

**Stormwater Management Report  
Hartford Truck Equipment  
45 John Fitch Boulevard & 542 King Street  
South Windsor, Connecticut**

Prepared by:

**Design Professionals, Inc.  
21 Jeffrey Drive  
South Windsor, CT 06074**

**December 22, 2021**



# Table of Contents

<b><u>Section</u></b>	<b><u>Page</u></b>
Introduction	2
Pre-Development Site Conditions	2
Post-Development Site Conditions	3
Analysis of Results	3
Conclusion	3

## **Appendices**

A	Pre-Development Drainage HydroCAD Report
B	Post-Development Drainage HydroCAD Report
C	NRCS Soil Map & Data
D	NOAA Atlas 14 Rainfall Data
E	Drainage Area Maps
	Existing Condition Drainage Area Map
	Proposed Condition Drainage Area Map

## **Introduction**

Hartford Truck Equipment, Inc. (current site occupant and affiliate of property owner McGuire Road Associates, LLC) is proposing site improvements to a tract of land comprised of two properties located at 45 John Fitch Boulevard & 542 King Street, South Windsor, Connecticut. The properties are referenced on the Town of South Windsor Tax Assessors map as GIS#:47700045 & 50400542 respectively. The proposed site improvements will include the construction of an eight-foot-tall berm spanning approximately 1,000± LF along its King Street frontage. Associated site improvements will include modifications to existing site driveways, berm landscaping and stormwater management BMP's.

The total combined tract area is 11.44 acres. 3.58± acres of this area are proposed to be disturbed during construction. For more information, please refer to the plans entitled "Hartford Truck Equipment ~ Site Plan Application - Landscape Berm ~ 45 John Fitch Boulevard & 542 King Street ~ South Windsor, CT ~ GIS#: 50400542 & 47700045" prepared by Design Professionals, Inc., and dated December 22, 2021, as amended.

## **Pre-Development Site Conditions**

The existing surficial characteristics of the area to be improved can be primarily classified as undisturbed meadow area with some grass and woodland areas around the site boundary. Review of offsite topology indicated that the site currently accepts runoff from some of its southerly property abutters today. A ridgeline spanning south-west to north-east across the site's midsection was also identified as the main drainage divide on the property. Offsite runoff from the properties southerly abutters and the portion of the site east of the drainage divide, drain to an existing catch basin onsite where it is then conveyed to an existing Catch Basin in King Street via a 42" RCP culvert. The portion of the site to the west of the drainage divide flows overland to this same catch basin.

The catchbasin in King Street was selected as the design point for our drainage analysis. This catch basin ultimately drains to The Podunk River and is a part of local basin ID 4004-00-2-R1. Existing conditions watershed delineations are identified in the Existing Conditions Drainage Map located in **Appendix E**. Based on Natural Resources Conservation Service (NRCS) Hydrologic Soil Group (HSG) mapping, soil types A, B, C, & D are located on site. See **Appendix C** for The NRCS Soil Map & Data.

An evaluation was performed to quantify the peak rate of stormwater discharge offsite to the design points identified. The Natural Resources Conservation Service's TR-55 Manual was followed in predicting the peak rates of runoff and volumes. HydroCAD computer modeling software was utilized.

Peak rates of stormwater runoff were evaluated for the 2-, 10-, 25-, 50- and 100-year storm events. Peak rates of stormwater runoff were evaluated for the 2-, 10-, 25-, 50- and 100-year storm events. Rainfall data from NOAA Atlas 14 Point Frequency Estimates was used to generate storm conditions. NOAA Atlas 14 rainfall data is included in **Appendix D** for reference. For more information, please refer to the enclosed Pre-Development Drainage HydroCAD Report located in **Appendix A**.

## **Post-Development Site Conditions**

The proposed site improvements will include the construction of an eight-foot-tall berm spanning approximately 1,100± LF along its King Street frontage. Associated site improvements will include modifications to existing site driveways, berm landscaping and stormwater management BMP's. No new impervious surface area is proposed with this plan. The plan achieved a net reduction in impervious surface due to the proposed removal of existing driveways onsite. The design intent of the stormwater management system was to ensure that the berm would not act as a dam, preventing stormwater from reaching the catch basin in King Street where the site drains today. An infiltration basin is proposed along the toe of the berm to accomplish this.

