STORMWATER MANAGEMENT REPORT

for

FULFILL FOOD BANK

Located at

BLOCK 2301, LOT 1

In

TOWNSHIP OF NEPTUNE
MONMOUTH COUNTY, NJ

Has been prepared for

FOOD BANK OF MONMOUTH & OCEAN COUNTY

3300 ROUTE 66
TOWNSHIP OF NEPTUNE, NJ 07753

on

May 10, 2023
Rev. 1 – August 25, 2023
Rev. 2 – September 27, 2023
Rev. 3 – October 20, 2023
Rev. 4 – January 10, 2024

Christopher M. Bednarski, PE
NJPE 24GE05256400

Insite Job #: 23-2111-01

InSite Engineering, LLC
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Licensed in NJ, PA, DE, NY, CT, NC, DC, & CO

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APPENDICES

I. INTRODUCTION:

The subject property is known and designated as Block 2301, Lot 1, as shown on Sheet 23 of the current tax assessment maps for the Township of Neptune, Monmouth County, New Jersey. The vacant tract consists of 7.21 acres and is currently occupied by an existing food bank with associated loading and parking areas. The project site bound by New Jersey State Highway Route 66 and Wayside Road. The project proposes three additions to the main structure and an additional pavement section. The existing impervious coverage is 36.8% (2.65 ac. out of 7.21 ac.). The proposed impervious coverage is 40.2% (2.90 ac. out of 7.21 ac.).

The existing soils are labeled as EvuB (Evesboro-Urban land complex, 0 to 5 percent slopes). The Hydrologic soil group for this type of soil is listed in the Soil Conservation Service Technical Release No. 55 manual as HSG type A, see Appendix AI.

The following 24-hour storm events were studied using a NOAA, Type D Storm distribution:

Storm Frequency (Years)	Rainfall (Inches)
2	3.46
10	5.36
100	9.18

II. PRE-DEVELOPMENT CONDITIONS:

A summary of the previously discussed drainage areas for the pre-development condition follows below. Refer to the Appendix B for Pre-Development Hydrograph calculations and Appendix D for Pre-Development Drainage Area Map.

Existing Watershed A (Total Area 7.21 acres)

Subarea Ei: Impervious area
Area: 2.65 acres

Subarea Ep: Pervious area
Area: 4.56 acres

III. POST-DEVELOPMENT CONDITIONS:

A summary of the previously discussed drainage areas for the post-development condition follows below. Refer to Appendix C for Post-Development Hydrograph calculations and Appendix E for a Post-Drainage Area Map.

Proposed Watershed A (Total Area 7.21 acres)

Subarea Pi: Impervious Area
Area: 2.90 acres

Subarea Pp: Pervious Area
Area: 4.31 acres

IV. STORMWATER MANAGEMENT SUMMARY:

Pre- and Post-development computations for the resultant hydrographs, routing computations, and runoff volumes are appended, respectively, to this report. For each drainage area, the following summaries were generated:

Watershed A
Pre-development: Subareas Ei and Ep (7.21 ac)
Post-development: Subareas Pi and Pp (7.21 ac.)

Storm (Year)	Pre-Development Peak Flow (cfs)	Post-Development Peak Flow (cfs)	Difference
2	8.71	9.52	+0.81
10	13.57	14.84	+1.27
25	18.42	19.93	+1.51
100	30.74	32.51	+1.77

V. STORMWATER ANALYSIS SUMMARY:

Existing runoff from the site is directed to an infiltration basin along the west property line and drains to the existing stormwater system along the NJ Route 66 right-of-way. The system has been properly designed to provide sufficient capacity to manage runoff from the site. Currently, the project site consists of 7.21 acres and is currently developed. The existing site is mostly pervious, containing 4.56 acres of pervious coverage and only 2.65 acres of impervious coverage. Of that impervious coverage, 1.56 acres are regulated motor vehicle surface. The proposed development will have a total impervious coverage of 2.90 acres. Of that impervious coverage, 1.61 acres will be regulated motor vehicle surface. The proposed development will result in a net increase of 0.05 acres of regulated motor vehicle surface and net increase of only 0.24 acres of new impervious areas.

As the proposed development does not result in a disturbance of greater than one (1) acre and does not increase regulated motor vehicle surfaces or overall impervious coverage by more than 0.25 acres, the project is not considered a 'major development' by New Jersey Stormwater Management regulations NJAC 7:8-5. Therefore, the project will not require additional storm water management measures.

VI. WATER QUALITY DISCUSSION

As discussed in Section V, this project is not considered a 'major development', therefore, stormwater runoff quality treatment is not required.

Construction activities may introduce suspended sediment into localized water in nearby areas, but this will be temporary in nature, occurring during the construction phase of the project. To preserve water quality during construction, soil erosion and sediment control measures will be implemented as part of an approved Soil Erosion and Sediment Control Plan.

VII. GROUNDWATER RECHARGE DISCUSSION

Groundwater recharge for the site is not required per N.J.A.C. 7:8-5.4a2 since the project lies within a previously developed Metropolitan Planning Area (PA-1).

VIII. CONCLUSION

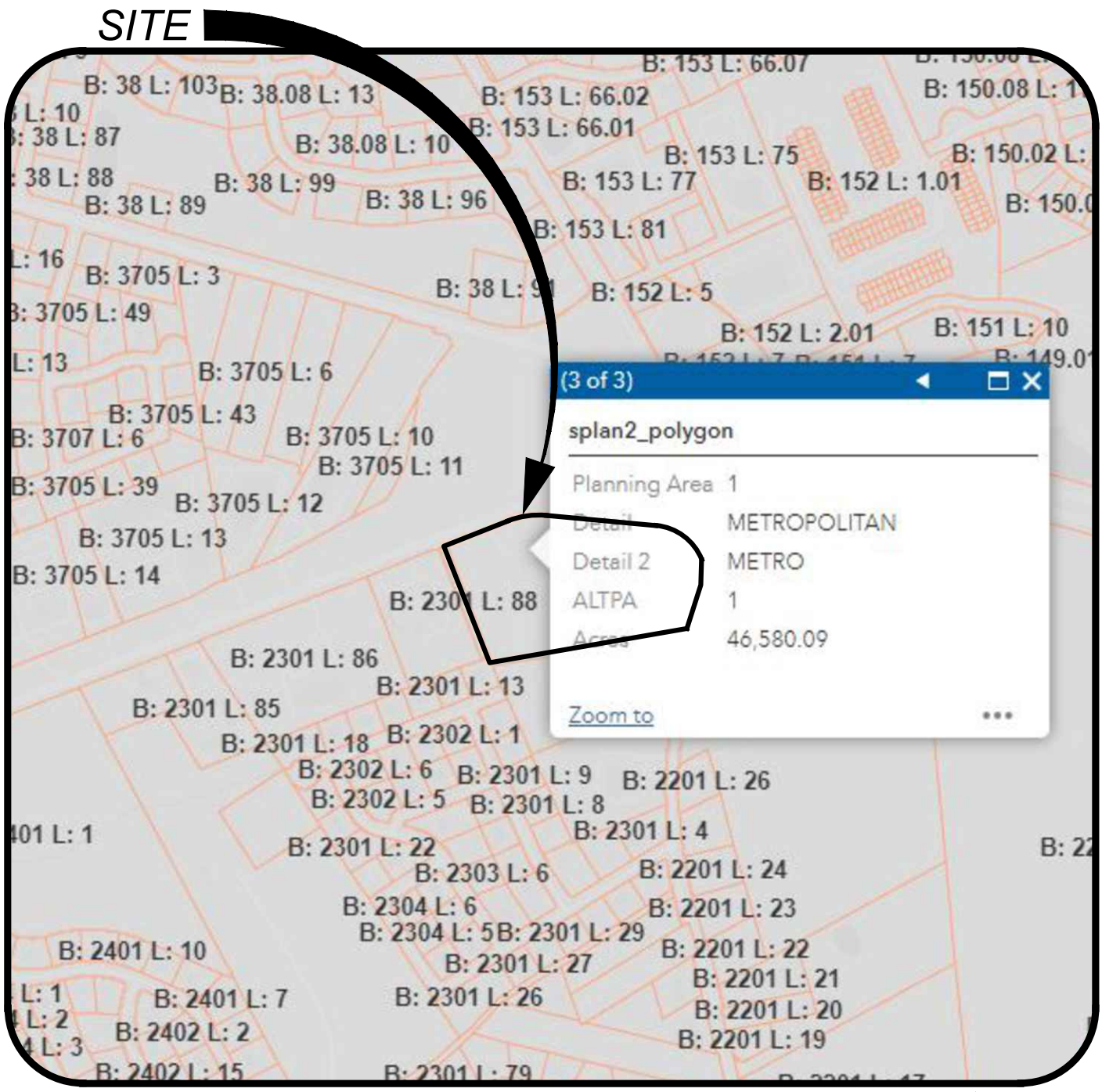
The proposed development will result in a slight increase of impervious coverage by 0.24 acres. This increase of impervious coverage will not cause any significant changes in stormwater runoff from the site. The limited grading efforts do not change any of the existing drainage patterns to maintain site stability throughout. The slight increase in flows for the 2-year, 10-year, 25-year, and 100-year storm events are de minimis and will not negatively affect the downstream drainage system and, therefore, no additional stormwater management improvements are needed. The site has been designed to properly and safely convey runoff from the proposed project and will meet the requirements of the Township of Neptune and the State of New Jersey.

A P P E N D I X A

MAP EXHIBITS

AI. Soils Map

AII. Planning Area Map



PLAN

500 0 500

Scale 1"=500'

PLANNING AREA EXHIBIT

InSite Engineering, LLC
CERTIFICATE OF AUTHORIZATION:
24GA28083200
1955 ROUTE 34, SUITE 1A
WALL, NJ 07719
732-531-7100 (Ph)
732-531-7344 (Fax)
InSite@InSiteEng.net www.InSiteEng.net

Site Location:
Block 2301, Lot 1
3300 Route 66
Township of Neptune
Monmouth County, NJ

Reference:
NJGIS - State Planning Area

InSite Project No.
23-2111-01
Drawing No.
23-2111-01
Date
May 5, 2023

Revisions

PLAN

2,000 0 2,000

Scale 1"=2,000'

SOILS EXHIBIT

InSite Engineering, LLC
CERTIFICATE OF AUTHORIZATION:
24GA28083200
1955 ROUTE 34, SUITE 1A
WALL, NJ 07719
732-531-7100 (Ph)
732-531-7344 (Fax)
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Site Location:
Block 2301, Lot 1
3300 Route 66
Township of Neptune
Monmouth County, NJ

InSite Project No.
23-2111-01
Drawing No.
23-2111-01
Date
May 5, 2023

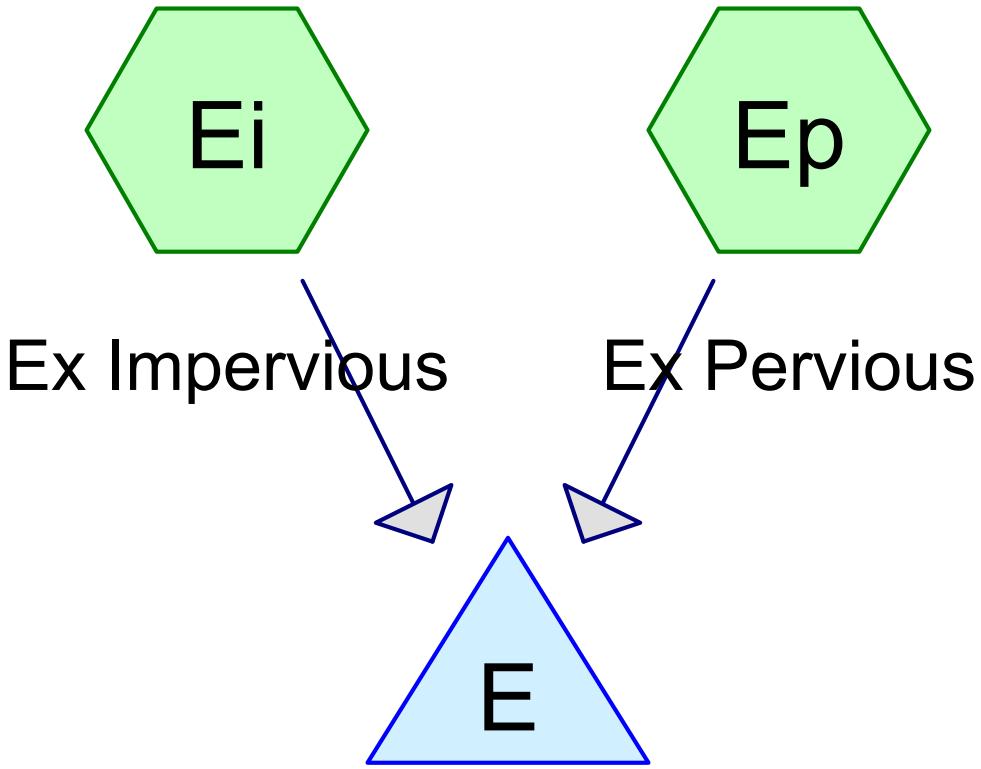
Reference:
Web Soil Survey

Soil Information:
EvuB - Evesboro-Urban land complex, 0 to 5 percent slopes (HSG A)

Revisions

A P P E N D I X B

Pre-Development Flow Calculations



Existing POA

Subcat Reach Pond Link

Routing Diagram for 240110 r4 SWM
Prepared by InSite Engineering, LLC, Printed 1/11/2024

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

SubcatchmentEi: Ex Impervious Runoff Area=115,455 sf 100.00% Impervious Runoff Depth=3.23"
Tc=6.0 min CN=0/98 Runoff=8.71 cfs 0.713 af

SubcatchmentEp: Ex Pervious Runoff Area=198,684 sf 0.00% Impervious Runoff Depth=0.01"
Tc=6.0 min CN=39/0 Runoff=0.01 cfs 0.003 af

Pond E: Existing POA Inflow=8.71 cfs 0.715 af
Primary=8.71 cfs 0.715 af

Total Runoff Area = 7.212 ac Runoff Volume = 0.715 af Average Runoff Depth = 1.19"
63.25% Pervious = 4.561 ac 36.75% Impervious = 2.650 ac

