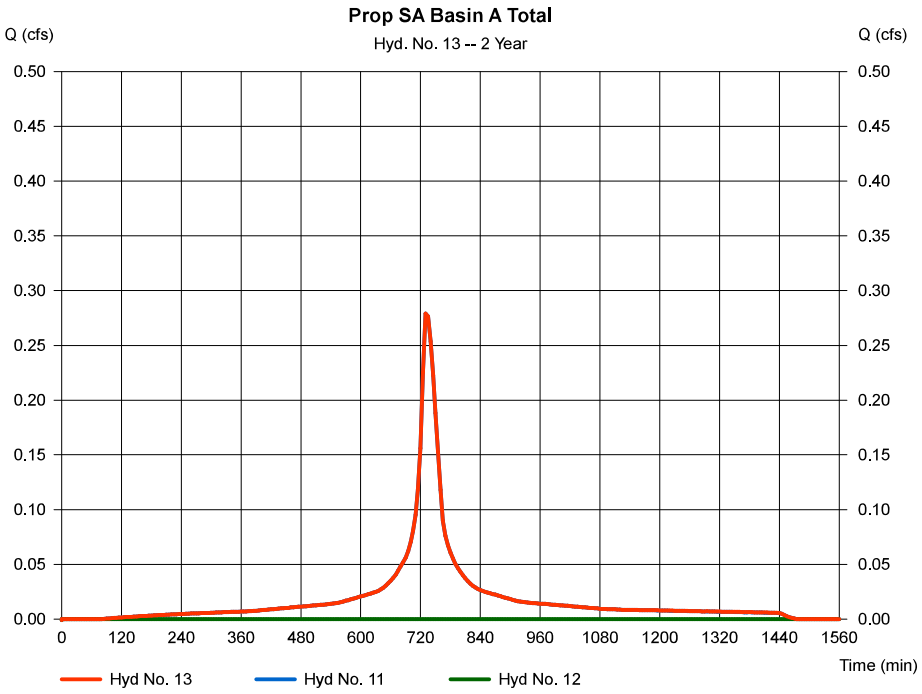


Hydrograph Report

Hyd. No. 13

Prop SA Basin A Total

Hydrograph type	= Combine	Peak discharge	= 0.279 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 1,726 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 0.240 ac

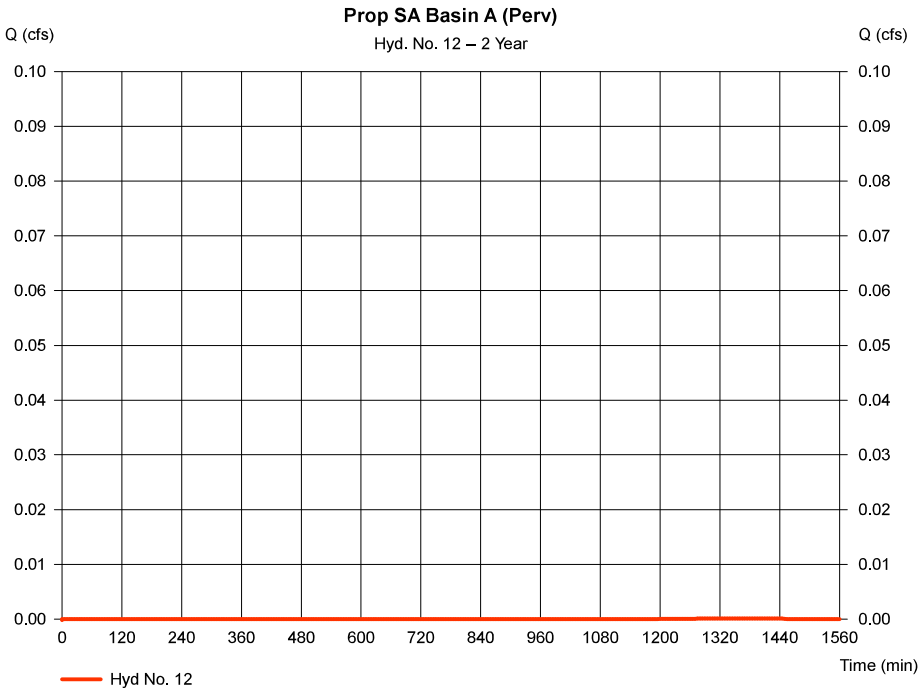


Hydrograph Report

Hyd. No. 12

Prop SA Basin A (Perv)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= 1430 min
Time interval	= 5 min	Hyd. volume	= 2 cuft
Drainage area	= 0.090 ac	Curve number	= 39
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.42 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Thursday, Dec 17, 2020

Pond No. 1 - AG Basin A

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 11.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	11.00	220	0	0
1.00	12.00	560	377	377
2.00	13.00	1,040	788	1,165
2.50	13.50	1,275	578	1,742
3.00	14.00	1,554	706	2,448
3.50	14.50	1,600	788	3,237

Culvert / Orifice Structures

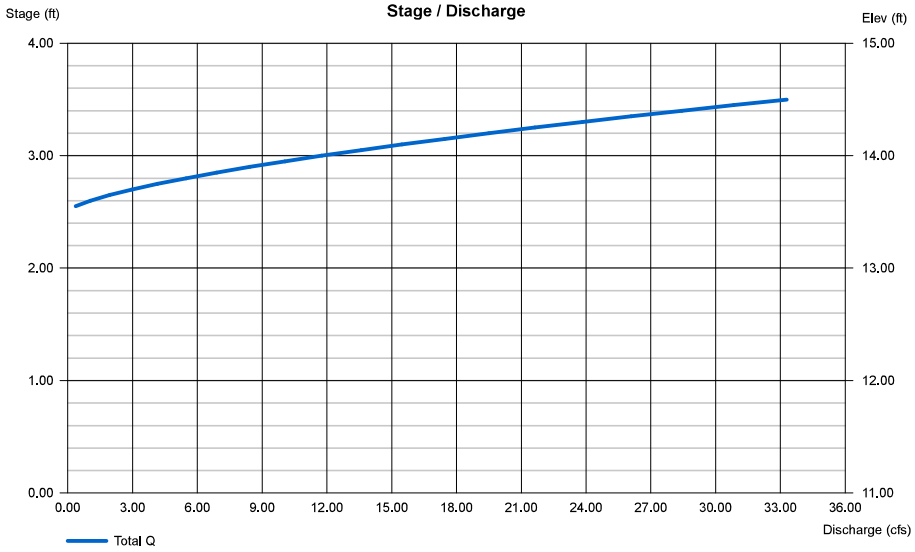
	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 13.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr)	= 0.000 (by Wet area)
TW Elev. (ft)	= 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrograph Report

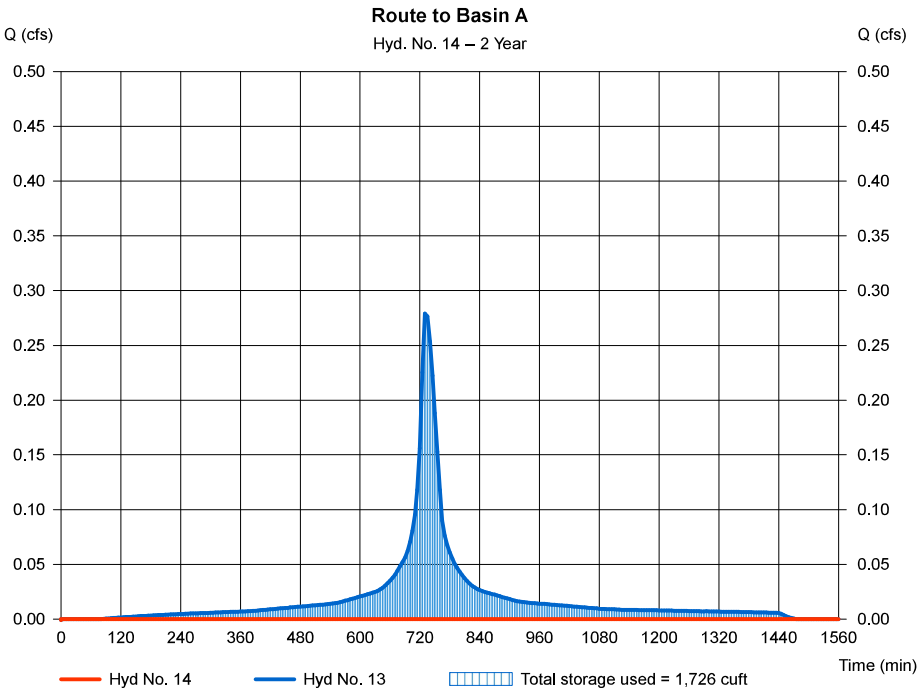
Hydraflow Hydrographs by Intelisolve v9.1 — Thursday, Dec 17, 2020

Hyd. No. 14

Route to Basin A

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 5 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 13 - Prop SA Basin A Total	Max. Elevation	= 13.49 ft
Reservoir name	= AG Basin A	Max. Storage	= 1,726 cuft

Storage Indication method used.

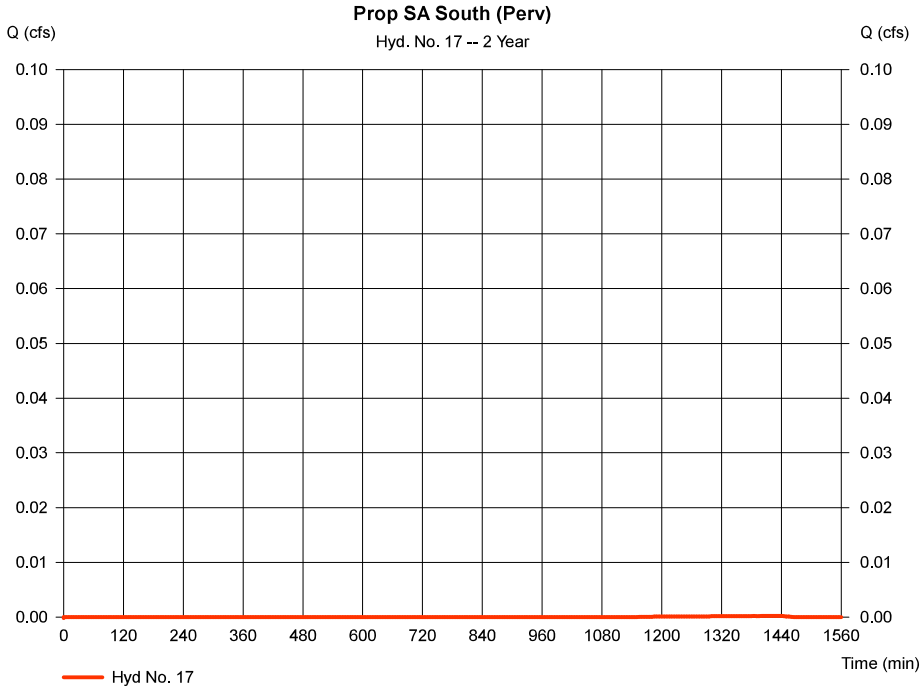


Hydrograph Report

Hyd. No. 17

Prop SA South (Perv)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= 1430 min
Time interval	= 5 min	Hyd. volume	= 3 cuft
Drainage area	= 0.150 ac	Curve number	= 39
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.42 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285