The web soil survey indicated that B type soils cover most of the area on site. The survey reported that the hydraulic conductivity of these B type can range from 0 – 1.98 in/hr. The infiltration basin design considered an average infiltration rate of 1.0 in/hr based on this. The soil survey also indicated that the water table onsite can range from 54” – 72”. The design of the infiltration basin assumed an average depth of 60” to the water table. The CT 2004 Stormwater Quality Manual recommends that infiltration basins be designed with a minimum separation distance of 36” to the high-water elevation. The basin design took credit for infiltration where the final cut would be no more than 24” below the existing grade to comply with this recommendation. See **Appendix B** for the Post Development Condition and Pond summary HydroCAD reports. The Proposed Conditions Drainage Map for the site can be found in **Appendix E**.

## **Analysis of Results**

The pre-development and post-development conditions were analyzed using HydroCAD consistent with National Resource Conservation Service (NRCS) hydrology methods. One discharge location (**Design Point #1**) was identified as a point of interest for assessing downstream effects. The following table contains the data generated from the HydroCAD software:

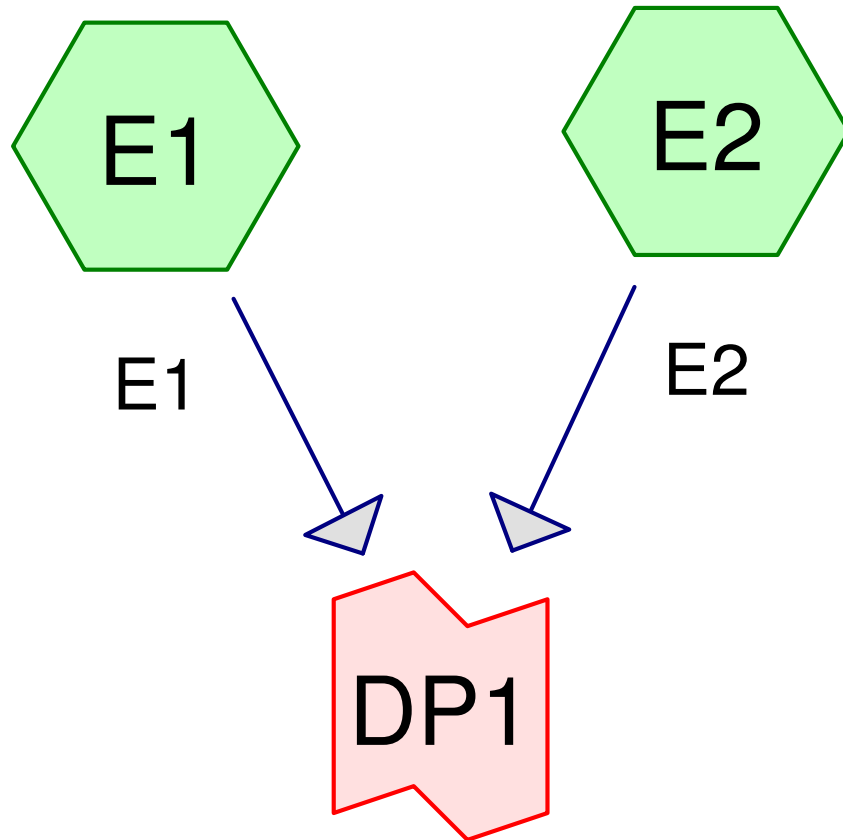
Reach		2 year	10 year	25 year	50 year	100 year
DP#1 – Existing CB in King Street	Pre	3.36	11.11	17.09	21.71	27.16
	Post	3.15	9.14	13.51	16.85	20.75

As seen in the table above, storm events evaluated for the subject project will result in peak runoff rates in the proposed condition that are less than the peak runoff rates of the existing condition for 2-, 10-, 25-, 50- and 100-year design storms.