Summary for Subcatchment Ei: Ex Impervious

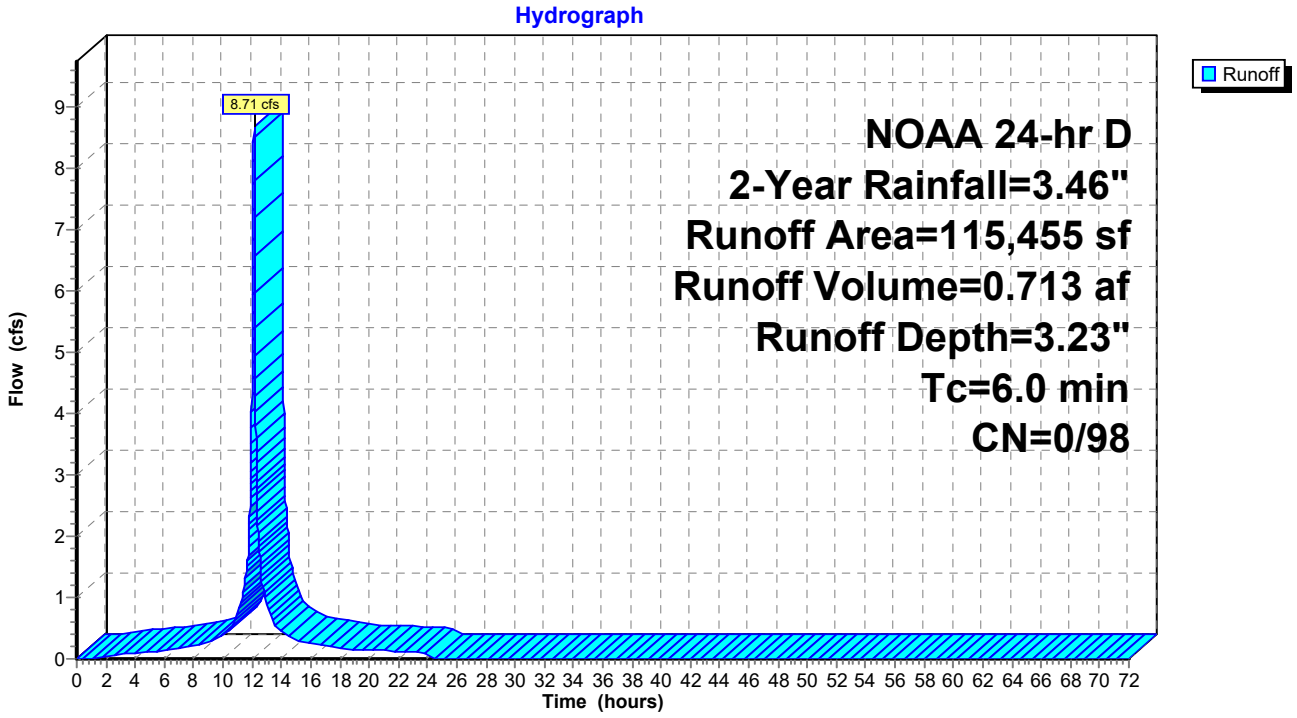
Runoff = 8.71 cfs @ 12.13 hrs, Volume= 0.713 af, Depth= 3.23"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
115,455	98	Unconnected pavement, HSG A
115,455	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious



Summary for Subcatchment Ep: Ex Pervious

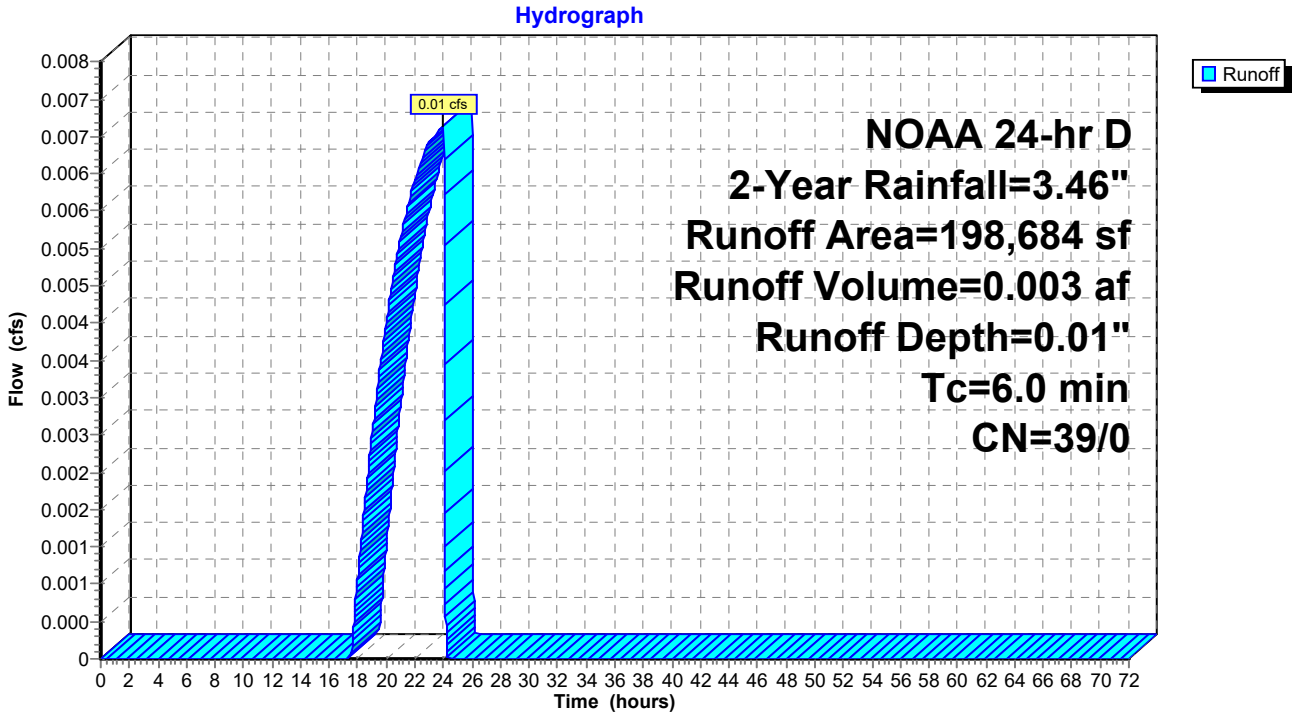
Runoff = 0.01 cfs @ 24.01 hrs, Volume= 0.003 af, Depth= 0.01"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
198,684	39	>75% Grass cover, Good, HSG A
198,684	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

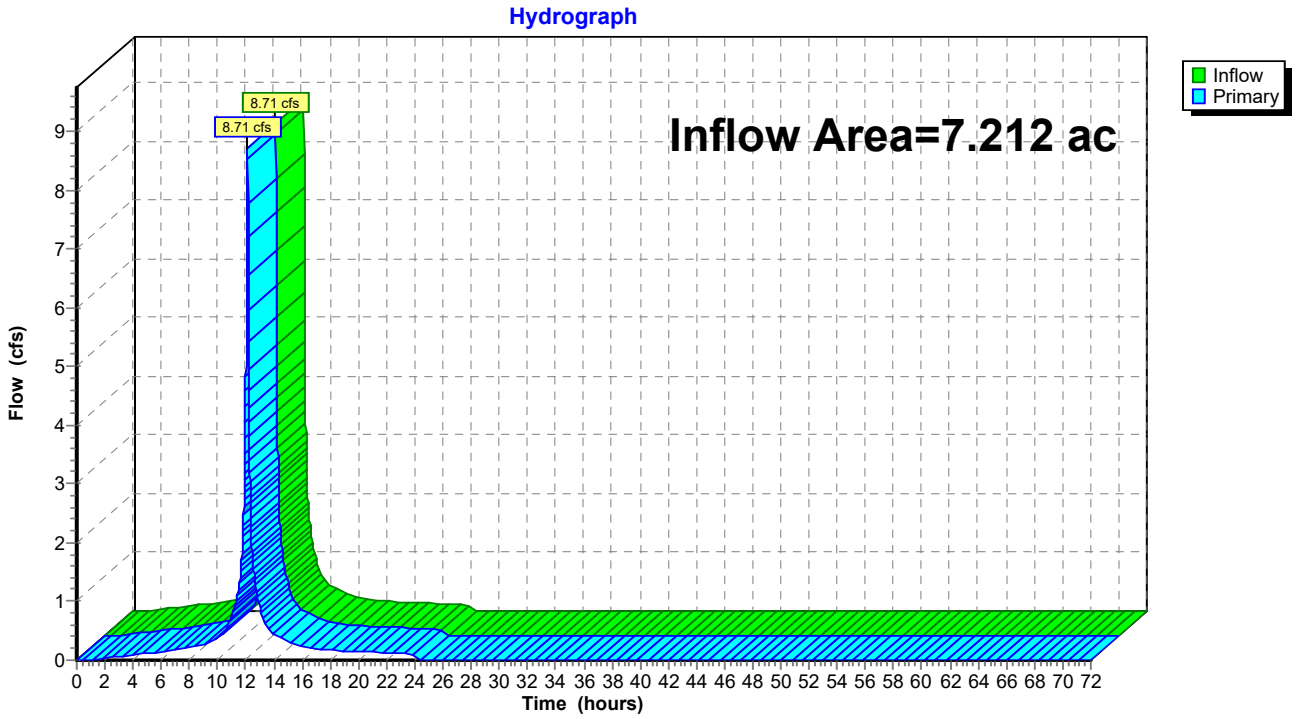


Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 36.75% Impervious, Inflow Depth = 1.19" for 2-Year event
Inflow = 8.71 cfs @ 12.13 hrs, Volume= 0.715 af
Primary = 8.71 cfs @ 12.13 hrs, Volume= 0.715 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA



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

SubcatchmentEi: Ex Impervious Runoff Area=115,455 sf 100.00% Impervious Runoff Depth=5.12"
Tc=6.0 min CN=0/98 Runoff=13.57 cfs 1.131 af

SubcatchmentEp: Ex Pervious Runoff Area=198,684 sf 0.00% Impervious Runoff Depth=0.28"
Tc=6.0 min CN=39/0 Runoff=0.26 cfs 0.106 af

Pond E: Existing POA Inflow=13.57 cfs 1.237 af
Primary=13.57 cfs 1.237 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.237 af Average Runoff Depth = 2.06"
63.25% Pervious = 4.561 ac 36.75% Impervious = 2.650 ac

Summary for Subcatchment Ei: Ex Impervious

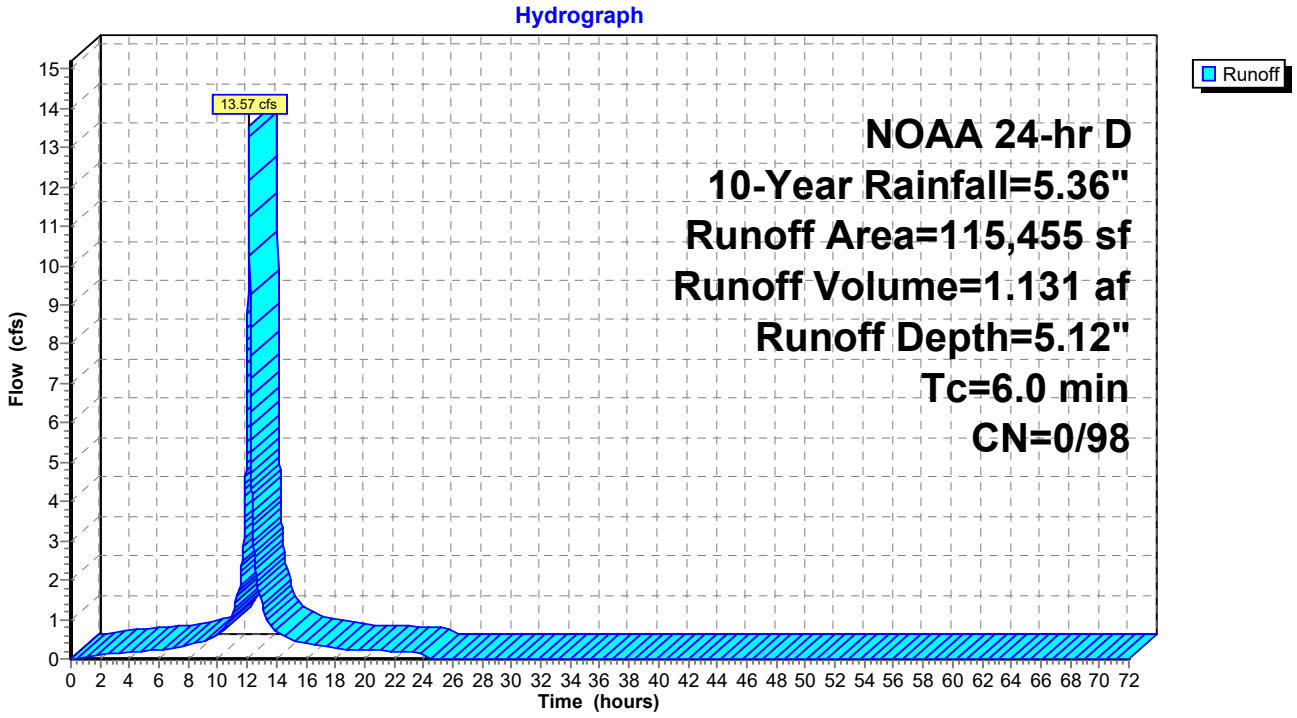
Runoff = 13.57 cfs @ 12.13 hrs, Volume= 1.131 af, Depth= 5.12"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
115,455	98	Unconnected pavement, HSG A
115,455	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious



Summary for Subcatchment Ep: Ex Pervious

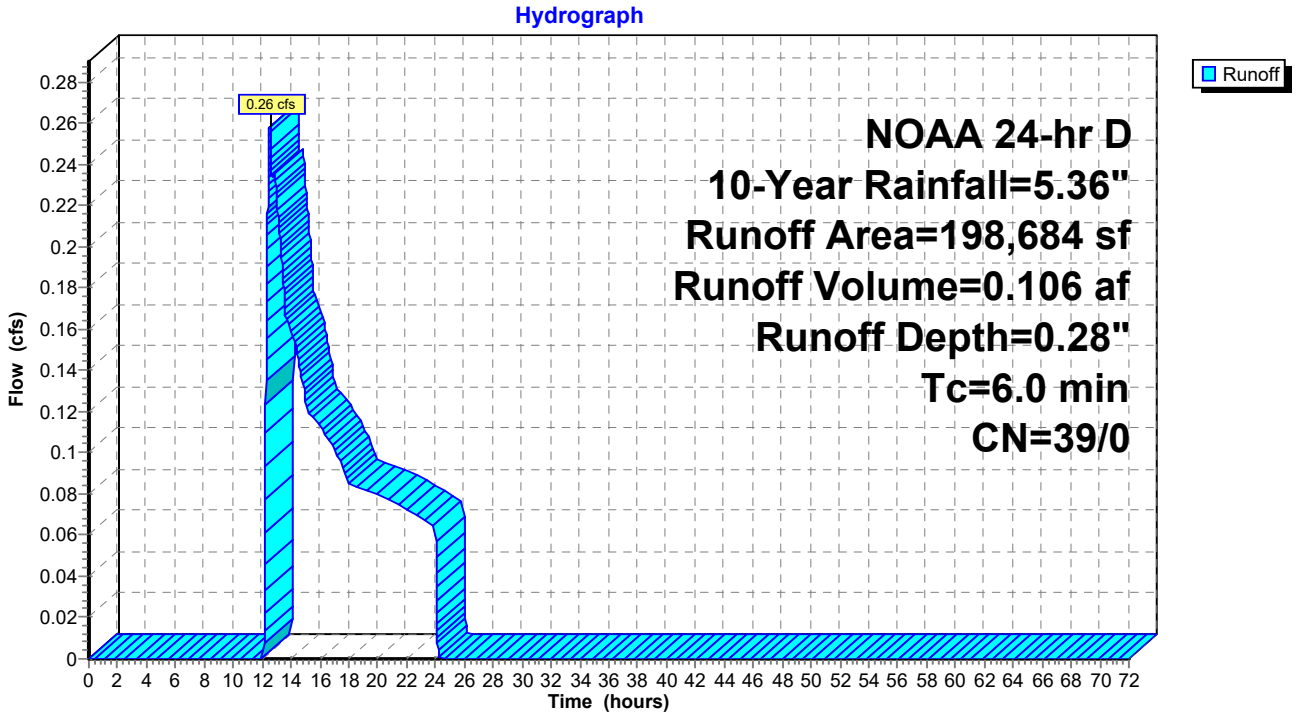
Runoff = 0.26 cfs @ 12.54 hrs, Volume= 0.106 af, Depth= 0.28"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
198,684	39	>75% Grass cover, Good, HSG A
198,684	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

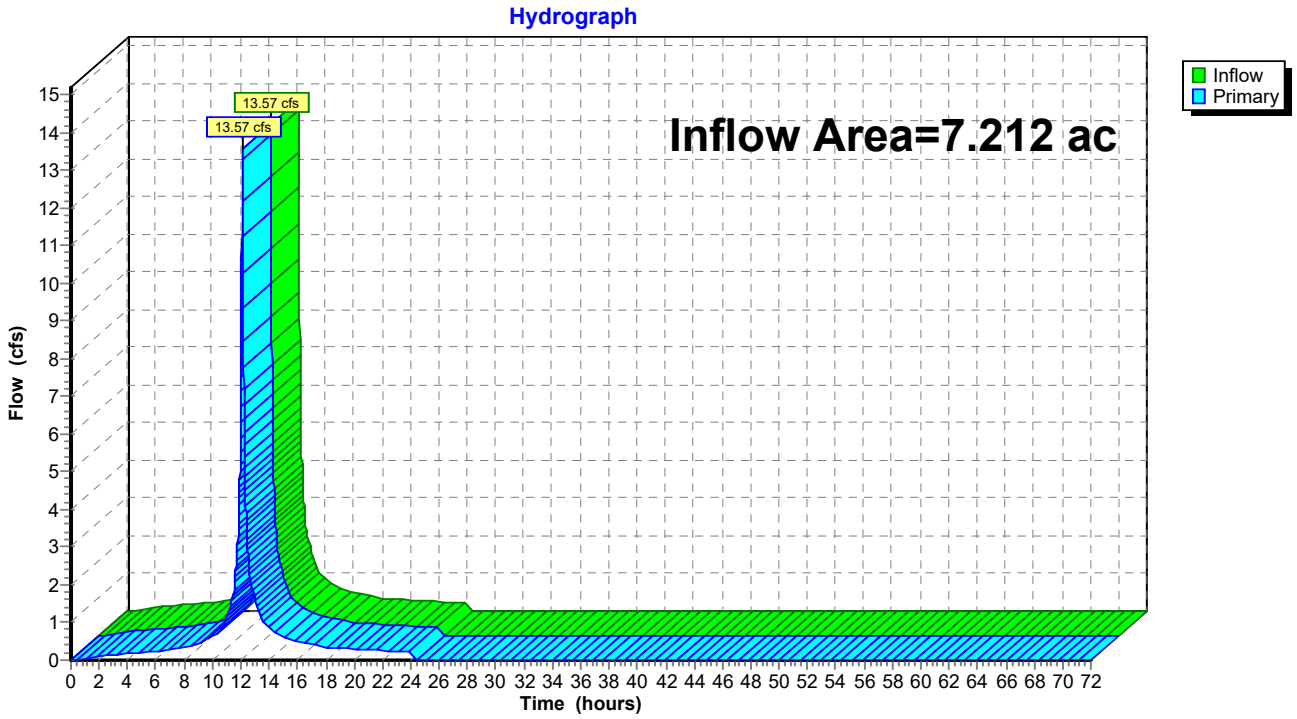


Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 36.75% Impervious, Inflow Depth = 2.06" for 10-Year event
Inflow = 13.57 cfs @ 12.13 hrs, Volume= 1.237 af
Primary = 13.57 cfs @ 12.13 hrs, Volume= 1.237 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA



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

SubcatchmentEi: Ex Impervious Runoff Area=115,455 sf 100.00% Impervious Runoff Depth=6.46"
Tc=6.0 min CN=0/98 Runoff=16.99 cfs 1.427 af

SubcatchmentEp: Ex Pervious Runoff Area=198,684 sf 0.00% Impervious Runoff Depth=0.66"
Tc=6.0 min CN=39/0 Runoff=1.66 cfs 0.252 af

Pond E: Existing POA Inflow=18.42 cfs 1.679 af
Primary=18.42 cfs 1.679 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.679 af Average Runoff Depth = 2.79"
63.25% Pervious = 4.561 ac 36.75% Impervious = 2.650 ac

Summary for Subcatchment Ei: Ex Impervious

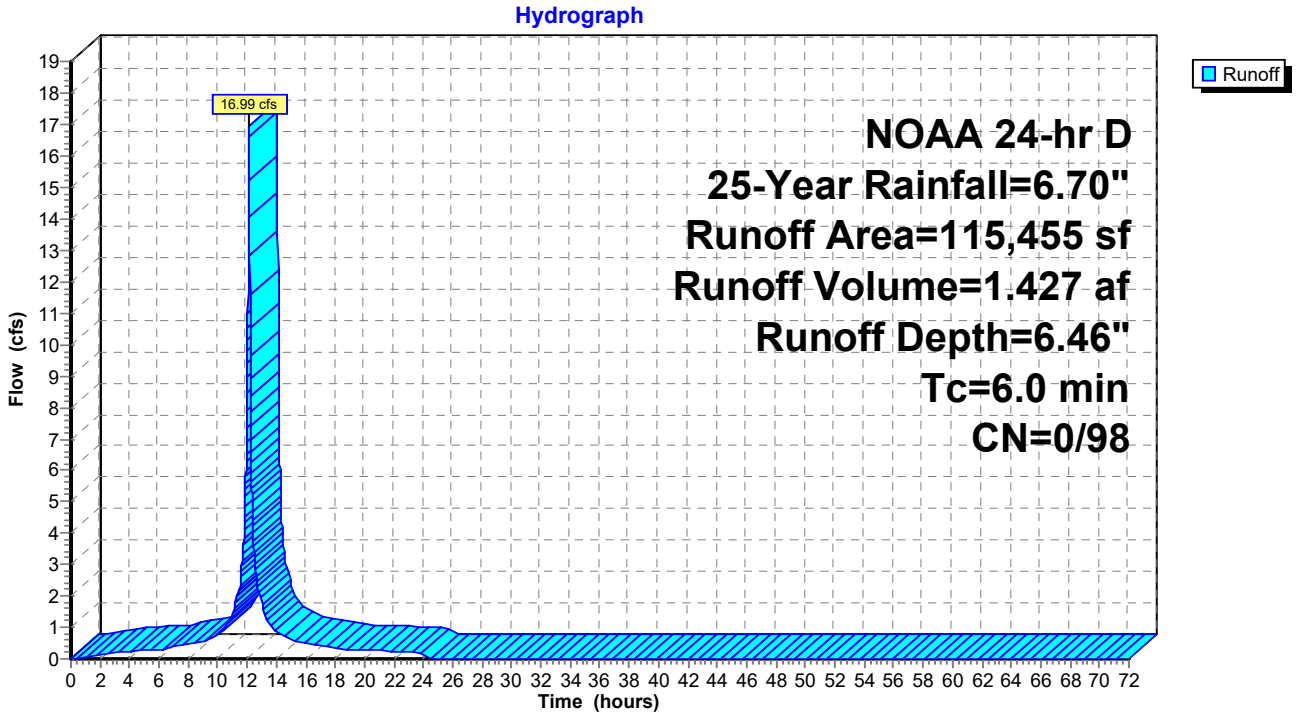
Runoff = 16.99 cfs @ 12.13 hrs, Volume= 1.427 af, Depth= 6.46"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
115,455	98	Unconnected pavement, HSG A
115,455	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious



Summary for Subcatchment Ep: Ex Pervious

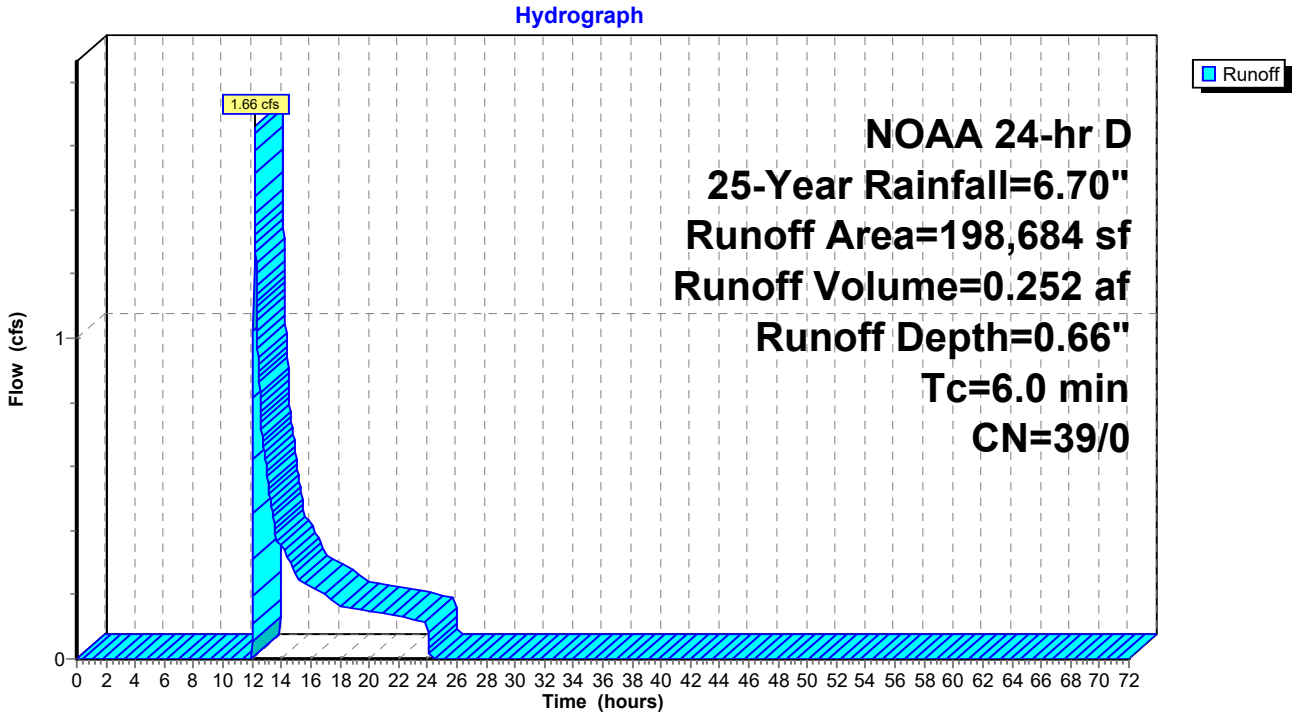
Runoff = 1.66 cfs @ 12.16 hrs, Volume= 0.252 af, Depth= 0.66"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
198,684	39	>75% Grass cover, Good, HSG A
198,684	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