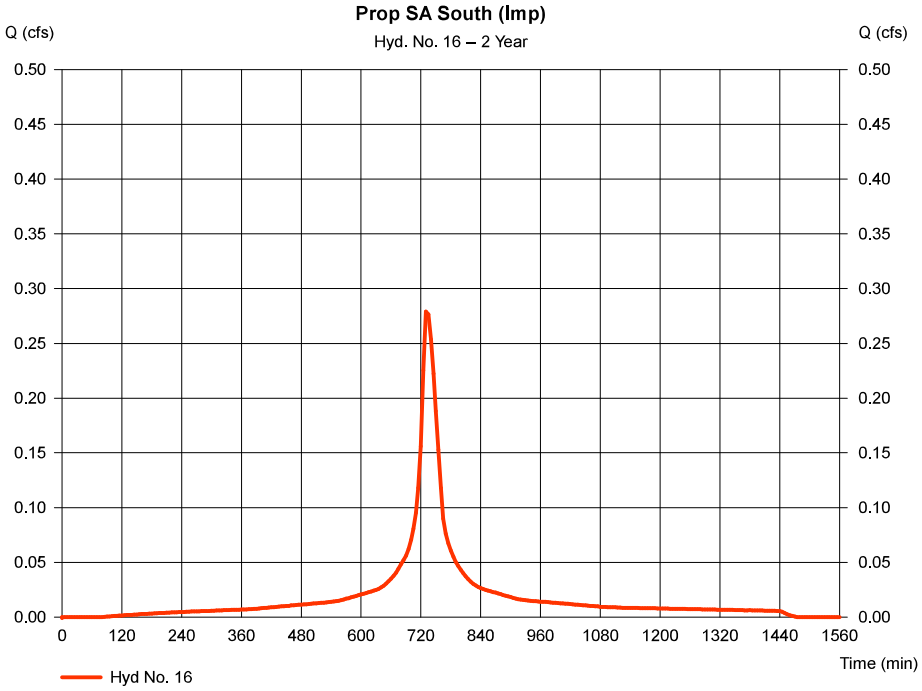


Hydrograph Report

Hyd. No. 16

Prop SA South (Imp)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.279 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 1,724 cuft
Drainage area	= 0.150 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.42 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285

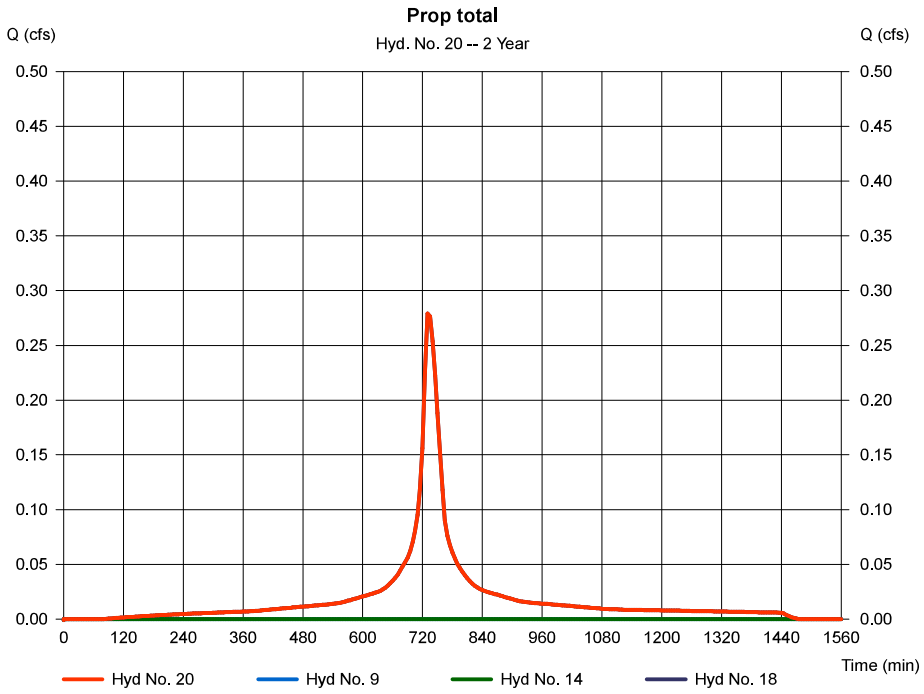


Hydrograph Report

Hyd. No. 20

Prop total

Hydrograph type	= Combine	Peak discharge	= 0.279 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 1,727 cuft
Inflow hyds.	= 9, 14, 18	Contrib. drain. area	= 0.000 ac

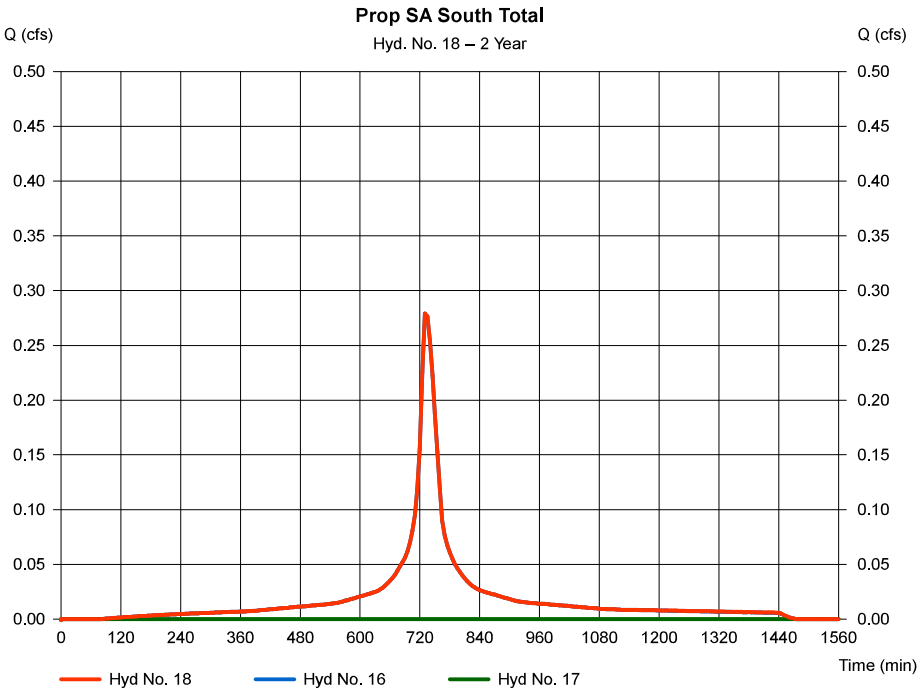


Hydrograph Report

Hyd. No. 18

Prop SA South Total

Hydrograph type	= Combine	Peak discharge	= 0.279 cfs
Storm frequency	= 2 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 1,727 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 0.300 ac

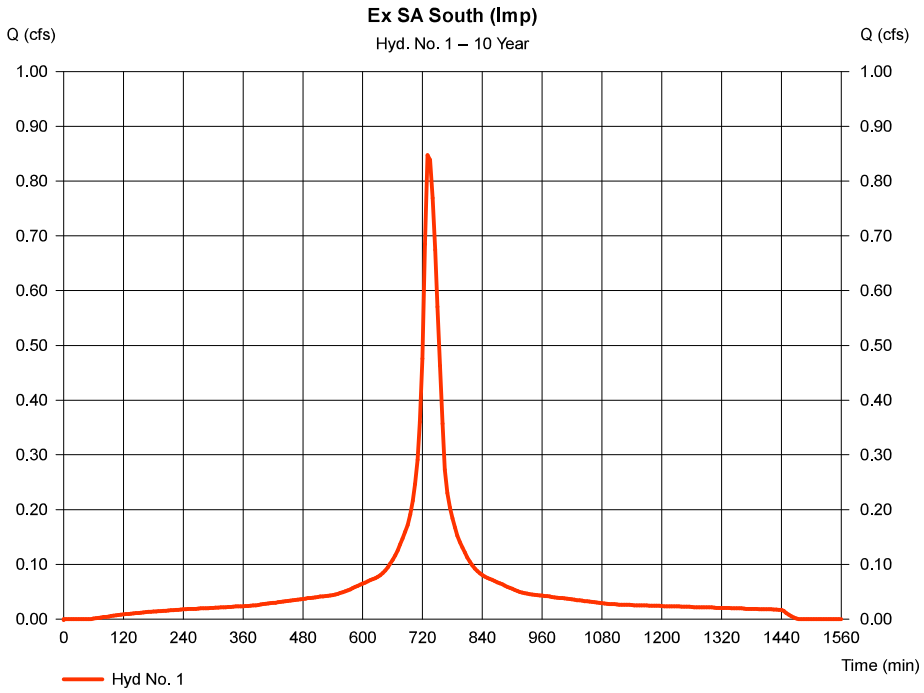


Hydrograph Report

Hyd. No. 1

Ex SA South (Imp)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.848 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 5,327 cuft
Drainage area	= 0.290 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.33 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285



Hydrograph Summary Report

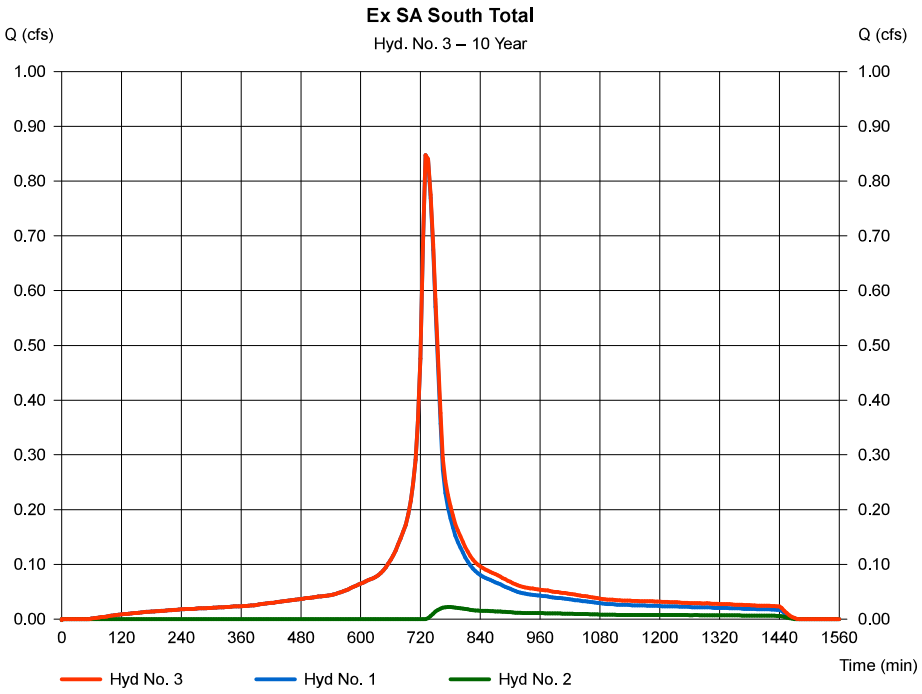
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	0.848	5	730	5,327	---	-----	---	Ex SA South (Imp)
2	SCS Runoff	0.022	5	775	440	---	-----	---	Ex SA South (Perv)
3	Combine	0.848	5	730	5,767	1, 2	-----	---	Ex SA South Total
6	SCS Runoff	0.585	5	730	3,674	---	-----	---	Prop Inc in Imp
8	SCS Runoff	0.555	5	730	3,490	---	-----	---	Prop SA Roof Total
9	Reservoir	0.000	5	n/a	0	8	12.96	3,490	Route to Roof Basin
11	SCS Runoff	0.438	5	730	2,755	---	-----	---	Prop SA Basin A (Imp)
12	SCS Runoff	0.004	5	775	88	---	-----	---	Prop SA Basin A (Perv)
13	Combine	0.438	5	730	2,843	11, 12	-----	---	Prop SA Basin A Total
14	Reservoir	0.159	5	765	1,101	13	13.52	1,773	Route to Basin A
16	SCS Runoff	0.438	5	730	2,755	---	-----	---	Prop SA South (Imp)
17	SCS Runoff	0.007	5	775	147	---	-----	---	Prop SA South (Perv)
18	Combine	0.438	5	730	2,902	16, 17	-----	---	Prop SA South Total
20	Combine	0.438	5	730	4,003	9, 14, 18,	-----	---	Prop total

Hydrograph Report

Hyd. No. 3

Ex SA South Total

Hydrograph type	= Combine	Peak discharge	= 0.848 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 5,767 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 0.740 ac

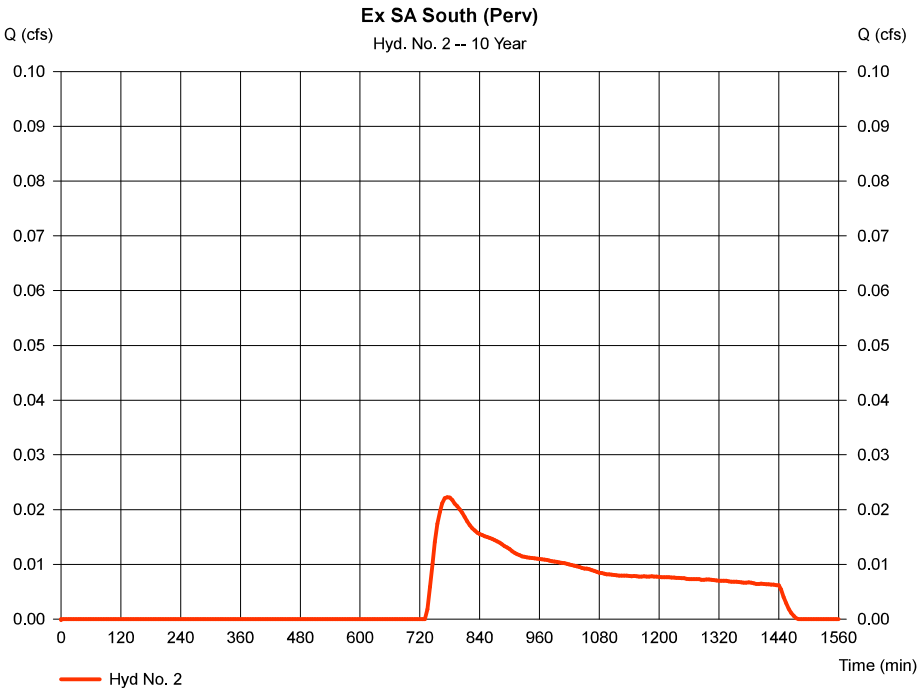


Hydrograph Report

Hyd. No. 2

Ex SA South (Perv)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.022 cfs
Storm frequency	= 10 yrs	Time to peak	= 775 min
Time interval	= 5 min	Hyd. volume	= 440 cuft
Drainage area	= 0.450 ac	Curve number	= 39
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 13.30 min
Total precip.	= 5.33 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285

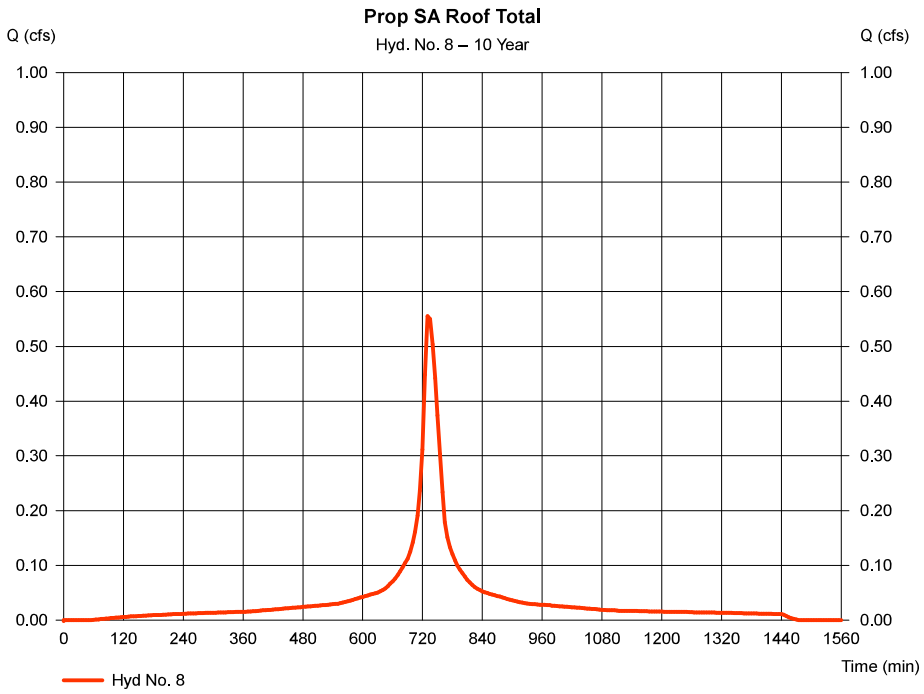


Hydrograph Report

Hyd. No. 8

Prop SA Roof Total

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.555 cfs
Storm frequency	=	10 yrs	Time to peak	=	730 min
Time interval	=	5 min	Hyd. volume	=	3,490 cuft
Drainage area	=	0.190 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.33 in	Distribution	=	Custom
Storm duration	=	NOAA Atlas 14 Type-D.cds	Shape factor	=	285

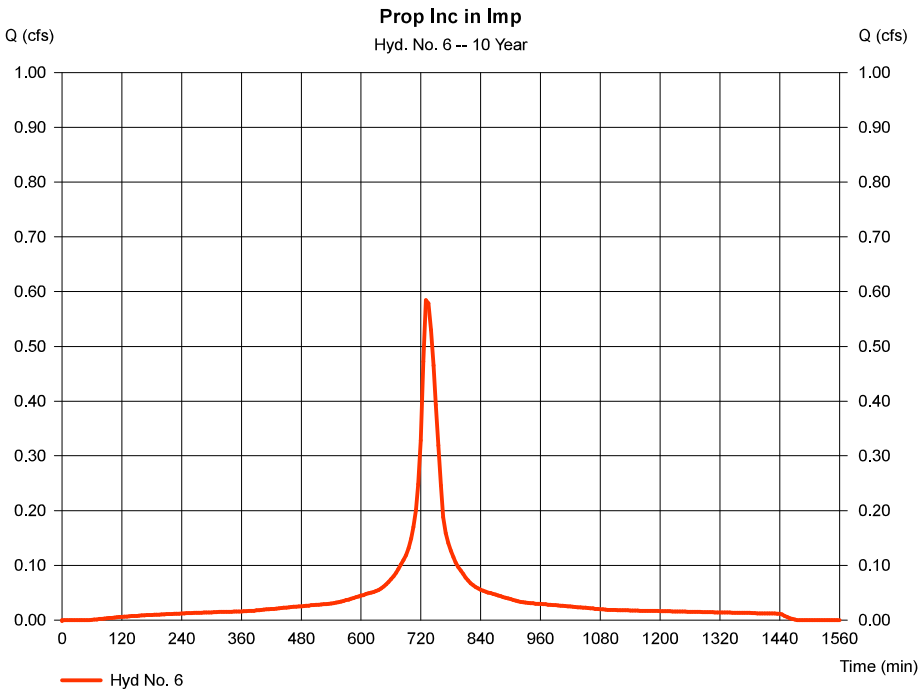


Hydrograph Report

Hyd. No. 6

Prop Inc in Imp

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.585 cfs
Storm frequency	=	10 yrs	Time to peak	=	730 min
Time interval	=	5 min	Hyd. volume	=	3,674 cuft
Drainage area	=	0.200 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.33 in	Distribution	=	Custom
Storm duration	=	NOAA Atlas 14 Type-D.cds	Shape factor	=	285

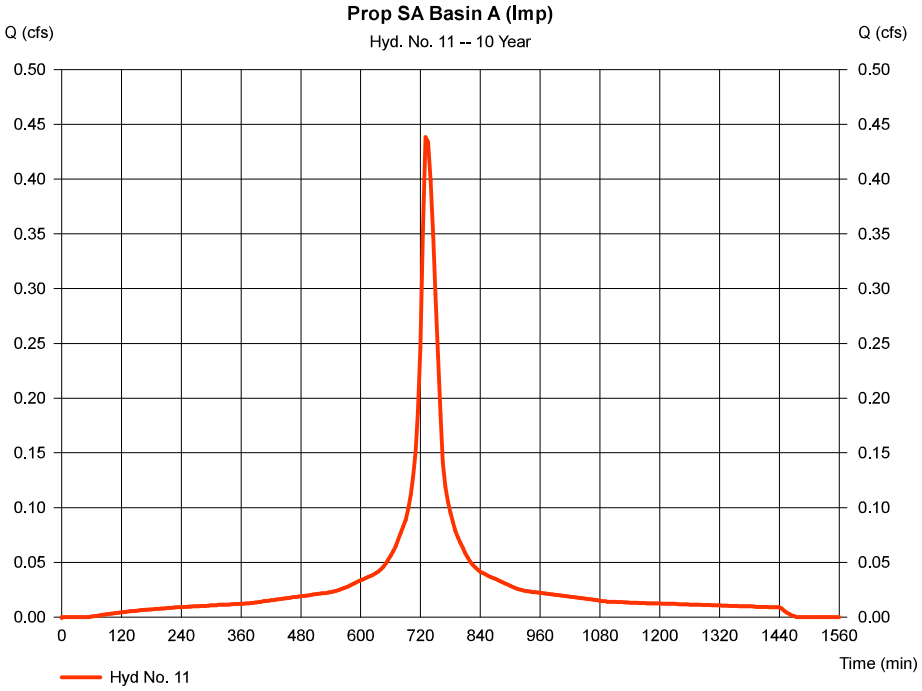


Hydrograph Report

Hyd. No. 11

Prop SA Basin A (Imp)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.438 cfs
Storm frequency	=	10 yrs	Time to peak	=	730 min
Time interval	=	5 min	Hyd. volume	=	2,755 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.33 in	Distribution	=	Custom
Storm duration	=	NOAA Atlas 14 Type-D.cds	Shape factor	=	285



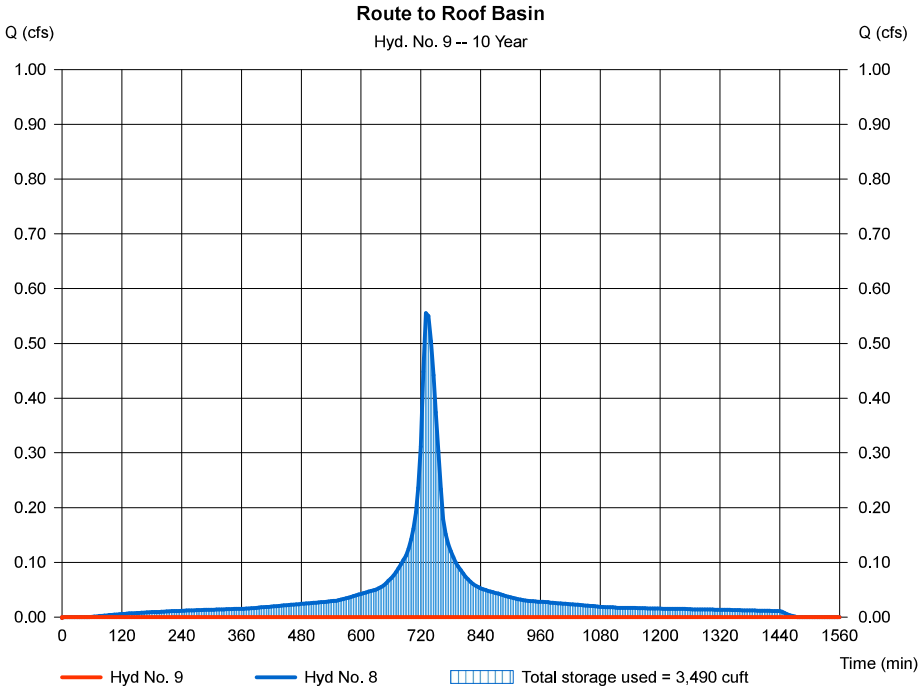
Hydrograph Report

Hyd. No. 9

Route to Roof Basin

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	10 yrs	Time to peak	=	n/a
Time interval	=	5 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	8 - Prop SA Roof Total	Max. Elevation	=	12.96 ft
Reservoir name	=	UG Roof Basin	Max. Storage	=	3,490 cuft

Storage Indication method used.