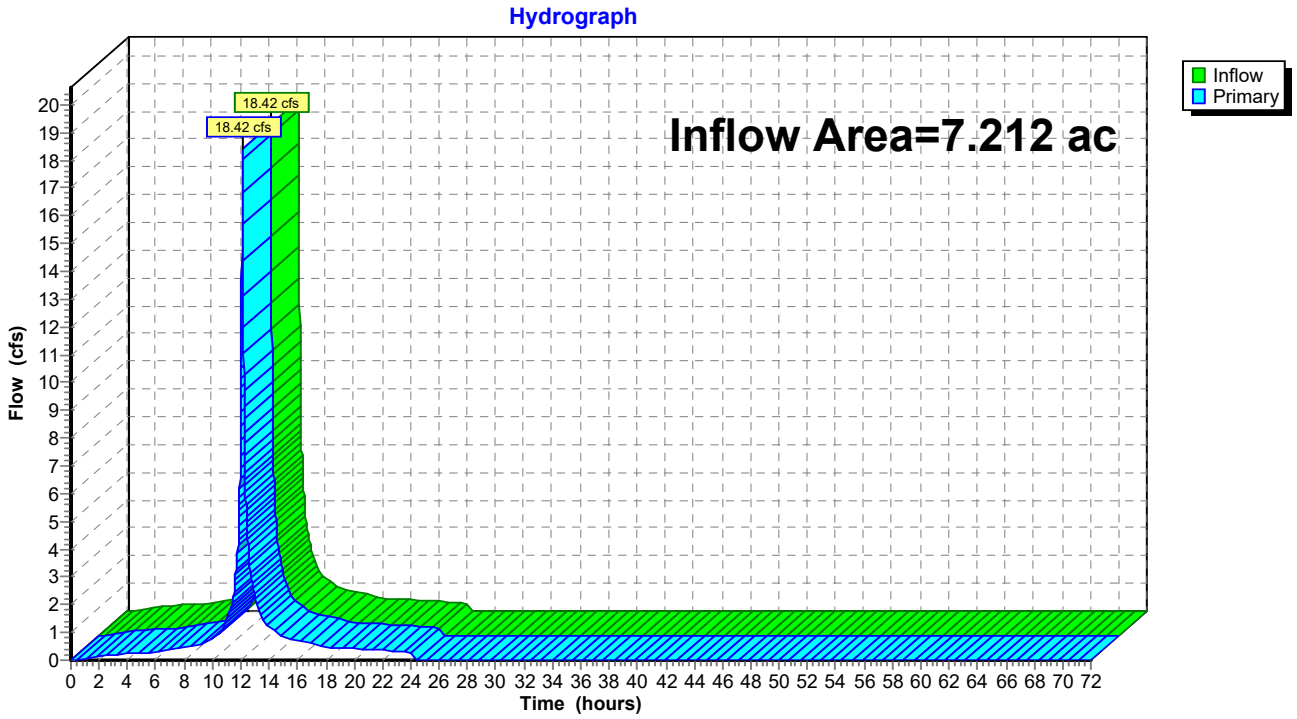


Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 36.75% Impervious, Inflow Depth = 2.79" for 25-Year event
Inflow = 18.42 cfs @ 12.13 hrs, Volume= 1.679 af
Primary = 18.42 cfs @ 12.13 hrs, Volume= 1.679 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA



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

SubcatchmentEi: Ex Impervious Runoff Area=115,455 sf 100.00% Impervious Runoff Depth=8.94"
Tc=6.0 min CN=0/98 Runoff=23.31 cfs 1.975 af

SubcatchmentEp: Ex Pervious Runoff Area=198,684 sf 0.00% Impervious Runoff Depth=1.69"
Tc=6.0 min CN=39/0 Runoff=7.57 cfs 0.642 af

Pond E: Existing POA Inflow=30.74 cfs 2.616 af
Primary=30.74 cfs 2.616 af

Total Runoff Area = 7.212 ac Runoff Volume = 2.616 af Average Runoff Depth = 4.35"
63.25% Pervious = 4.561 ac 36.75% Impervious = 2.650 ac

Summary for Subcatchment Ei: Ex Impervious

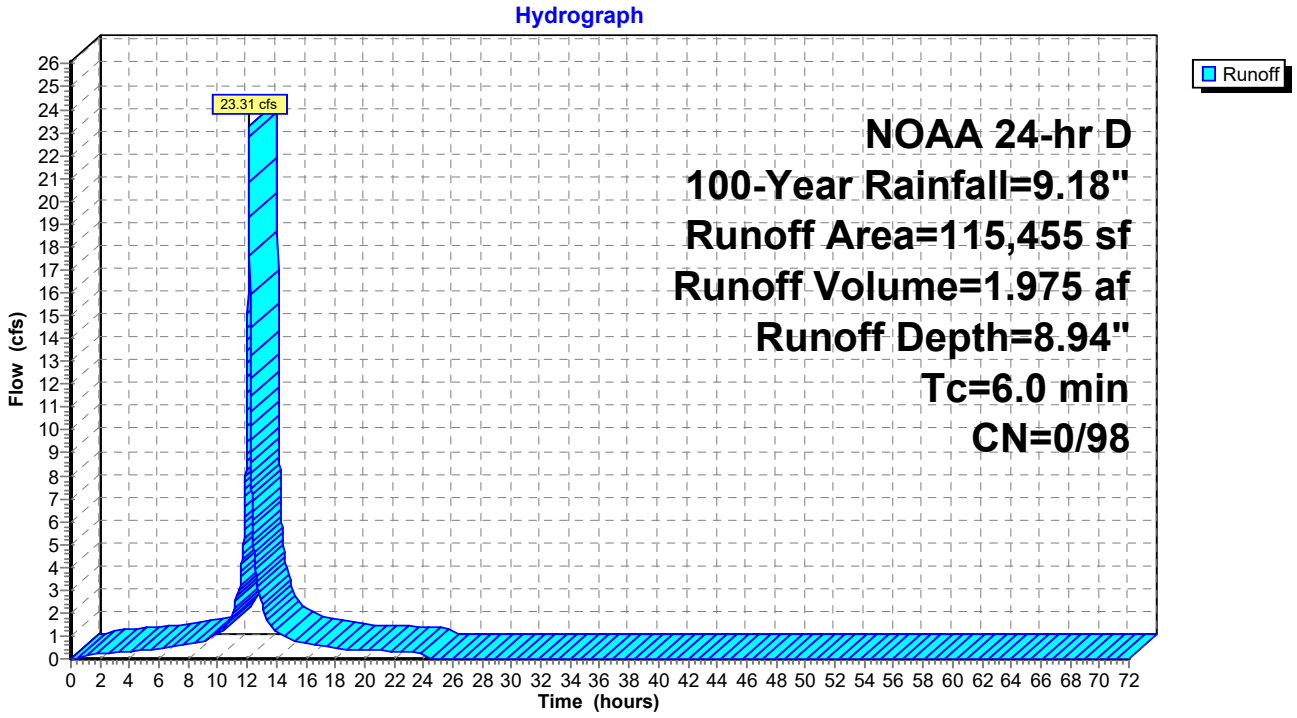
Runoff = 23.31 cfs @ 12.13 hrs, Volume= 1.975 af, Depth= 8.94"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
115,455	98	Unconnected pavement, HSG A
115,455	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious



Summary for Subcatchment Ep: Ex Pervious

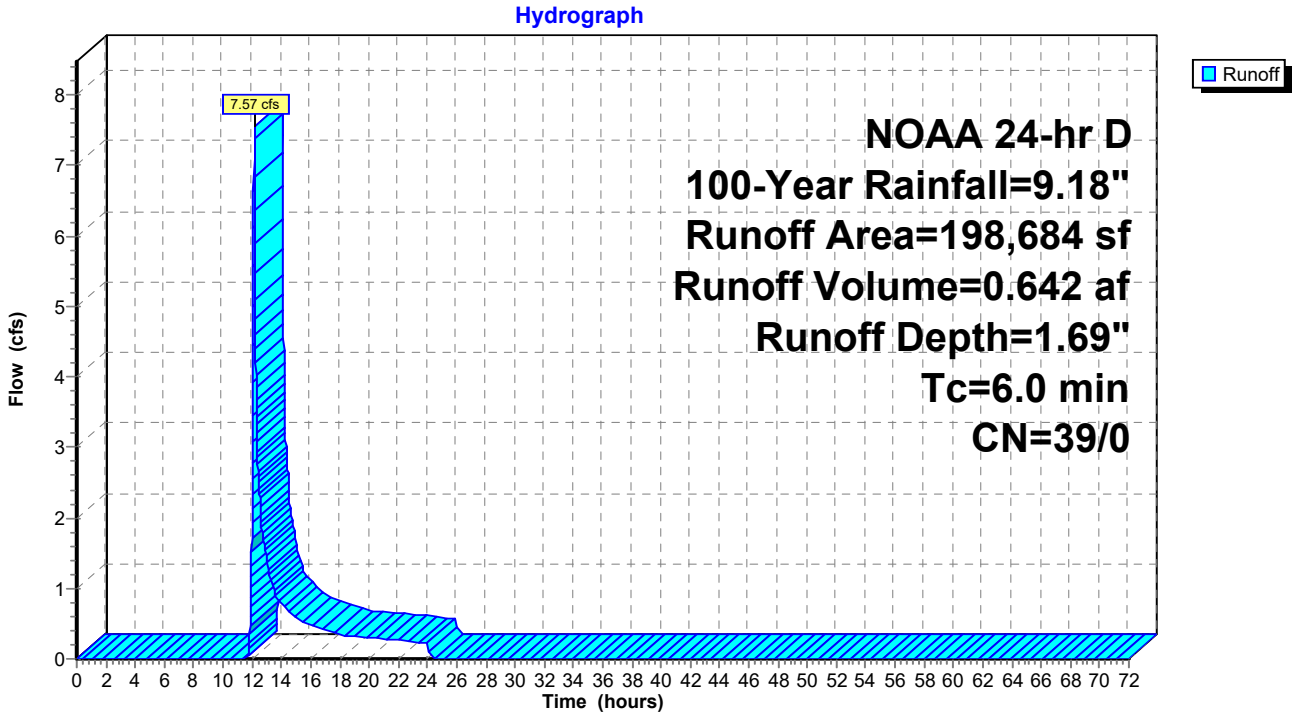
Runoff = 7.57 cfs @ 12.14 hrs, Volume= 0.642 af, Depth= 1.69"
Routed to Pond E : Existing POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
198,684	39	>75% Grass cover, Good, HSG A
198,684	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

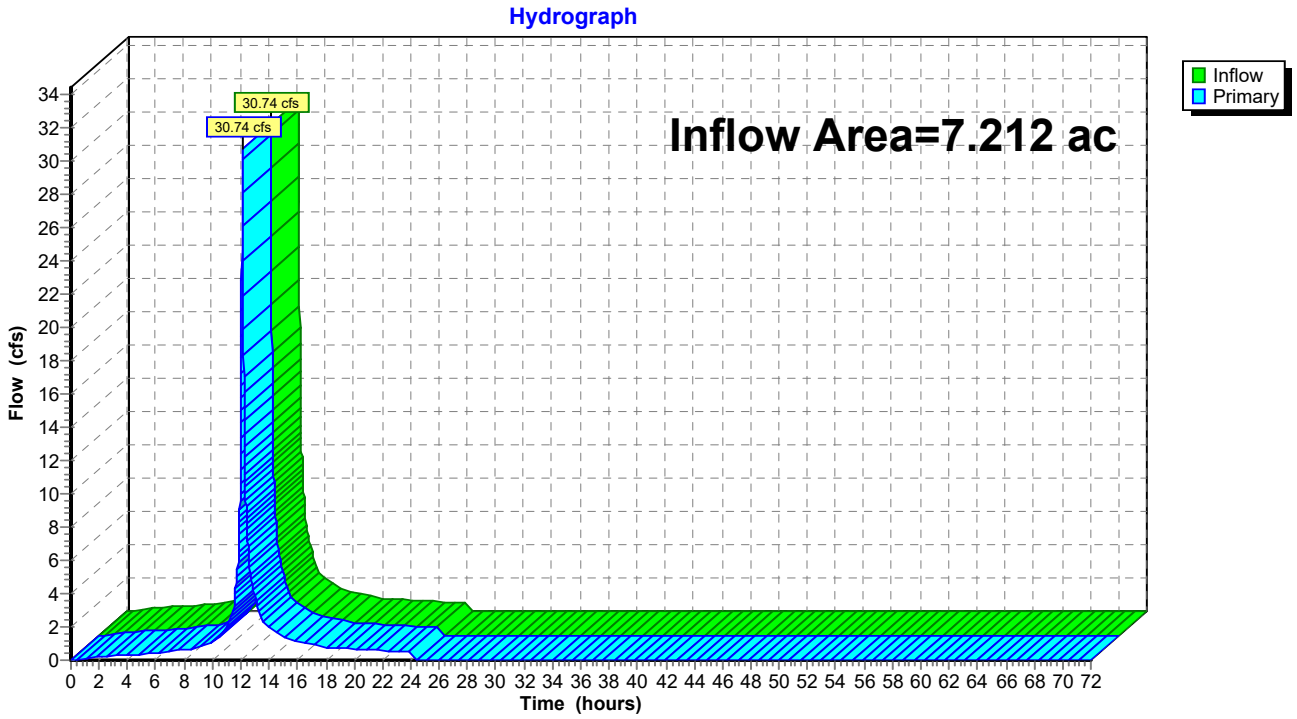


Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 36.75% Impervious, Inflow Depth = 4.35" for 100-Year event
Inflow = 30.74 cfs @ 12.13 hrs, Volume= 2.616 af
Primary = 30.74 cfs @ 12.13 hrs, Volume= 2.616 af, Atten= 0%, Lag= 0.0 min

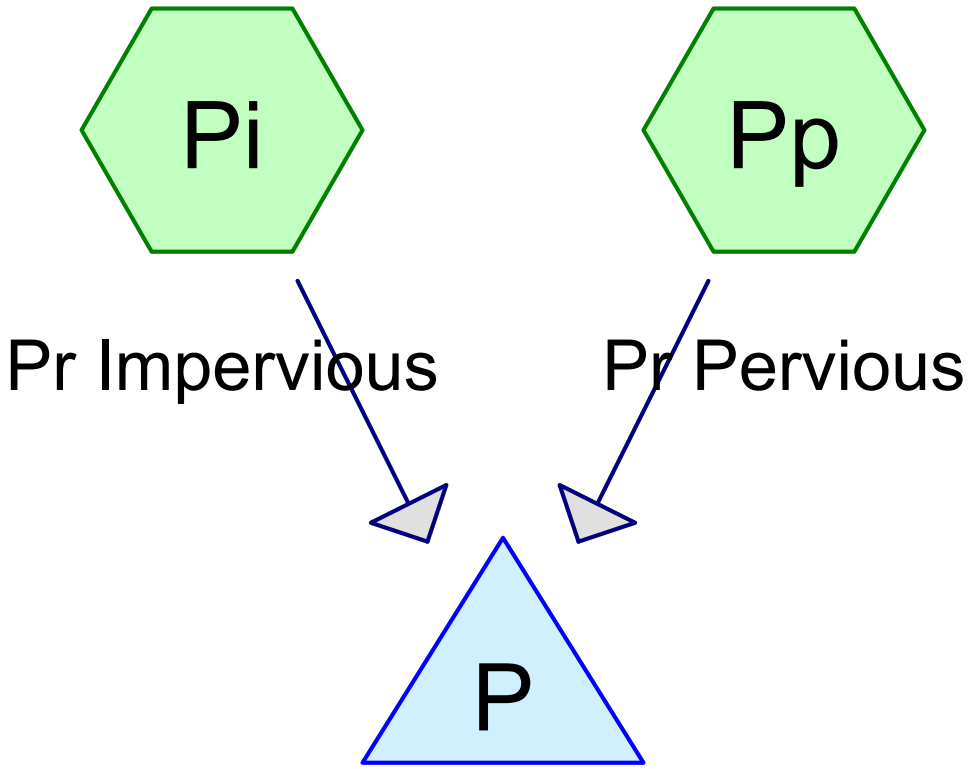
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA



A P P E N D I X C

Post-Development Flow Calculations



Proposed POA

Subcat Reach Pond Link

Routing Diagram for 240110 r4 SWM
Prepared by InSite Engineering, LLC, Printed 1/11/2024

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

SubcatchmentPi: Pr Impervious Runoff Area=126,283 sf 100.00% Impervious Runoff Depth=3.23"
Tc=6.0 min CN=0/98 Runoff=9.52 cfs 0.780 af

SubcatchmentPp: Pr Pervious Runoff Area=187,856 sf 0.00% Impervious Runoff Depth=0.01"
Tc=6.0 min CN=39/0 Runoff=0.01 cfs 0.002 af

Pond P: Proposed POA Inflow=9.52 cfs 0.782 af
Primary=9.52 cfs 0.782 af

Total Runoff Area = 7.212 ac Runoff Volume = 0.782 af Average Runoff Depth = 1.30"
59.80% Pervious = 4.313 ac 40.20% Impervious = 2.899 ac

Summary for Subcatchment Pi: Pr Impervious

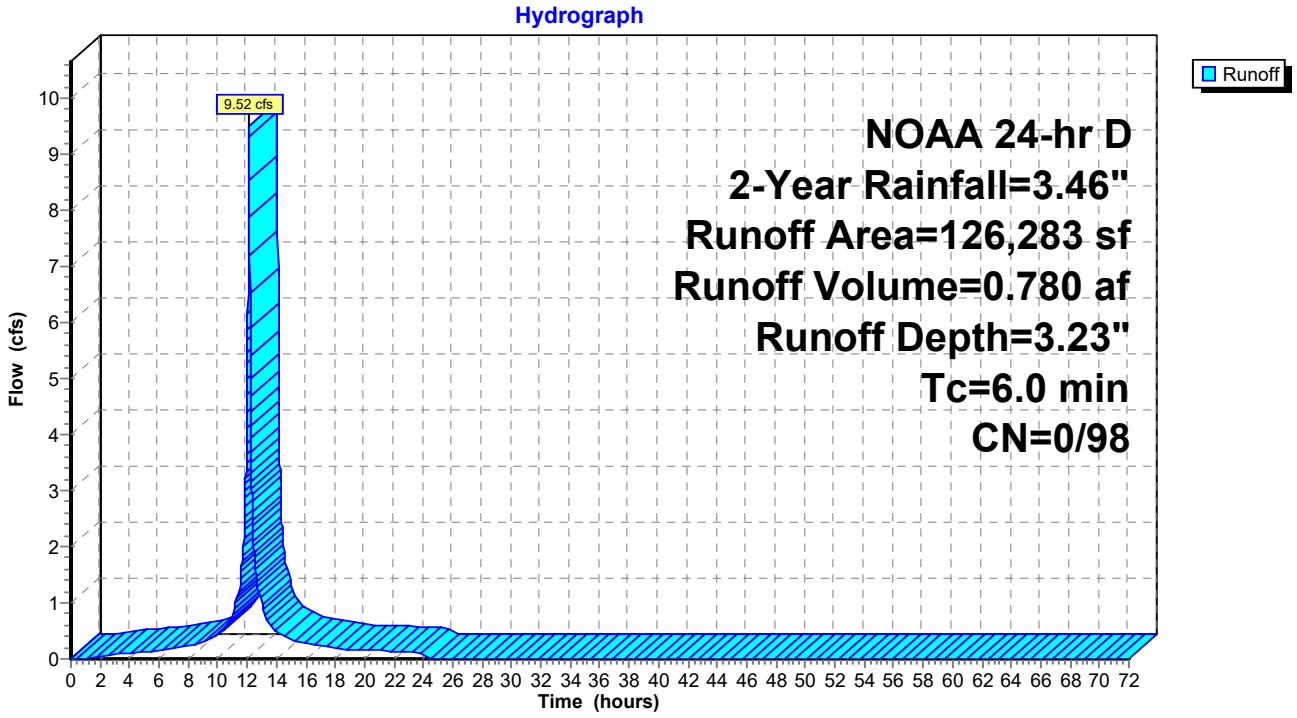
Runoff = 9.52 cfs @ 12.13 hrs, Volume= 0.780 af, Depth= 3.23"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
126,283	98	Unconnected pavement, HSG A
126,283	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious



Summary for Subcatchment Pp: Pr Pervious

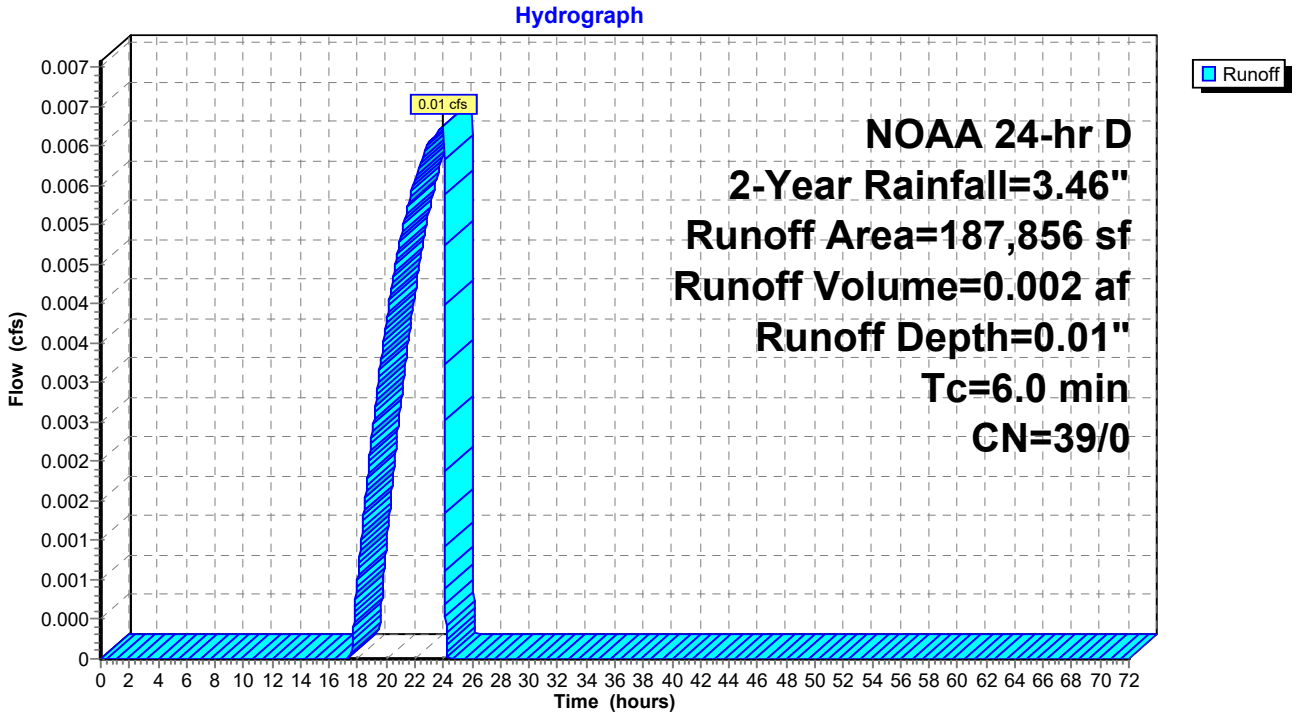
Runoff = 0.01 cfs @ 24.01 hrs, Volume= 0.002 af, Depth= 0.01"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
187,856	39	>75% Grass cover, Good, HSG A
187,856	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

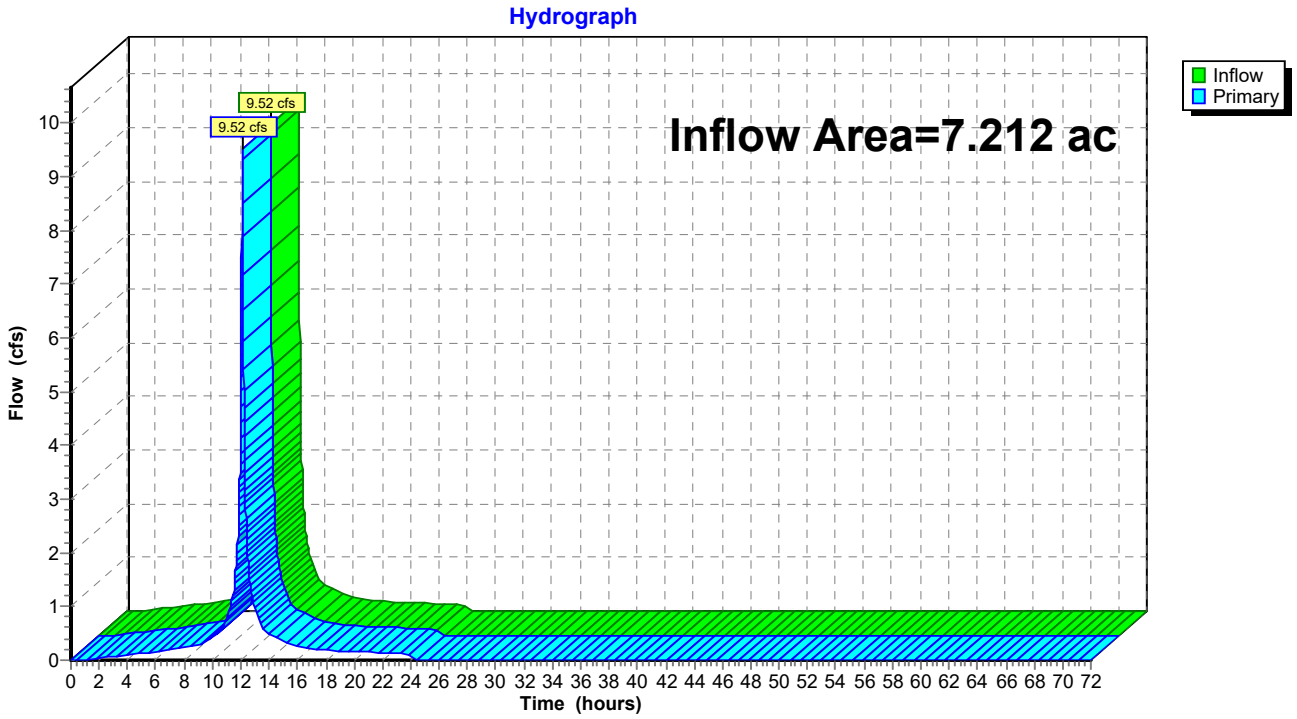


Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.20% Impervious, Inflow Depth = 1.30" for 2-Year event
Inflow = 9.52 cfs @ 12.13 hrs, Volume= 0.782 af
Primary = 9.52 cfs @ 12.13 hrs, Volume= 0.782 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA



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

SubcatchmentPi: Pr Impervious Runoff Area=126,283 sf 100.00% Impervious Runoff Depth=5.12"
Tc=6.0 min CN=0/98 Runoff=14.84 cfs 1.238 af

SubcatchmentPp: Pr Pervious Runoff Area=187,856 sf 0.00% Impervious Runoff Depth=0.28"
Tc=6.0 min CN=39/0 Runoff=0.24 cfs 0.100 af

Pond P: Proposed POA Inflow=14.84 cfs 1.338 af
Primary=14.84 cfs 1.338 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.338 af Average Runoff Depth = 2.23"
59.80% Pervious = 4.313 ac 40.20% Impervious = 2.899 ac

Summary for Subcatchment Pi: Pr Impervious

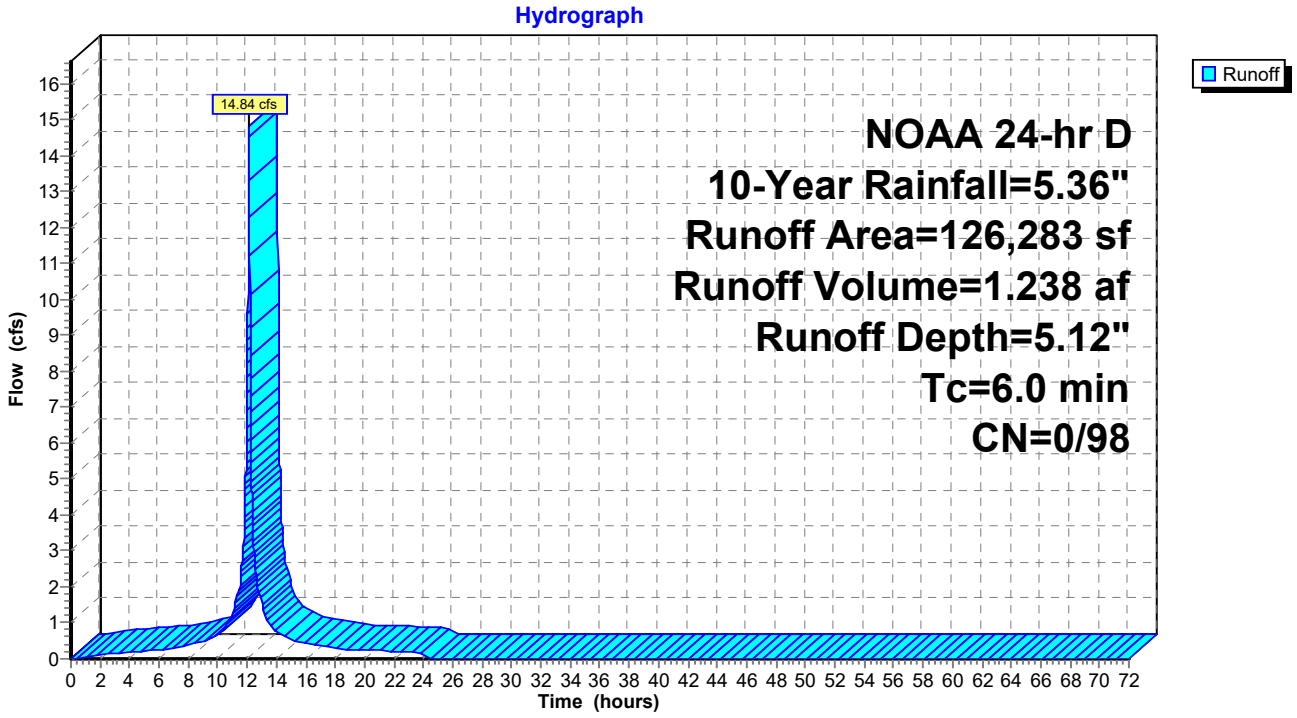
Runoff = 14.84 cfs @ 12.13 hrs, Volume= 1.238 af, Depth= 5.12"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
126,283	98	Unconnected pavement, HSG A
126,283	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious