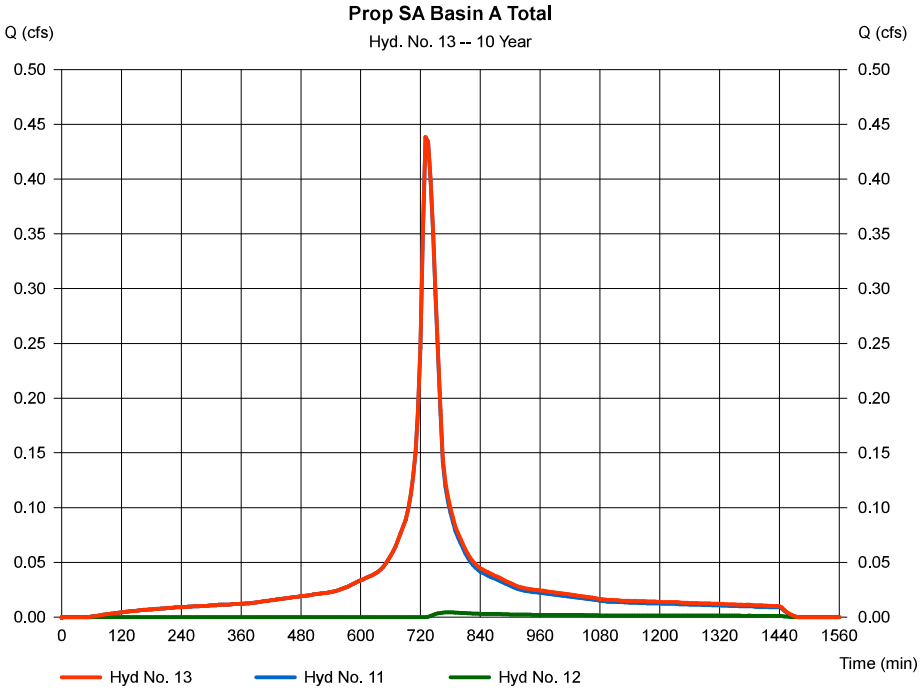


Hydrograph Report

Hyd. No. 13

Prop SA Basin A Total

Hydrograph type	= Combine	Peak discharge	= 0.438 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 2,843 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 0.240 ac

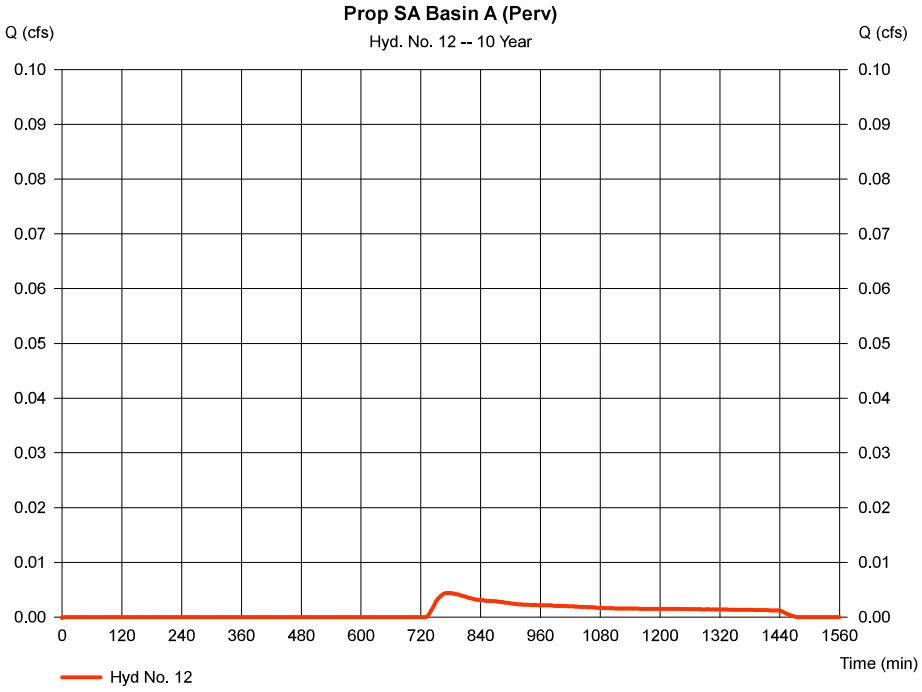


Hydrograph Report

Hyd. No. 12

Prop SA Basin A (Perv)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.004 cfs
Storm frequency	= 10 yrs	Time to peak	= 775 min
Time interval	= 5 min	Hyd. volume	= 88 cuft
Drainage area	= 0.090 ac	Curve number	= 39
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.33 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285



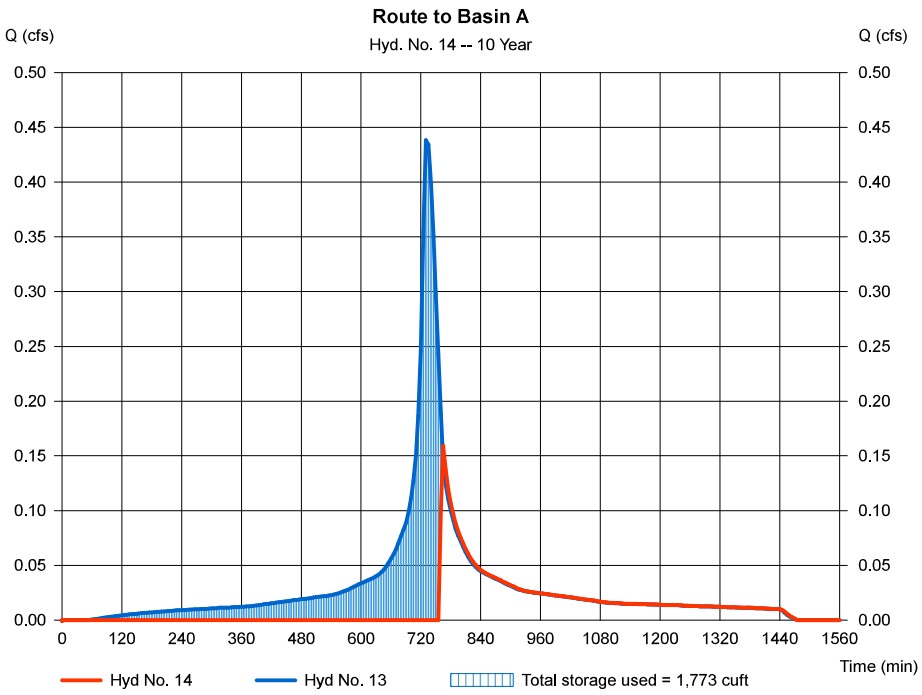
Hydrograph Report

Hyd. No. 14

Route to Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	0.159 cfs
Storm frequency	=	10 yrs	Time to peak	=	765 min
Time interval	=	5 min	Hyd. volume	=	1,101 cuft
Inflow hyd. No.	=	13 - Prop SA Basin A Total	Max. Elevation	=	13.52 ft
Reservoir name	=	AG Basin A	Max. Storage	=	1,773 cuft

Storage Indication method used.

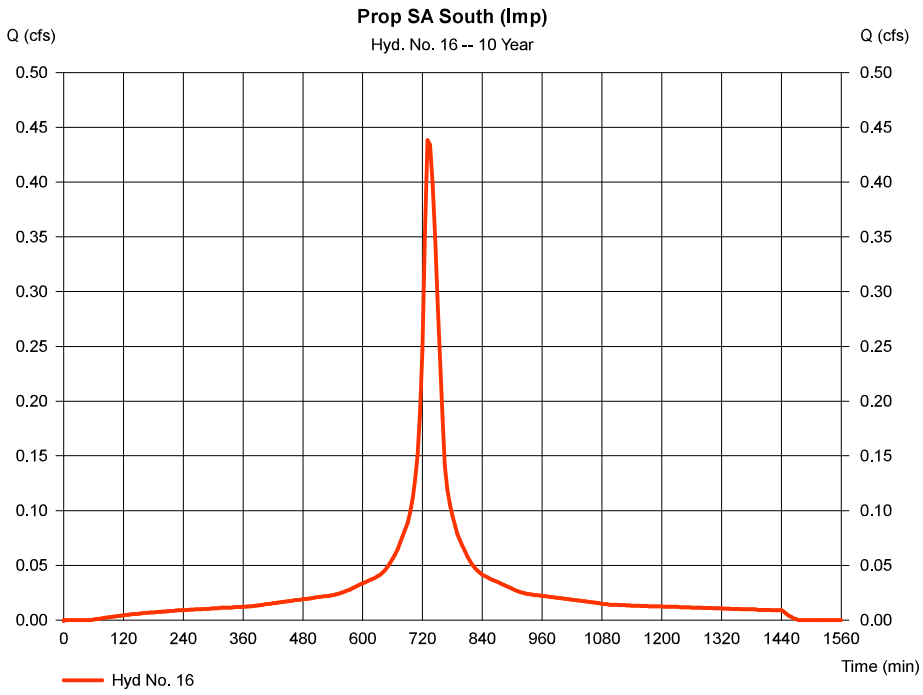


Hydrograph Report

Hyd. No. 16

Prop SA South (Imp)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.438 cfs
Storm frequency	=	10 yrs	Time to peak	=	730 min
Time interval	=	5 min	Hyd. volume	=	2,755 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.33 in	Distribution	=	Custom
Storm duration	=	NOAA Atlas 14 Type-D.cds	Shape factor	=	285

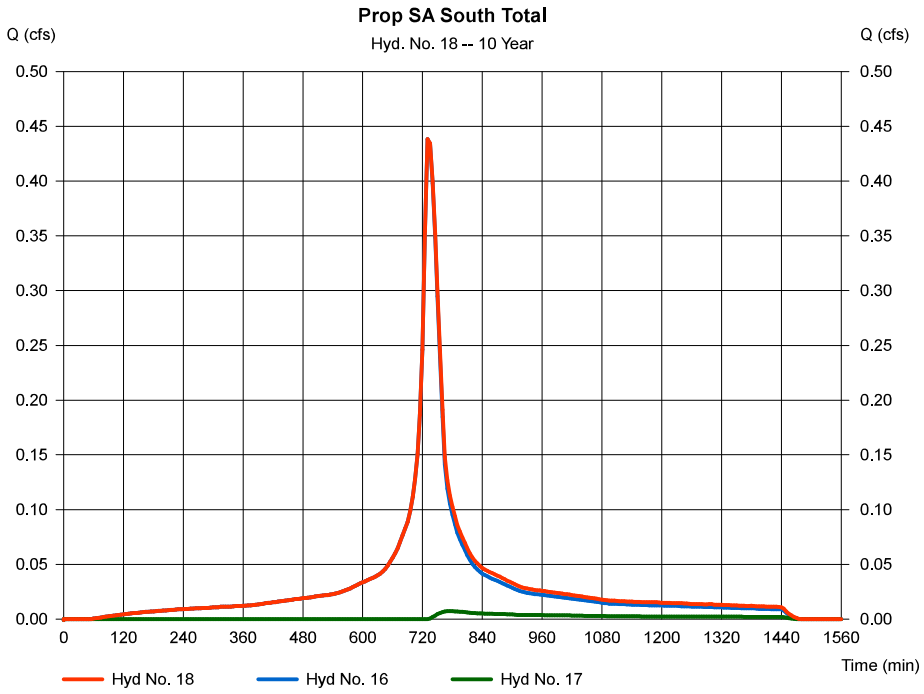


Hydrograph Report

Hyd. No. 18

Prop SA South Total

Hydrograph type	= Combine	Peak discharge	= 0.438 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 2,902 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 0.300 ac

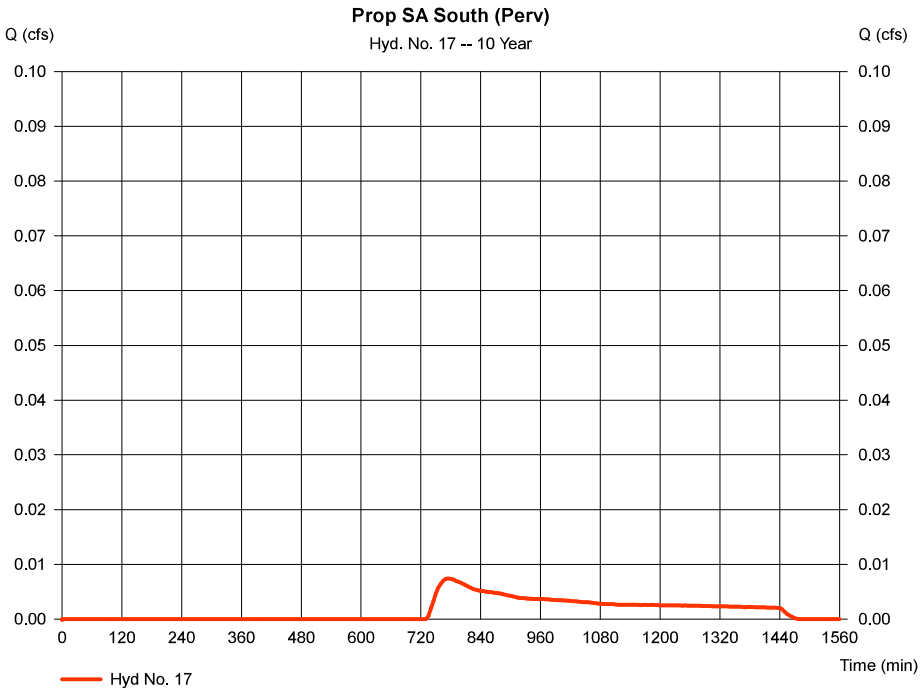


Hydrograph Report

Hyd. No. 17

Prop SA South (Perv)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.007 cfs
Storm frequency	= 10 yrs	Time to peak	= 775 min
Time interval	= 5 min	Hyd. volume	= 147 cuft
Drainage area	= 0.150 ac	Curve number	= 39
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.33 in	Distribution	= Custom
Storm duration	= NOAA Atlas 14 Type-D.cds	Shape factor	= 285

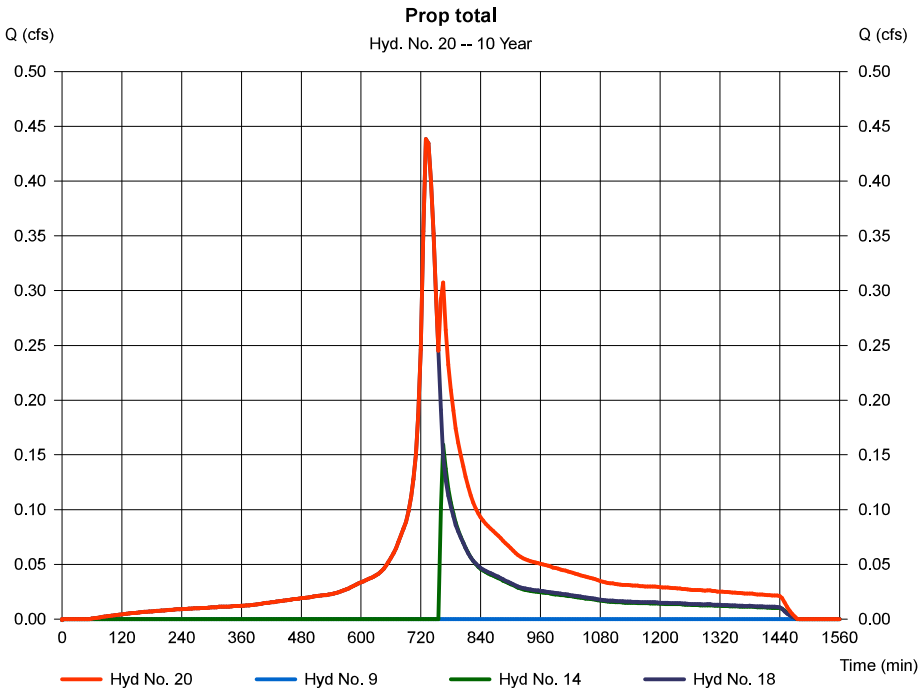


Hydrograph Report

Hyd. No. 20

Prop total

Hydrograph type	= Combine	Peak discharge	= 0.438 cfs
Storm frequency	= 10 yrs	Time to peak	= 730 min
Time interval	= 5 min	Hyd. volume	= 4,003 cuft
Inflow hyds.	= 9, 14, 18	Contrib. drain. area	= 0.000 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	39.0824	9.5000	0.8528	----
2	45.6943	10.7000	0.8185	----
3	0.0000	0.0000	0.0000	----
5	99.7061	14.8000	0.9304	----
10	249.7597	21.8001	1.0961	----
25	115.7547	14.9000	0.8980	----
50	7.3699	0.1000	0.2544	----
100	403.8513	25.1001	1.1108	----

File name: TRENTON.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.00	3.10	2.55	2.18	1.91	1.70	1.54	1.40	1.29	1.20	1.12	1.05
2	4.80	3.83	3.21	2.77	2.45	2.20	2.00	1.84	1.70	1.59	1.49	1.40
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.20	5.03	4.24	3.67	3.24	2.90	2.63	2.40	2.22	2.06	1.92	1.80
10	6.80	5.63	4.80	4.17	3.69	3.30	2.98	2.72	2.50	2.31	2.14	2.00
25	7.89	6.45	5.47	4.76	4.23	3.80	3.46	3.17	2.93	2.73	2.55	2.40
50	4.87	4.09	3.69	3.44	3.25	3.10	2.98	2.88	2.80	2.72	2.66	2.60
100	9.20	7.76	6.69	5.87	5.22	4.70	4.27	3.91	3.60	3.33	3.10	2.90

Tc = time in minutes. Values may exceed 60.

Precip. file name: Ocean County.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	3.42	0.00	0.00	5.33	6.68	0.00	9.20
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	1.25	3.42	0.00	0.00	5.33	6.68	0.00	9.20

WEB SOIL
SURVEY MAP

Map Scale: 1:544 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Ocean County, New Jersey
Survey Area Data: Version 18, Jun 1, 2020

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

Date(s) aerial images were photographed: Jun 26, 2019—Jun 29, 2019

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EveB	Evesboro sand, 0 to 5 percent slopes	A	0.9	100.0%
Totals for Area of Interest			**0.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

PIPE SIZING CALCULATIONS

DYNAMIC ENGINEERING

Inlet Area Summary and Average Coefficient (C) Calculations

Project: NorthStar Capital
Job #: 3639-99-001
Location: Borough of Point Pleasant

Computed By: JM
Checked By: KK
Date: 12/8/2020

Drainage Area	Impervious Area (sf)	Coefficient (C) Used	Open Space/Woods Area for Soil Group B (SF)	Coefficient (C) Used	Average Coefficient (C) Used	Total Area (SF)	Total Area (acres)
ROOF	4105	0.95	0		0.95	4105	0.094
ROOF 2	4105	0.95	0		0.95	4105	0.094
Total	8210	0.95	0		0.95	8210	0.188

DYNAMIC ENGINEERING

Stormwater Collection System Calculations

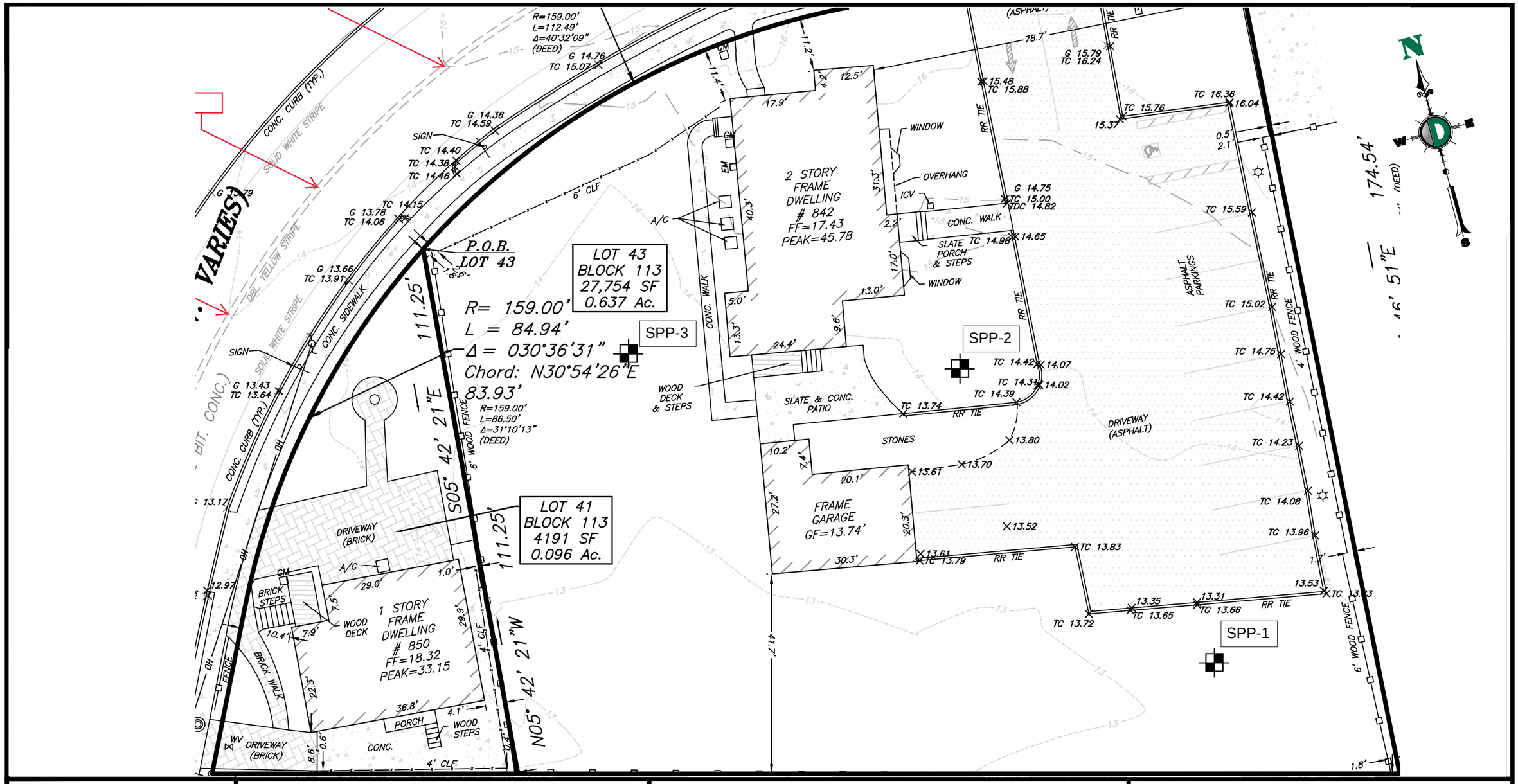
Project: NorthStar Capital
Job #: 3639-99-001
Location: Borough of Point Pleasant
Design Storm: 25 YR

Computed By: JM
Checked By: KK
Date: 12/8/2020

NOTES:
1) Design method used is Rational Method
2) Refer to Weighted Runoff Coefficient table for calculation of incremental areas and C values

PIPE SECTION		SUBCATCHMENT AREA	INCREMENTAL		CUMULATIVE	TIME OF CONCENTRATION			I	PEAK RUNOFF		PIPING INPUT			PIPING DATA		
FROM	TO	Area (Acres)	"C"	A x C Ac	A x C (acres)	Tc to Inlet (min)	Tc in Pipe (min.)	Final Tc (min)	(In/Hr)	Q to Inlet (CFS)	Q cum. for Pipe (CFS)	Dia. (In)	Length (Ft)	Man. "n"	Slope (ft/ft)	Pipe Capacity (cfs)	Pipe Velocity (fps)
ROOF	UG BASIN	0.10	0.95	0.10	0.10	10.00	0.89	10.00	6.80	0.68	0.68	8	169.0	0.010	0.0050	1.11	3.18
ROOF 2	UG BASIN	0.10	0.95	0.10	0.10	10.00	1.11	10.00	6.80	0.68	0.68	8	211.0	0.010	0.0050	1.11	3.18