Summary for Subcatchment Pp: Pr Pervious

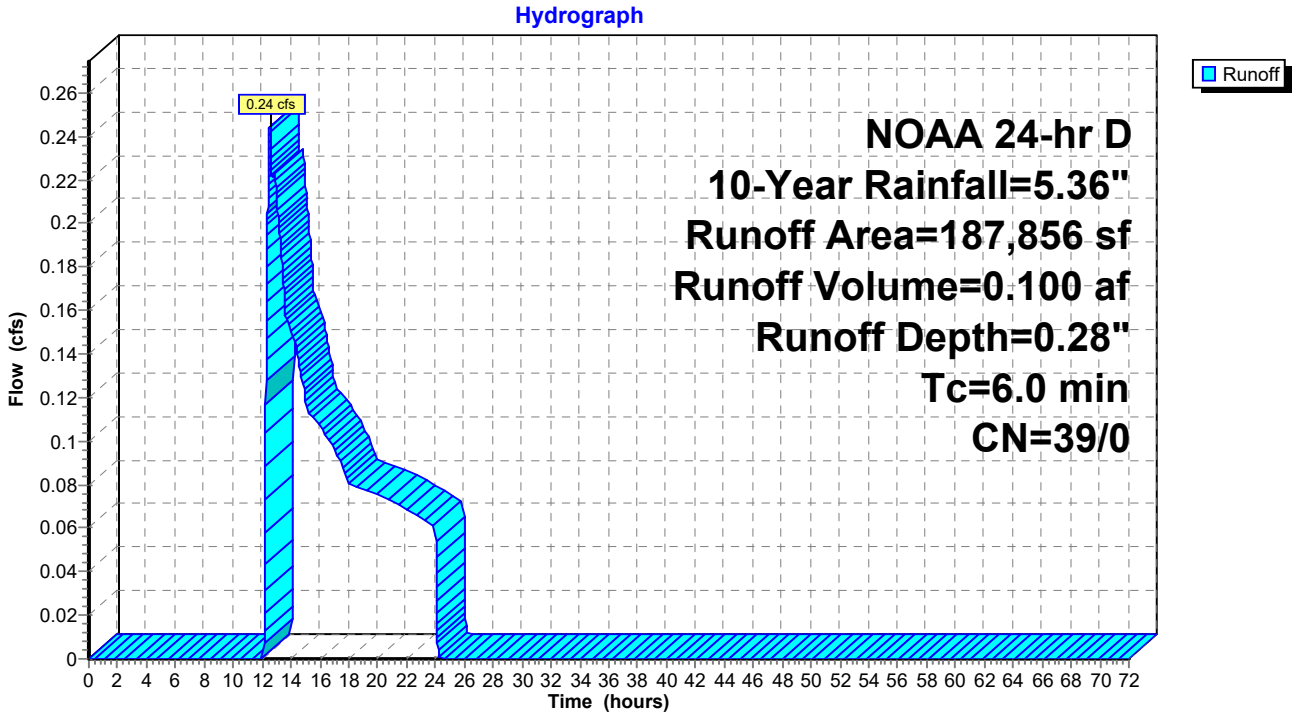
Runoff = 0.24 cfs @ 12.54 hrs, Volume= 0.100 af, Depth= 0.28"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
187,856	39	>75% Grass cover, Good, HSG A
187,856	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

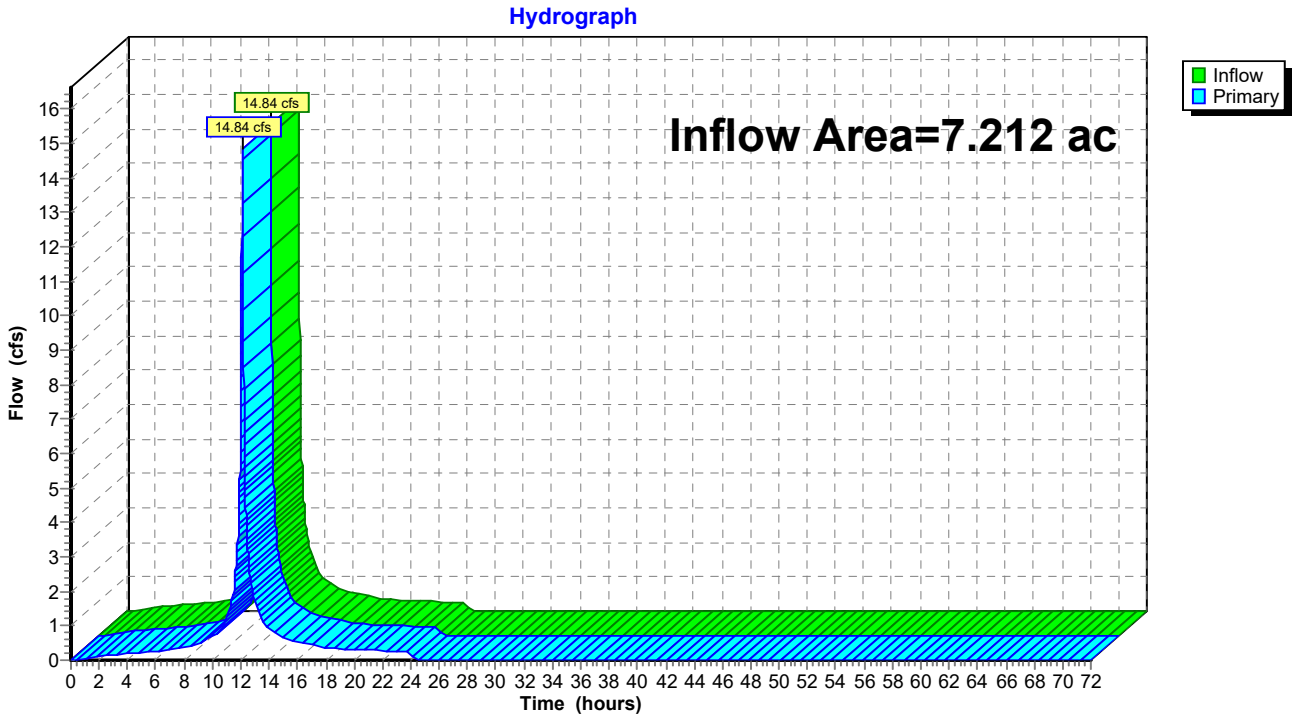


Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.20% Impervious, Inflow Depth = 2.23" for 10-Year event
Inflow = 14.84 cfs @ 12.13 hrs, Volume= 1.338 af
Primary = 14.84 cfs @ 12.13 hrs, Volume= 1.338 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA



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

SubcatchmentPi: Pr Impervious Runoff Area=126,283 sf 100.00% Impervious Runoff Depth=6.46"
Tc=6.0 min CN=0/98 Runoff=18.58 cfs 1.561 af

SubcatchmentPp: Pr Pervious Runoff Area=187,856 sf 0.00% Impervious Runoff Depth=0.66"
Tc=6.0 min CN=39/0 Runoff=1.57 cfs 0.239 af

Pond P: Proposed POA Inflow=19.93 cfs 1.800 af
Primary=19.93 cfs 1.800 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.800 af Average Runoff Depth = 2.99"
59.80% Pervious = 4.313 ac 40.20% Impervious = 2.899 ac

Summary for Subcatchment Pi: Pr Impervious

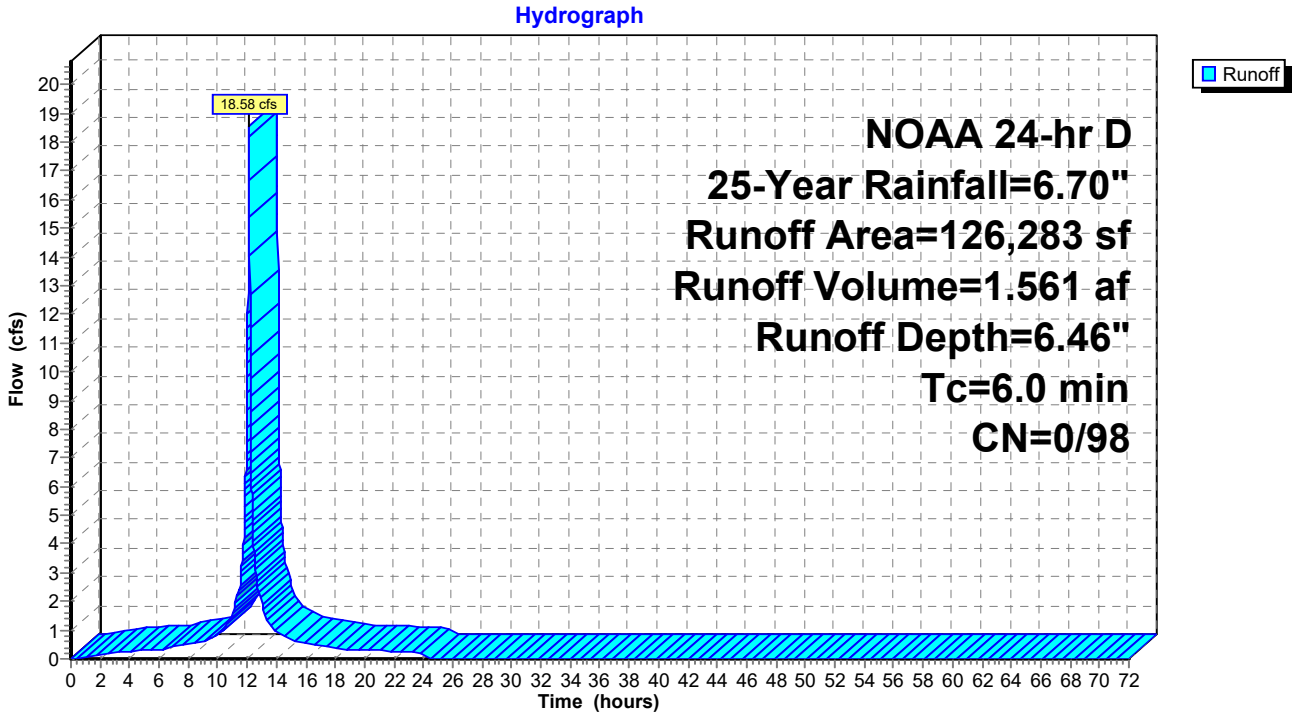
Runoff = 18.58 cfs @ 12.13 hrs, Volume= 1.561 af, Depth= 6.46"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
126,283	98	Unconnected pavement, HSG A
126,283	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious



Summary for Subcatchment Pp: Pr Pervious

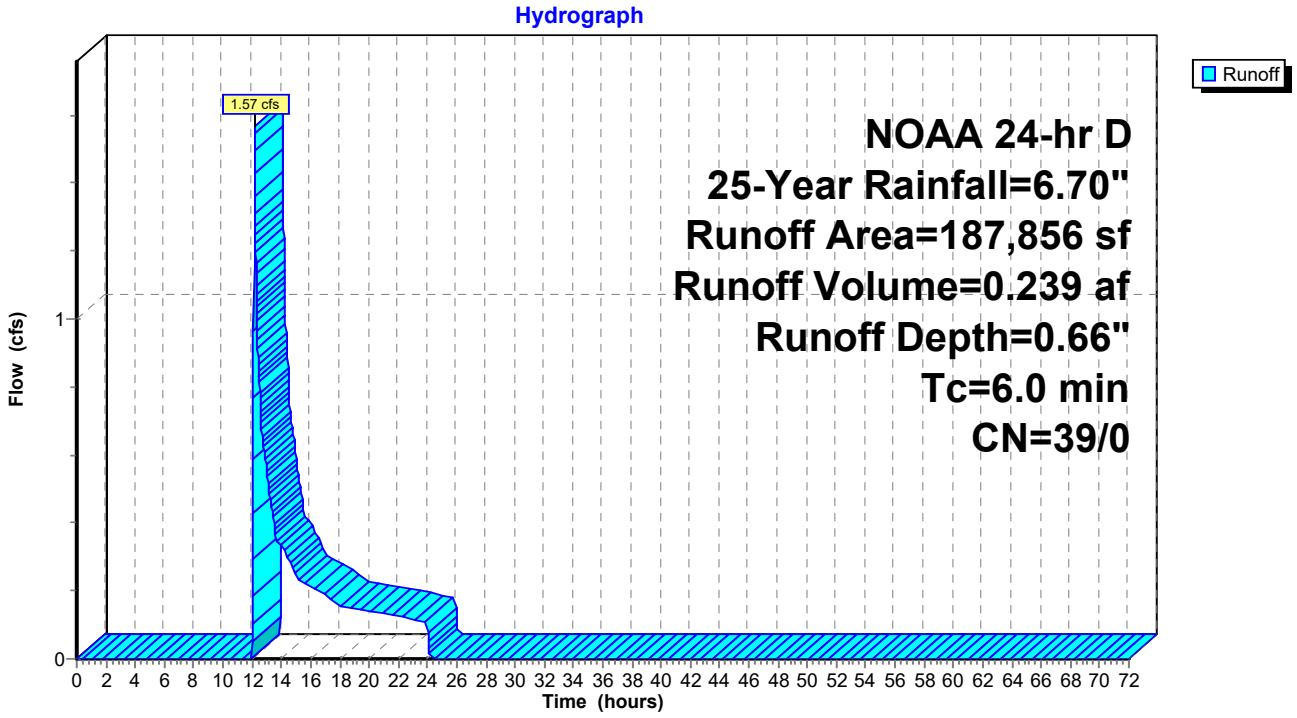
Runoff = 1.57 cfs @ 12.16 hrs, Volume= 0.239 af, Depth= 0.66"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
187,856	39	>75% Grass cover, Good, HSG A
187,856	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