SOIL TESTING LOGS



SCALE: N.T.S.	JOB No: 3639-99-001E
SHEET No: 1 OF 1	DRAWN BY: DR DESIGNED BY: - CHECKED BY: FVC DATE: 11/18/20

TITLE:

TEST LOCATION PLAN

PROJECT: **NORTHSTAR CAPITAL, LLC**

PROPOSED MULTI-FAMILY DEVELOPMENT

842 & 850 ARNOLD AVENUE
BLOCK 113, LOTS 41 & 43
BOROUGH OF POINT PLEASANT, OCEAN COUNTY NEW JERSEY

Rev. # 0 | DEC Client Code: 3639

LEGEND:

SPP-X
APPROXIMATE LOCATION OF SOIL PROFILE PIT

NOTES:
1. THIS PLAN IS NOT FOR CONSTURCTION AND WAS PREPARED TO ILLUSTRATE TEST LOCATIONS ONLY AND MAY NOT REFLECT THE MOST CURRENT REVISION OF THE BASE PLAN.
2. THIS PLAN HAS BEEN PREPARED BASED ON A JULY 24, 2020 BOUNDARY & TOPORGRAPHIC SURVEY PREPARED BY INSITE SURVEYING

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Records of Subsurface Exploration

DYNAMIC EARTH

SOIL PROFILE PIT LOG

Soil Profile Pit: SPP- 1

Project: Proposed Multi-Family Development | **Project No.:** 3639-99-001E

Location: 842 & 850 Arnold Avenue, Borough of Point Pleasant, Ocean County, New Jersey | **Client:** NorthStar Capital, LLC

Surface Elevation (ft):	13.4	**Date Started:**	11/17/20	**Groundwater Data**	**Depth (ft)**	**El (msl)**
Termination Depth (ft):	9.3	**Date Completed:**	11/17/20	**Seepage**	NE	--
Proposed Location:	SWM	**Logged by:**	D. Richardson	**Groundwater**	NE	--
Excavation / Test Method:	Visual Observation	**Contractor:**	Pennyweight LLC	**Seasonal High Groundwater**	NE	--
		Rig Type:	CASE 580L			

Groundwater Comments:

DEPTH (IN)	COLOR	SOIL TEXTURE	COARSE FRAGMENTS (%)	STRUCTURE			WATER CONTENT	CONSISTENCY			BOUNDARY		ROOTS	MOTTLING			SAMPLING			LAB RESULTS
				Shape	Grade	Size		Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography		Quantity	Size	Contrast	Type	Depth (in)	No.	
0 - 14	TOPSOIL Brown (7.5YR 4/2)	LOAM	GRAVEL 0 / COBBLES 0 / STONES 0 / BOULDERS 0	GRANNULAR/ SPHERIODAL	WEAK	MEDIUM	MOIST	VERY FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	SMOOTH	CMN (20% MAX) COARSE	NONE			BAG	3	S-1	
14 - 37	Dark Yellowish Brown (10YR 4/6)	SAND	GRAVEL <5 / COBBLES 0 / STONES 0 / BOULDERS 0	SINGLE GRAIN	STRUCTURELESS		MOIST	LOOSE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	WAVY	FEW (5% MAX) MEDIUM	NONE			BAG	20	S-2	
37 - 111	Yellowish Brown (10YR 5/6)	SAND	GRAVEL <5 / COBBLES 0 / STONES 0 / BOULDERS 0	SINGLE GRAIN	STRUCTURELESS		MOIST	LOOSE	NONSTICKY	NONPLASTIC			NONE	NONE			BAG TUBE	80	S-3 T-1	A > 20 iph B > 20 iph

Additional Remarks: SPP-1 was terminated approximately at 9.3 feet below ground surface due to continous dry cave-in.

DYNAMIC EARTH

SOIL PROFILE PIT LOG

Soil Profile Pit: SPP- 2

Project:	Proposed Multi-Family Development	**Project No.:**	3639-99-001E
Location:	842 & 850 Arnold Avenue, Borough of Point Pleasant, Ocean County, New Jersey	**Client:**	NorthStar Capital, LLC
Surface Elevation (ft):	14.4	**Date Started:**	11/17/20
Termination Depth (ft):	8.3	**Date Completed:**	11/17/20
Proposed Location:	SWM	**Logged by:**	D. Richardson
Excavation / Test Method:	Visual Observation	**Contractor:**	Pennyweight LLC
		Rig Type:	CASE 580L

Groundwater Data	Depth (ft)	EL (msl)	Groundwater Comments
Seepage	NE	--	
Groundwater	NE	--	
Seasonal High Groundwater	NE	--	

DEPTH (IN)	COLOR	SOIL TEXTURE	COARSE FRAGMENTS (%)	STRUCTURE			WATER CONTENT	CONSISTENCY			BOUNDARY		ROOTS	MOTTLING			SAMPLING			LAB RESULTS
				Shape	Grade	Size		Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography		Quantity	Size	Contrast	Type	Depth (in)	No.	
0 - 6	TOPSOIL Brown (7.5YR 4/2)	LOAM	GRAVEL 0 COBBLES 0 STONES 0 BOULDERS 0	GRANNULAR/ SPHERIODAL	WEAK	MEDIUM	MOIST	VERY FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	SMOOTH	CMN (20% MAX) VERY FINE	NONE			BAG	3	S-1	
6 - 50	Dark Yellowish Brown (10YR 4/6)	LOAMY SAND	GRAVEL <5 COBBLES 0 STONES 0 BOULDERS 0	SINGLE GRAIN	STRUCTURELESS		MOIST	LOOSE	NONSTICKY	SLIGHTLY PLASTIC	CLEAR <2.5"	WAVY	NONE	NONE			BAG TUBE	24 40	S-2 T-1	
50 - 100	Yellowish Brown (10YR 5/6)	SAND	GRAVEL <5 COBBLES 0 STONES 0 BOULDERS 0	SINGLE GRAIN	STRUCTURELESS		MOIST	LOOSE	NONSTICKY	NONPLASTIC			NONE	NONE			BAG TUBE	100	S-3 T-2	A > 20 lph B > 20 lph

Additional Remarks: SPP-2 was terminated approximately at 8.3 feet below ground surface due to continous dry cave-in.

DYNAMIC EARTH

SOIL PROFILE PIT LOG

Soil Profile Pit: SPP- 3

Project:	Proposed Multi-Family Development	**Project No.:**	3639-99-001E
Location:	842 & 850 Arnold Avenue, Borough of Point Pleasant, Ocean County, New Jersey	**Client:**	NorthStar Capital, LLC
Surface Elevation (ft):	13.4	**Date Started:**	11/17/20
Termination Depth (ft):	8.0	**Date Completed:**	11/17/20
Proposed Location:	SWM	**Logged by:**	D. Richardson
Excavation / Test Method:	Visual Observation	**Contractor:**	Pennyweight LLC
		Rig Type:	CASE 580L

Groundwater Data	Depth (ft)	El. (msl)	Groundwater Comments
Seepage	NE	--	
Groundwater	NE	--	
Seasonal High Groundwater	NE	--	

DEPTH (IN)	COLOR	SOIL TEXTURE	COARSE FRAGMENTS (%)	STRUCTURE			WATER CONTENT	CONSISTENCY			BOUNDARY		ROOTS	MOTTLING			SAMPLING			LAB RESULTS
				Shape	Grade	Size		Resistance to Rupture	Stickiness	Plasticity	Distinctness	Topography		Quantity	Size	Contrast	Type	Depth (in)	No.	
0 - 12	TOPSOIL Brown (7.5YR 4/2)	LOAM	GRAVEL 0, COBBLES 0, STONES 0, BOULDERS 0	GRANNULAR/ SPHERIODAL	WEAK	MEDIUM	MOIST	VERY FRIABLE	NONSTICKY	NONPLASTIC	CLEAR <2.5"	SMOOTH	CMN (20% MAX) VERY FINE	NONE			BAG	3	S-1	
12 - 51	Dark Yellowish Brown (10YR 4/6)	LOAMY SAND	GRAVEL <5, COBBLES 0, STONES 0, BOULDERS 0	SINGLE GRAIN	STRUCTURELESS		MOIST	LOOSE	NONSTICKY	SLIGHTLY PLASTIC	CLEAR <2.5"	WAVY	NONE	NONE			BAG TUBE	38	S-2 T-1	
51 - 96	Yellowish Brown (10YR 5/6)	SAND	GRAVEL <5, COBBLES 0, STONES 0, BOULDERS 0	SINGLE GRAIN	STRUCTURELESS		MOIST	LOOSE	NONSTICKY	NONPLASTIC			NONE	NONE			BAG TUBE	90	S-3 T-2	A > 20 iph B > 20 iph

Additional Remarks: Debris encountered approximetley between 0.3 feet and 1.0 feet below the ground surface. Debris included brick. SPP-3 was terminated approximately at 8.0 feet below ground surface due to continous dry cave-in.

Laboratory Test Results

Tube Permeameter Test Data

Job Number: 3639-99-001E
Project: Proposed Residual Building
Client: NorthStar Capital
Lab Tech: Sam

Sample ID: **Boring/Test Pit No.:** 1 **Sample No.:** 1 **Depth:** 6.7 ft

MUNICIPALITY Point Pleasant BLOCK 113 LOT 41&43

1. Test Number 1 Replicate (letter) A Date Collected 11/18/2020

2. Material Tested: ____ Fill X Test in Native Soil-Indicate Depth

3. Type of Sample: x Undisturbed ____ Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.905
Length of Sample, L, in inches 3.50

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams --

Wt. of Tube Containing Sample ____
Wt. of Empty Tube ____

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 101.3028

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. -- > 1.2

9. Standpipe Used: x No ____ Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 5.50
At the End of Each Test Interval, H2 4.50

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
0:00:00	0:00:29	0.49
0:00:00	0:00:25	0.42
0:00:00	0:00:25	0.42

12. Calculation of Permeability: K, (in/hr) = 60 min/hr x r2/R2 x L(in)/T(min) x ln (H1/H2) T= 0.42

K = > 20 **Classification:** **K5**

13. Defects in the Sample (Check appropriate items):

x NONE

____ Soil/Tube Contact ____Large Gravel ____ Large Roots

____ Dry Soil ____Smearing ____ Compaction

____ Other - Specify ____

Tube Permeameter Test Data

Job Number: 3639-99-001E
Project: Proposed Residual Building
Client: NorthStar Capital
Lab Tech: Sam

Sample ID Boring/Test Pit No.: 1 **Sample No.:** 1 **Depth:** 6.7 ft

MUNICIPALITY Point Pleasant BLOCK 113 LOT 41&43

1. Test Number 2 Replicate (letter) B Date Collected 11/18/2020

2. Material Tested: _____ Fill X Test in Native Soil-Indicate Depth

3. Type of Sample: x Undisturbed _____ Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.905
Length of Sample, L, in inches 3.75

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams --

Wt. of Tube Containing Sample _____
Wt. of Empty Tube _____

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 108.5387

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. -- > 1.2

9. Standpipe Used: x No _____ Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 5.75
At the End of Each Test Interval, H2 4.75

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
0:00:00	0:00:22	0.37
0:00:00	0:00:21	0.36
0:00:00	0:00:27	0.45

12. Calculation of Permeability: K, (in/hr) = 60 min/hr x r2/R2 x L(in)/T(min) x ln (H1/H2) T= 0.45

K = > 20 **Classification:** **K5**

13. Defects in the Sample (Check appropriate items):

x NONE

_____ Soil/Tube Contact _____Large Gravel _____ Large Roots

_____ Dry Soil _____Smearing _____ Compaction

_____ Other - Specify _____

Tube Permeameter Test Data

Job Number: 3639-99-001E
Project: Proposed Residual Building
Client: NorthStar Capital
Lab Tech: Sam