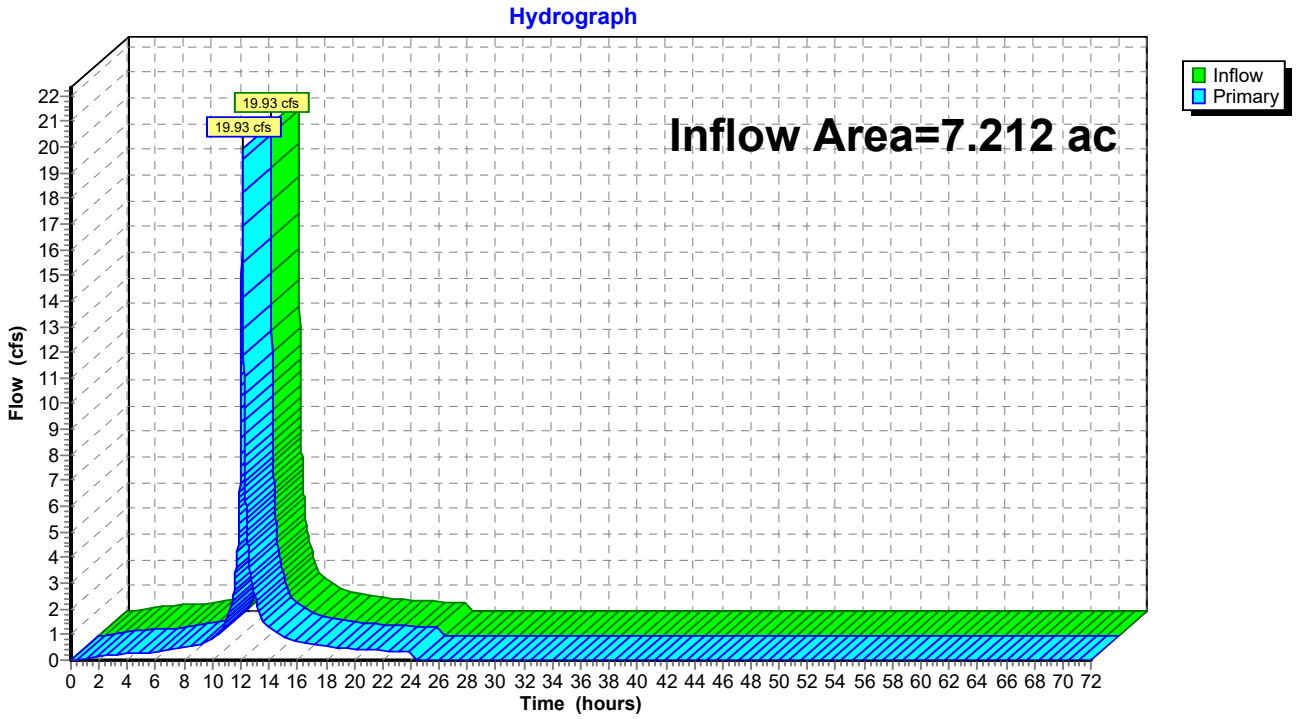


Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.20% Impervious, Inflow Depth = 2.99" for 25-Year event
Inflow = 19.93 cfs @ 12.13 hrs, Volume= 1.800 af
Primary = 19.93 cfs @ 12.13 hrs, Volume= 1.800 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA



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

SubcatchmentPi: Pr Impervious Runoff Area=126,283 sf 100.00% Impervious Runoff Depth=8.94"
Tc=6.0 min CN=0/98 Runoff=25.50 cfs 2.160 af

SubcatchmentPp: Pr Pervious Runoff Area=187,856 sf 0.00% Impervious Runoff Depth=1.69"
Tc=6.0 min CN=39/0 Runoff=7.16 cfs 0.607 af

Pond P: Proposed POA Inflow=32.51 cfs 2.766 af
Primary=32.51 cfs 2.766 af

Total Runoff Area = 7.212 ac Runoff Volume = 2.766 af Average Runoff Depth = 4.60"
59.80% Pervious = 4.313 ac 40.20% Impervious = 2.899 ac

Summary for Subcatchment Pi: Pr Impervious

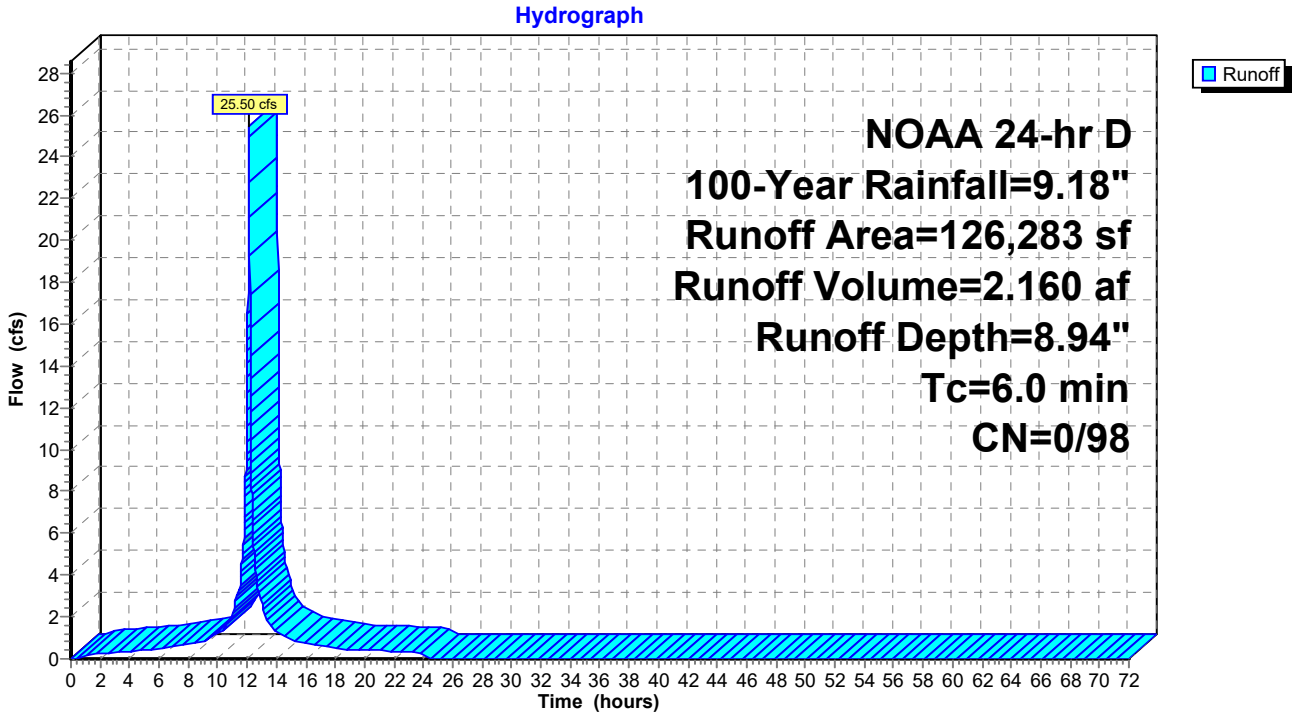
Runoff = 25.50 cfs @ 12.13 hrs, Volume= 2.160 af, Depth= 8.94"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
126,283	98	Unconnected pavement, HSG A
126,283	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious



Summary for Subcatchment Pp: Pr Pervious

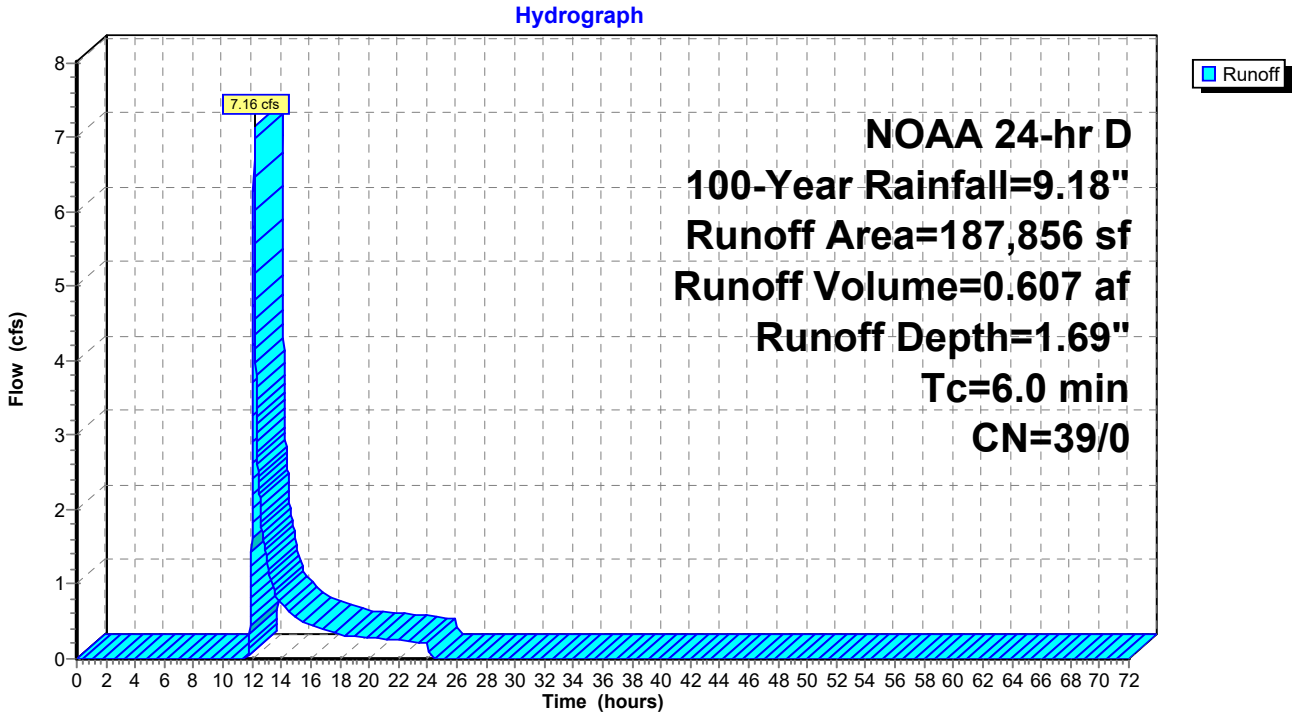
Runoff = 7.16 cfs @ 12.14 hrs, Volume= 0.607 af, Depth= 1.69"
Routed to Pond P : Proposed POA

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
187,856	39	>75% Grass cover, Good, HSG A
187,856	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

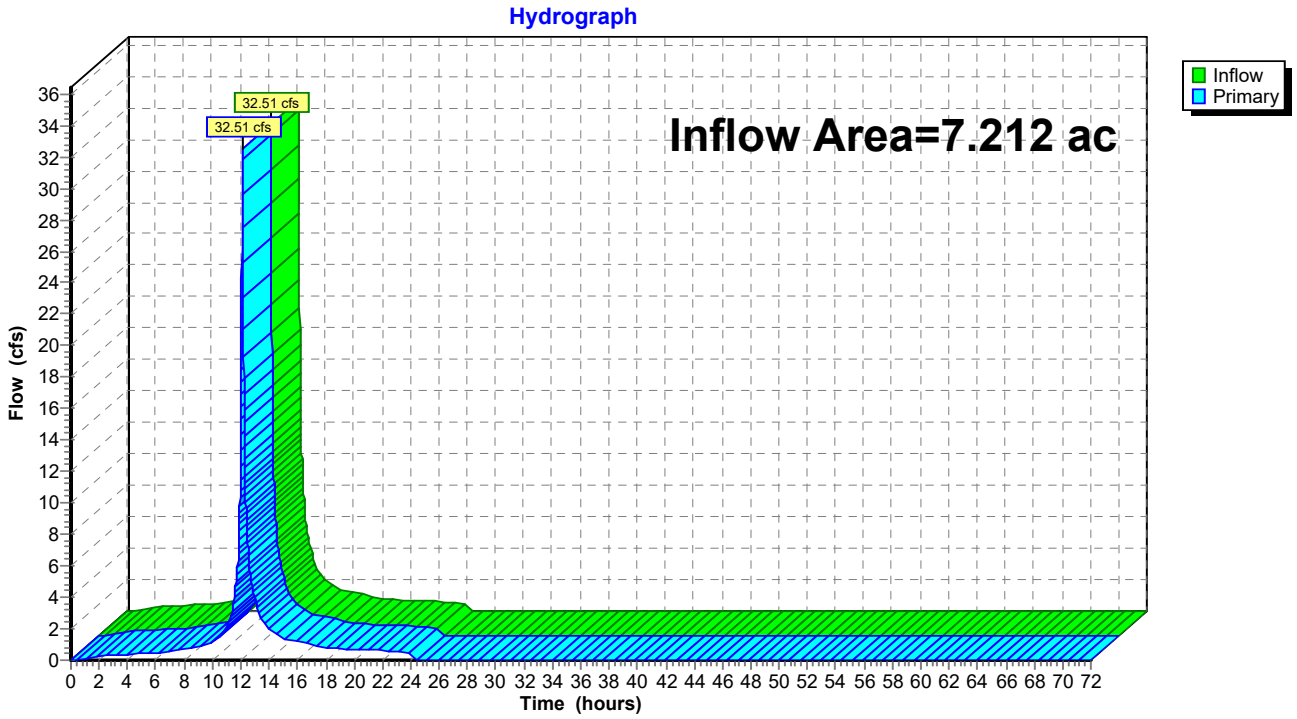


Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.20% Impervious, Inflow Depth = 4.60" for 100-Year event
Inflow = 32.51 cfs @ 12.13 hrs, Volume= 2.766 af
Primary = 32.51 cfs @ 12.13 hrs, Volume= 2.766 af, Atten= 0%, Lag= 0.0 min