Sample ID Boring/Test Pit No.: 2 **Sample No.:** 2 **Depth:** 8.3 ft

MUNICIPALITY Point Pleasant BLOCK 113 LOT 41&43

1. Test Number 2 Replicate (letter) A Date Collected 11/18/2020

2. Material Tested: _____ Fill X Test in Native Soil-Indicate Depth

3. Type of Sample: x Undisturbed _____ Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.905
Length of Sample, L, in inches 3.50

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams --

Wt. of Tube Containing Sample _____
Wt. of Empty Tube _____

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 101.3028

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. -- > 1.2

9. Standpipe Used: x No _____ Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 5.50
At the End of Each Test Interval, H2 4.50

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
0:00:00	00:34.9	0.58
0:00:00	00:38.0	0.63
0:00:00	0:00:31	0.52

12. Calculation of Permeability: K, (in/hr) = 60 min/hr x r2/R2 x L(in)/T(min) x ln (H1/H2) T= 0.52

K = > 20 **Classification:** **K5**

13. Defects in the Sample (Check appropriate items):

x NONE

_____ Soil/Tube Contact _____Large Gravel _____ Large Roots

_____ Dry Soil _____Smearing _____ Compaction

_____ Other - Specify _____

Tube Permeameter Test Data

Job Number: 3639-99-001E
Project: Proposed Residual Building
Client: NorthStar Capital
Lab Tech: Sam

Sample ID Boring/Test Pit No.: 2 **Sample No.:** 2 **Depth:** 8.3 ft

MUNICIPALITY Point Pleasant BLOCK 113 LOT 41&43

1. Test Number 2 Replicate (letter) B Date Collected 11/18/2020

2. Material Tested: _____ Fill X Test in Native Soil-Indicate Depth

3. Type of Sample: x Undisturbed _____ Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.905
Length of Sample, L, in inches 3.50

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams --

Wt. of Tube Containing Sample _____
Wt. of Empty Tube _____

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 101.3028

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. -- > 1.2

9. Standpipe Used: x No _____ Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 5.50
At the End of Each Test Interval, H2 4.50

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
0:00:00	00:42.0	0.70
0:00:00	00:43.0	0.72
0:00:00	0:00:40	0.67

12. Calculation of Permeability: K, (in/hr) = 60 min/hr x r2/R2 x L(in)/T(min) x ln (H1/H2) T= 0.67

K = > 20 **Classification:** **K5**

13. Defects in the Sample (Check appropriate items):

x NONE

_____ Soil/Tube Contact _____Large Gravel _____ Large Roots

_____ Dry Soil _____Smearing _____ Compaction

_____ Other - Specify _____

Tube Permeameter Test Data

Job Number: 3639-99-001E
Project: Proposed Residual Building
Client: NorthStar Capital
Lab Tech: Sam

Sample ID Boring/Test Pit No.: 3 **Sample No.:** 2 **Depth:** 7.5 ft

MUNICIPALITY Point Pleasant BLOCK 113 LOT 41&43

1. Test Number 1 Replicate (letter) A Date Collected 11/18/2020

2. Material Tested: _____ Fill X Test in Native Soil-Indicate Depth

3. Type of Sample: x Undisturbed _____ Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.905
Length of Sample, L, in inches 3.50

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams --

Wt. of Tube Containing Sample _____
Wt. of Empty Tube _____

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 101.3028

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. -- > 1.2

9. Standpipe Used: x No _____ Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 5.50
At the End of Each Test Interval, H2 4.50

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
0:00:00	00:44.5	0.74
0:00:00	00:47.2	0.79
0:00:00	0:00:52	0.87

12. Calculation of Permeability: K, (in/hr) = 60 min/hr x r2/R2 x L(in)/T(min) x ln (H1/H2) T= 0.87

K = > 20 **Classification:** **K5**

13. Defects in the Sample (Check appropriate items):

x NONE

_____ Soil/Tube Contact _____Large Gravel _____ Large Roots

_____ Dry Soil _____Smearing _____ Compaction

_____ Other - Specify _____

Tube Permeameter Test Data

Job Number: 3639-99-001E
Project: Proposed Residual Building
Client: NorthStar Capital
Lab Tech: Sam

Sample ID Boring/Test Pit No.: 3 **Sample No.:** 2 **Depth:** 7.5 ft

MUNICIPALITY Point Pleasant BLOCK 113 LOT 41&43

1. Test Number 2 Replicate (letter) B Date Collected 11/18/2020

2. Material Tested: _____ Fill X Test in Native Soil-Indicate Depth

3. Type of Sample: x Undisturbed _____ Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.905
Length of Sample, L, in inches 4.00

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams --

Wt. of Tube Containing Sample _____
Wt. of Empty Tube _____

7. Sample Volume (L x 2.54 cm./inch x 3.14R2), cc. 115.7746

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. -- > 1.2

9. Standpipe Used: x No _____ Yes, Indicate Internal Radius, cm. N/A

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 6.00
At the End of Each Test Interval, H2 5.00

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
0:00:00	00:37.1	0.62
0:00:00	00:35.9	0.60
0:00:00	0:00:40	0.66

12. Calculation of Permeability: K, (in/hr) = 60 min/hr x r2/R2 x L(in)/T(min) x ln (H1/H2) T= 0.66

K = > 20 **Classification:** **K5**

13. Defects in the Sample (Check appropriate items):

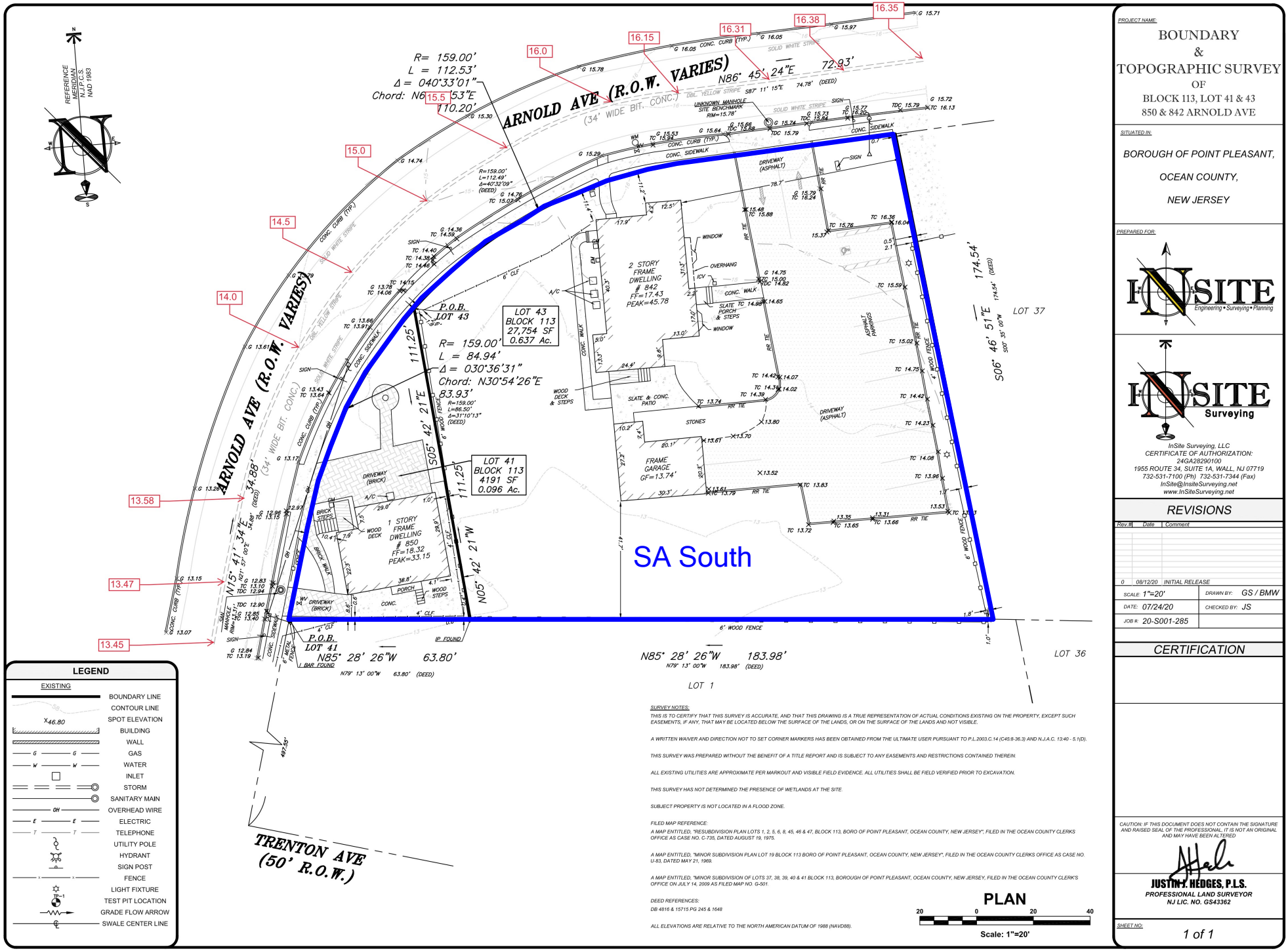
x NONE

_____ Soil/Tube Contact _____Large Gravel _____ Large Roots

_____ Dry Soil _____Smearing _____ Compaction

_____ Other - Specify _____

DRAINAGE AREA MAPS



LEGEND

EXISTING

- BOUNDARY LINE
- CONTOUR LINE
- SPOT ELEVATION (x46.80)
- BUILDING
- WALL
- GAS
- WATER
- INLET
- STORM
- SANITARY MAIN
- OVERHEAD WIRE
- ELECTRIC
- TELEPHONE
- UTILITY POLE
- HYDRANT
- SIGN POST
- FENCE
- LIGHT FIXTURE
- TEST PIT LOCATION
- GRADE FLOW ARROW
- SWALE CENTER LINE

SURVEY NOTES:

THIS IS TO CERTIFY THAT THIS SURVEY IS ACCURATE, AND THAT THIS DRAWING IS A TRUE REPRESENTATION OF ACTUAL CONDITIONS EXISTING ON THE PROPERTY, EXCEPT SUCH EASEMENTS, IF ANY, THAT MAY BE LOCATED BELOW THE SURFACE OF THE LANDS, OR ON THE SURFACE OF THE LANDS AND NOT VISIBLE.

A WRITTEN WAIVER AND DIRECTION NOT TO SET CORNER MARKERS HAS BEEN OBTAINED FROM THE ULTIMATE USER PURSUANT TO P.L.2003,C.14 (C45:8-36.3) AND N.J.A.C. 13:40 - 5.1(D).

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO ANY EASEMENTS AND RESTRICTIONS CONTAINED THEREIN.

ALL EXISTING UTILITIES ARE APPROXIMATE PER MARKOUT AND VISIBLE FIELD EVIDENCE. ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO EXCAVATION.

THIS SURVEY HAS NOT DETERMINED THE PRESENCE OF WETLANDS AT THE SITE.

SUBJECT PROPERTY IS NOT LOCATED IN A FLOOD ZONE.

FILED MAP REFERENCE:

A MAP ENTITLED, "RESUBDIVISION PLAN LOTS 1, 2, 5, 6, 8, 45, 46 & 47, BLOCK 113, BORO OF POINT PLEASANT, OCEAN COUNTY, NEW JERSEY", FILED IN THE OCEAN COUNTY CLERKS OFFICE AS CASE NO. C-735, DATED AUGUST 19, 1975.

A MAP ENTITLED, "MINOR SUBDIVISION PLAN LOT 19 BLOCK 113 BORO OF POINT PLEASANT, OCEAN COUNTY, NEW JERSEY", FILED IN THE OCEAN COUNTY CLERKS OFFICE AS CASE NO. U-83, DATED MAY 21, 1969.