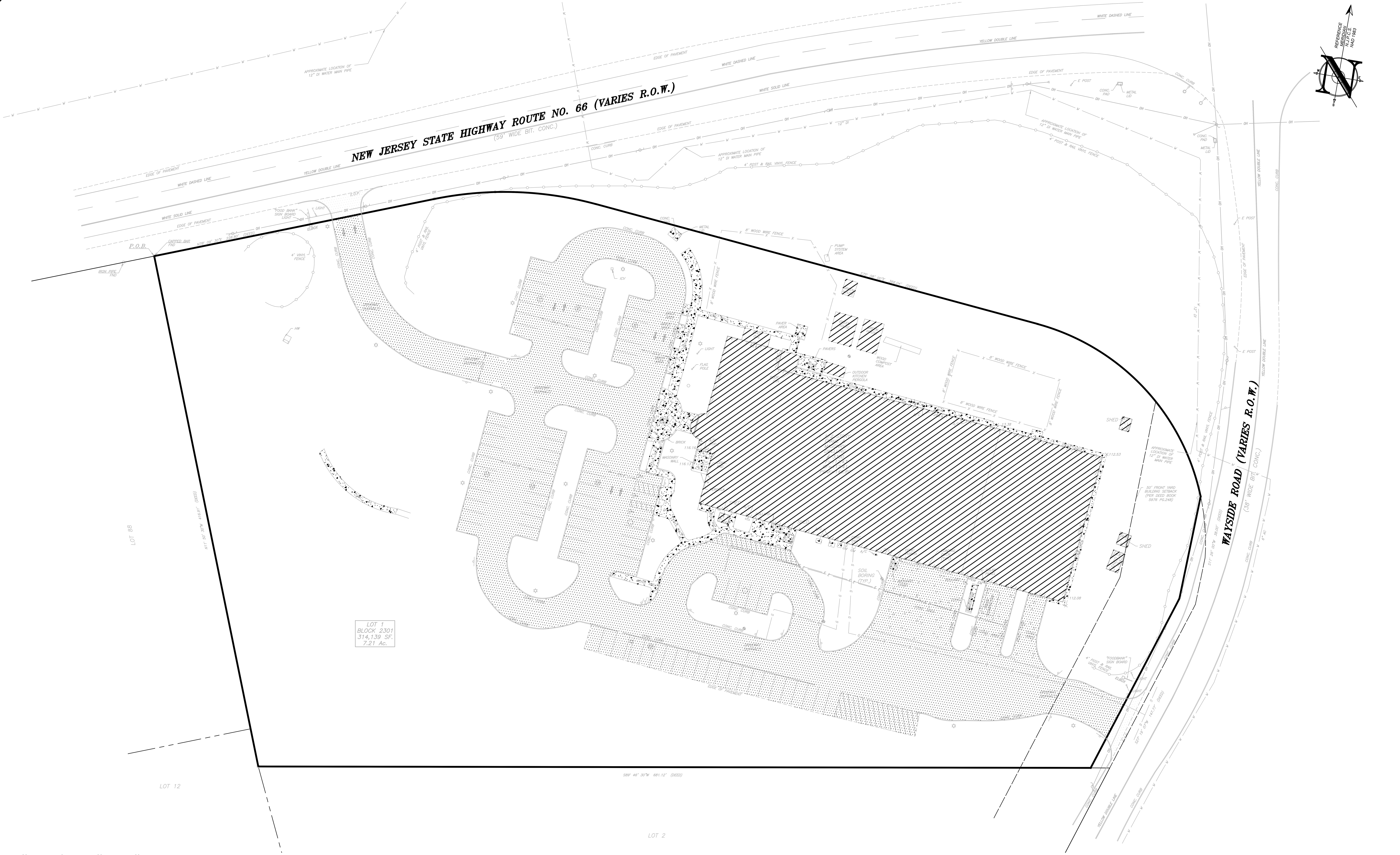
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA



A P P E N D I X D

Pre-Development Coverage Map



30 0 30 60

SCALE : 1" = 30'

LEGEND

EXISTING		PROPOSED
	BOUNDARY LINE	
58	CONTOUR LINE	10
+46.80	SPOT ELEVATION	+46.80
	BUILDING	
	WALL	
G	GAS	GAS
W	WATER	WTR
	INLET	
	STORM	D
	SANITARY MAIN	S
SAN CO	SANITARY LATERAL	SAN CO
OH	OVERHEAD WIRE	O/H
E	ELECTRIC	E
T	TELEPHONE	TEL
	UTILITY POLE	
	HYDRANT	
	SIGN POST	
x	FENCE	x
	LIGHT FIXTURE	
TP-1	TEST PIT LOCATION	TP-1
	GRADE FLOW ARROW	
	SWALE CENTER LINE	℄

PAVEMENT LEGEND

HATCH	SURFACE	AREA
░	MOTOR VEHICLE SURFACE	67,959 SF (1.56 AC) (21.6%)
▨	STRUCTURE	40,008 SF (0.92 AC) (12.8%)
▦	CONCRETE/ WALKWAY/ PAVERS	7,488 SF (0.17 AC) (2.4%)
☐	PERVIOUS	198,684 SF (4.56 AC) (63.2%)
	TOTAL	314,139 SF (7.21 AC)

PROJECT INFORMATION

PROJECT NAME:

FULFILL FOOD BANK

fulfill MONMOUTH & OCEAN

PROJECT LOCATION:
BLOCK 2301, LOT 1
TAX MAP #23
3300 ROUTE 66
TOWNSHIP OF NEPTUNE ,
MONMOUTH COUNTY, NJ

OWNER / APPLICANT:
FOOD BANK OF MONMOUTH & OCEAN COUNTY
3300 ROUTE 66
TOWNSHIP OF NEPTUNE, NJ 07753

APPLICANT'S PROFESSIONALS

SURVEYOR:
INSITE SURVEYING, LLC
1955 NJ 34 #1A
WALL TOWNSHIP, NJ 07719

ARCHITECT:
REDCOM DESIGN AND CONSTRUCTION, LLC
433 NORTH AVE EAST
P.O. BOX 160
WESTFIELD, NJ 07090

ATTORNEY:
JENNIFER S. KRIMKO, ESQ.
ANSELL GRIMM & AARON, PC
1500 LAWRENCE AVENUE - CN7807
OCEAN, NJ 07712

INSITE ENGINEERING, LLC SINCE 2003

CALL BEFORE YOU DIG!
NJ ONE CALL.....800-272-1000
(at least 3 days prior to excavation)

ELECTRIC	RED
GAS / OIL	YELLOW
COMMUNICATION / TV	ORANGE
WATER	BLUE
SEWER	GREEN
TEMP. SURVEY MARKINGS	MAGENTA
PROPOSED EXCAVATION	WHITE

INSITE Engineering • Surveying • Planning
InSite Engineering, LLC
CERTIFICATE OF AUTHORIZATION: 24GA28083200
1955 ROUTE 34, SUITE 1A, WALL, NJ 07719
732-531-7100 (Ph) 732-531-7344 (Fax)
InSite@InSiteEng.net www.InSiteEng.net

LICENSED IN: NEW JERSEY, NEW YORK, PENNSYLVANIA DELAWARE, CONNECTICUT, NORTH CAROLINA COLORADO, & DISTRICT OF COLUMBIA

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

Christopher M. Bednarski

CHRISTOPHER M. BEDNARSKI, P.E.
PROFESSIONAL ENGINEER
NJPE LIC. NO. 24GE05256400

REVISIONS

Rev.#	Date	Comment
4	01/10/24	REVISED PER FSCD & CLIENT COMMENTS
3	10/20/23	PLANNING BOARD SUBMISSION
2	09/27/23	REV PER CLIENT COMMENTS
1	08/25/23	REV PER CLIENT COMMENTS
0	05/10/23	INITIAL RELEASE

SCALE: 1"=30'	DESIGNED BY: STC
DATE: 05/10/23	DRAWN BY: STC
JOB #: 23-2111-01	CHECKED BY: CMB
CAD ID: 23-2111-01r1	

☒ NOT FOR CONSTRUCTION

APPROVED BY:

☐ FOR CONSTRUCTION

PLAN INFORMATION

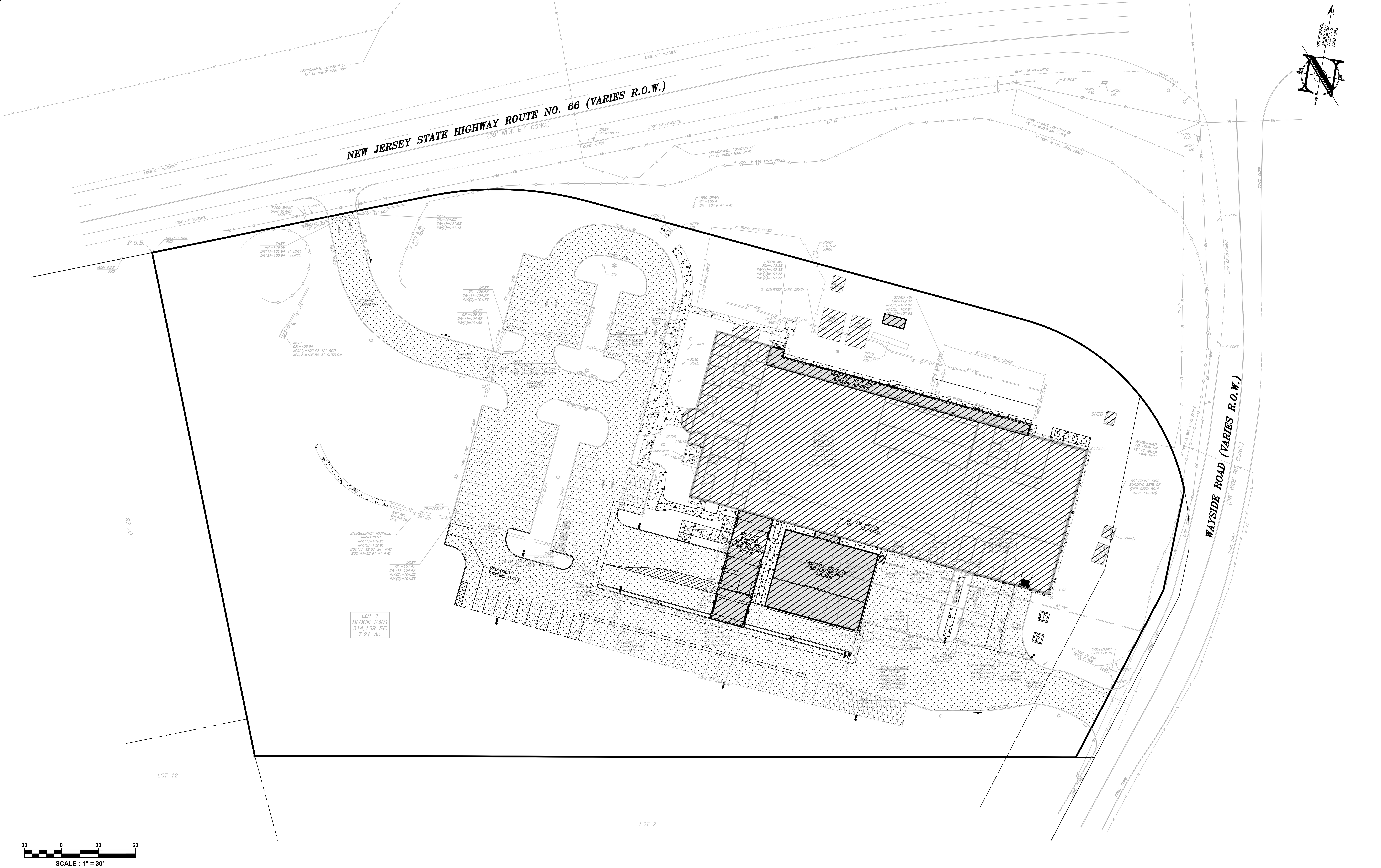
DRAWING TITLE:
PRELIMINARY & FINAL MAJOR SITE PLAN

SHEET TITLE:
PRE-DEVELOPMENT COVERAGE MAP

SHEET NO:
1 OF 2

A P P E N D I X E

Post-Development Coverage Map



LEGEND

EXISTING		PROPOSED
	BOUNDARY LINE	
58	CONTOUR LINE	10
+ 46.80	SPOT ELEVATION	+46.80
	BUILDING	
	WALL	
G	GAS	GAS
W	WATER	WTR
	INLET	
	STORM	D
	SANITARY MAIN	S
SAN CO	SANITARY LATERAL	SAN CO
OH	OVERHEAD WIRE	O/H
E	ELECTRIC	E
T	TELEPHONE	TEL
	UTILITY POLE	
	HYDRANT	
	SIGN POST	
x	FENCE	x
	LIGHT FIXTURE	
TP-1	TEST PIT LOCATION	TP-1
	GRADE FLOW ARROW	
	SWALE CENTER LINE	

PAVEMENT LEGEND

HATCH	SURFACE	AREA
	MOTOR VEHICLE SURFACE	70,160 SF (1.61 AC) (22.3%)
	STRUCTURE	48,341 SF (1.11 AC) (15.4%)
	CONCRETE/ WALKWAY/ PAVERS	7,782 SF (0.18 AC) (2.5%)
	PERVIOUS	187,856 SF (4.31 AC) (59.8%)
	TOTAL	314,139 SF (7.21 AC)
	NET NEW MVS	+2,201 SF
	NET NEW IMPERVIOUS	+10,828 SF (0.249 AC)

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SEWER	GREEN
TEMP. SURVEY MARKINGS	MAGENTA
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CAD ID: 23-2111-01r1	

☒ NOT FOR CONSTRUCTION
APPROVED BY:
☐ FOR CONSTRUCTION

PLAN INFORMATION

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SHEET TITLE:
POST-DEVELOPMENT COVERAGE MAP

SHEET NO.:
2 OF 2