A MAP ENTITLED, "MINOR SUBDIVISION OF LOTS 37, 38, 39, 40 & 41 BLOCK 113, BOROUGH OF POINT PLEASANT, OCEAN COUNTY, NEW JERSEY, FILED IN THE OCEAN COUNTY CLERK'S OFFICE ON JULY 14, 2009 AS FILED MAP NO. G-501.

DEED REFERENCES:

DB 4816 & 15715 PG 245 & 1648

ALL ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN DATUM OF 1988 (NAVD88).

PLAN

20 0 20 40

Scale: 1"=20'

PROJECT NAME:

BOUNDARY & TOPOGRAPHIC SURVEY

OF

BLOCK 113, LOT 41 & 43

850 & 842 ARNOLD AVE

SITUATED IN:

BOROUGH OF POINT PLEASANT,

OCEAN COUNTY,

NEW JERSEY

PREPARED FOR:

INSITE Engineering • Surveying • Planning

INSITE Surveying

InSite Surveying, LLC
CERTIFICATE OF AUTHORIZATION:
24GA28290100
1955 ROUTE 34, SUITE 1A, WALL, NJ 07719
732-531-7100 (Ph) 732-531-7344 (Fax)
InSite@InsiteSurveying.net
www.InSiteSurveying.net

REVISIONS

Rev.#	Date	Comment
0	08/12/20	INITIAL RELEASE

SCALE: 1"=20'	DRAWN BY: GS / BMW
DATE: 07/24/20	CHECKED BY: JS
JOB #: 20-S001-285	

CERTIFICATION

CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN THE SIGNATURE AND RAISED SEAL OF THE PROFESSIONAL, IT IS NOT AN ORIGINAL AND MAY HAVE BEEN ALTERED

JUSTIN J. HEDGES, P.L.S.
PROFESSIONAL LAND SURVEYOR
NJ LIC. NO. GS43362

SHEET NO:

1 of 1

File: S:\Jobs\S001 – InSite Engineering\20-S001-285 – 842 & 850 Arnold Avenue_Point Pleasant, NJ\20S001285CAD\dwg\Survey.dwg, --> 18x24 BOUNDARY TOPO SURVEY
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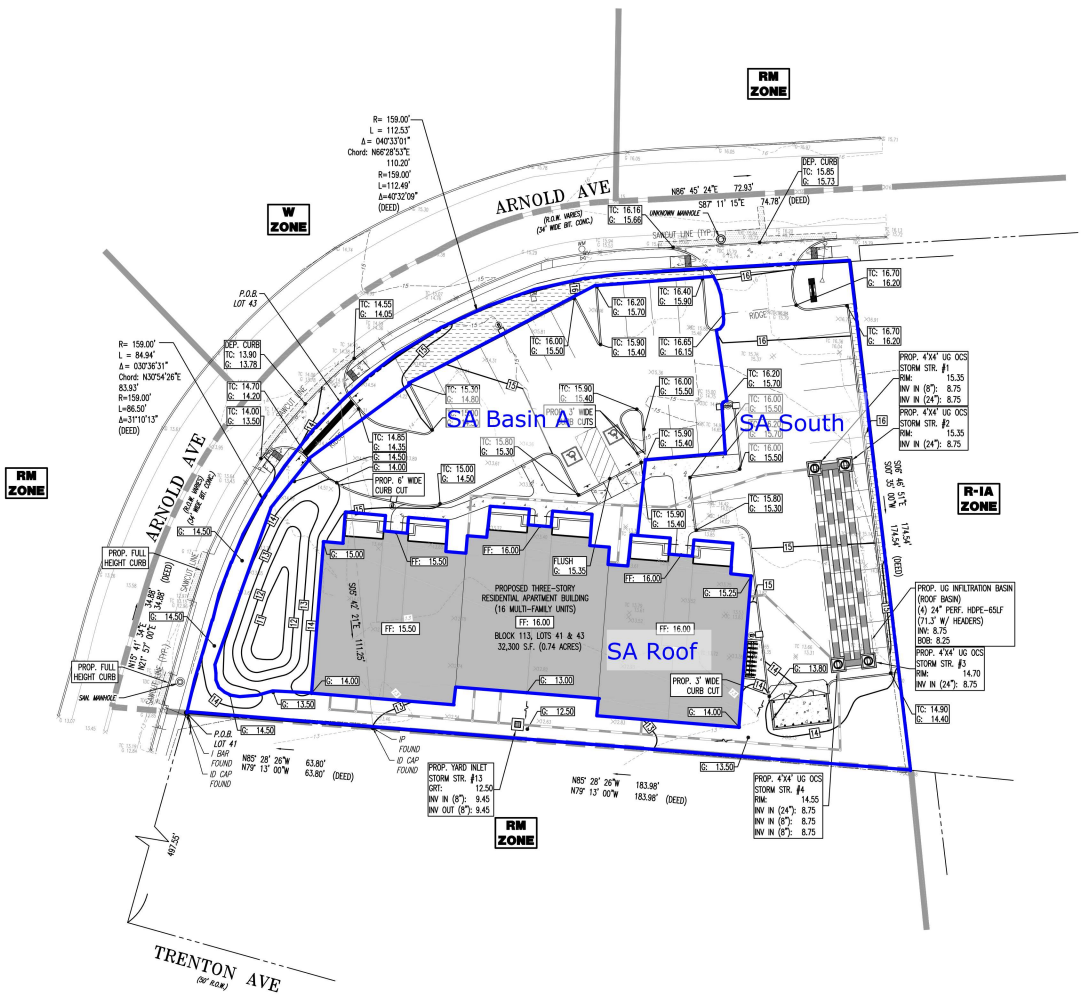

GRADING NOTES

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 ASTM D-1557, MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 1% 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 CURBS, GUTTERS, CURBS AND 1.0% ON ALL CONCRETE SURFACES, AND 1-1/2% MIN. ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY EFFECT 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. 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 2% ON ALL SIDEWALKS.
8. CONTRACTOR TO ENSURE A MAXIMUM OF 2% SLOPE IN ALL DIRECTIONS IN ADA PARKING SPACES AND ADA ACCESS AISLES. CONTRACTOR TO ENSURE A MAXIMUM OF 5% RUNNING SLOPE AND 2% CROSS SLOPE ALONG ALL OTHER PORTIONS OF ACCESSIBLE ROUTE WITH THE EXCEPTION OF RAMPS AND CURB RAMPS. CONTRACTOR SHALL CLARIFY ANY QUESTIONS CONCERNING CONSTRUCTION IN ADA AREAS WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
9. THE OWNER SHALL RETAIN DYNAMIC EARTH, LLC (908-879-7000), OR ALTERNATE QUALIFIED GEOTECHNICAL ENGINEER TO TEST SOIL PERMEABILITY AND PROVIDE CONSTRUCTION PHASE INSPECTIONS OF THE BASIN BOTTOM SOILS AND ANY FILL MATERIALS WITHIN ANY PROPOSED INFILTRATION OR RETENTION BASIN TO COMPARE RESULTS TO DESIGN CRITERIA.
10. CONTRACTOR IS TO REMOVE EXISTING UNSUITABLE OR OVERLY COMPACT SOIL OR ROCK AS NEEDED TO ACHIEVE REQUIRED PERMEABILITY AS DIRECTED BY THE OWNERS GEOTECHNICAL ENGINEER, AND NEW FILL, IF NEEDED, SHALL HAVE AN IN PLACE PERMEABILITY GREATER THAN OR EQUAL TO THE DESIGN CRITERIA.
11. 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.
12. THE CONTRACTOR IS RESPONSIBLE FOR AS-BUILT PLANS AND GRADE CONTROL UNLESS DEFINED OTHERWISE ELSEWHERE IN THE CONTRACT DOCUMENTS.

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. SANITARY SEWER LINE	PROP. SANITARY SEWER LINE
EXIST. STORM DRAIN LINE	PROP. STORM DRAIN LINE
EXIST. MINOR CONTOUR & ELEVATION	
EXIST. MAJOR CONTOUR & ELEVATION	PROP. FINISH GRADE CONTOUR & ELEVATION
EXIST. MONITORING WELL	
APPROX. TEST PIT LOCATION	
EXIST. SPOT ELEVATIONS	PROP. GRADE SPOT ELEV.
EXIST. GUTTER ELEV.	PROP. TOP OF CURB & FINISHED GRADE ELEV.
EXIST. TOP OF CURB ELEV.	
EXIST. FINISH FLOOR ELEV.	PROP. FINISHED FLOOR ELEV.
EXIST. GARAGE FLOOR ELEV.	PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
EXIST. FIRE HYDRANT	
EXIST. WATER VALVE	
EXIST. GAS VALVE	PROP. TOP OF EXTENDED CURB, S(H) FINISHED GRADE @ HIGH SIDE OF EXTENDED CURB & S(L) FINISHED GRADE @ LOW SIDE OF EXTENDED CURB
EXIST. GAS METER	
EXIST. ELECTRIC METER	
EXIST. ELECTRIC BOX	PROP. DIRECTION OF DRAINAGE FLOW ARROW
EXIST. CLEAN OUT	PROP. WATER VALVE
EXIST. WELL	PROP. GAS VALVE
EXIST. WATER SHUT OFF VALVE	PROP. STORM CLEANOUT
EXIST. TELEPHONE BOX	PROP. SANITARY CLEANOUT
EXIST. CABLE TV BOX	PROP. AREA LIGHT
EXIST. UTILITY POLE	PROP. OUTLET CONTROL STRUCTURE
EXIST. GUY WIRE	PROP. DRAINAGE MANHOLE
EXIST. LIGHT POLE	PROP. SANITARY SEWER MANHOLE
EXIST. BUILDING LIGHT	PROP. 'A' INLET
EXIST. SHOE BOX LIGHT	PROP. 'B' INLET
EXIST. COBRA LIGHT POLE	PROP. 'E' INLET
EXIST. TRAFFIC SIGNAL POLE	PROP. YARD INLET
EXIST. MANHOLE	PROP. FLARED END SECTION
EXIST. 'A' INLET	PROP. HEADWALL
EXIST. 'B' INLET	
EXIST. 'L' INLET	
EXIST. YARD INLET	
EXIST. FLARED END SECTION	
EXIST. HEADWALL	

GRAPHIC SCALE
−20 0 10 20 40 80
(IN FEET)
1 INCH = 20 FT.

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

REV.	DATE	COMMENTS
1	01/15/21	PER CLIENT COMMENTS

DYNAMIC ENGINEERING
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Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400
Newtown, Pennsylvania T:267.685.0276 | Philadelphia, Pennsylvania T:215.353.4885 | Delray Beach, Florida T: 561.921.8570

TITLE:
GRADING PLAN

PROJECT: NORTHSTAR CAPITAL, LLC
PROPOSED: MULTI-FAMILY RESIDENTIAL (POINT VIEW LUXURY APARTMENTS)
BLOCK 113, LOTS 41 & 43
842 & 850 ARNOLD AVE
BOROUGH OF POINT PLEASANT, OCEAN COUNTY, NEW JERSEY

JOB No:	3639-99-001
DRAWN BY:	KJH
DESIGNED BY:	KCK
CHECKED BY:	DG
CHECKED BY:	_
DATE:	12/04/2020
SCALE: (H) 1"=20' (V)	
SHEET No:	5 OF 13
Rev. #	1

DOUGLAS GRYSKO
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 45896

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

811 PROTECT YOURSELF
NJ. STATE REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE, NOTIFICATION TO BE GIVEN TWO (2) WORKING DAYS BEFORE YOU DIG.
It's free and it's the law
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

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File: P:\DESIGN PROJECTS\3639 Northstar Capital LLC\99-001 Point Pleasant\Dwg\Site Plans\3639990015DG.dwg, ---> 05 GRADING PLAN

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