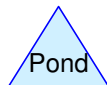
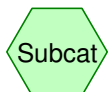
## **Conclusion**

The proposed stormwater management system as discussed herein and shown on the referenced plans is appropriate for the proposed development on the subject site and should not pose any detrimental impacts to the environment.

**APPENDIX A**  
**Watershed Computations**  
**(Pre-Development Drainage HydroCAD Report)**



DP1 (Existing Condition)



**Routing Diagram for 2482.H - HydroCAD**

Prepared by Design Professionals, Inc. , Printed 12/21/2021  
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/21/2021

Page 2

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

### Subcatchment E1: E1

Runoff Area=241,775 sf 8.69% Impervious Runoff Depth=0.33"  
Flow Length=735' Tc=32.2 min CN=59 Runoff=0.68 cfs 0.153 af

### Subcatchment E2: E2

Runoff Area=395,349 sf 28.72% Impervious Runoff Depth=0.71"  
Flow Length=936' Tc=53.4 min CN=69 Runoff=2.74 cfs 0.539 af

### Link DP1: DP1 (Existing Condition)

Inflow=3.36 cfs 0.692 af  
Primary=3.36 cfs 0.692 af

**Total Runoff Area = 14.626 ac Runoff Volume = 0.692 af Average Runoff Depth = 0.57"**  
**78.88% Pervious = 11.537 ac 21.12% Impervious = 3.089 ac**

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions

Type III 24-hr 10-yr 24 hr Rainfall=4.88"

Printed 12/21/2021

Page 3

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

### Subcatchment E1: E1

Runoff Area=241,775 sf 8.69% Impervious Runoff Depth=1.17"

Flow Length=735' Tc=32.2 min CN=59 Runoff=3.63 cfs 0.540 af

### Subcatchment E2: E2

Runoff Area=395,349 sf 28.72% Impervious Runoff Depth=1.87"

Flow Length=936' Tc=53.4 min CN=69 Runoff=8.13 cfs 1.415 af

### Link DP1: DP1 (Existing Condition)

Inflow=11.11 cfs 1.955 af

Primary=11.11 cfs 1.955 af

**Total Runoff Area = 14.626 ac Runoff Volume = 1.955 af Average Runoff Depth = 1.60"**  
**78.88% Pervious = 11.537 ac 21.12% Impervious = 3.089 ac**



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 25-yr 24 hr Rainfall=6.01"

Printed 12/21/2021

Page 4

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

### Subcatchment E1: E1

Runoff Area=241,775 sf 8.69% Impervious Runoff Depth=1.85"  
Flow Length=735' Tc=32.2 min CN=59 Runoff=6.13 cfs 0.853 af

### Subcatchment E2: E2

Runoff Area=395,349 sf 28.72% Impervious Runoff Depth=2.72"  
Flow Length=936' Tc=53.4 min CN=69 Runoff=12.06 cfs 2.057 af

### Link DP1: DP1 (Existing Condition)

Inflow=17.09 cfs 2.911 af  
Primary=17.09 cfs 2.911 af

**Total Runoff Area = 14.626 ac Runoff Volume = 2.911 af Average Runoff Depth = 2.39"**  
**78.88% Pervious = 11.537 ac 21.12% Impervious = 3.089 ac**

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 50-yr 24 hr Rainfall=6.83"

Printed 12/21/2021

Page 5

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

### Subcatchment E1: E1

Runoff Area=241,775 sf 8.69% Impervious Runoff Depth=2.39"  
Flow Length=735' Tc=32.2 min CN=59 Runoff=8.14 cfs 1.105 af

### Subcatchment E2: E2

Runoff Area=395,349 sf 28.72% Impervious Runoff Depth=3.38"  
Flow Length=936' Tc=53.4 min CN=69 Runoff=15.06 cfs 2.553 af

### Link DP1: DP1 (Existing Condition)

Inflow=21.73 cfs 3.658 af  
Primary=21.73 cfs 3.658 af

**Total Runoff Area = 14.626 ac Runoff Volume = 3.658 af Average Runoff Depth = 3.00"**  
**78.88% Pervious = 11.537 ac 21.12% Impervious = 3.089 ac**

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 100-yr 24 hr Rainfall=7.75"

Printed 12/21/2021

Page 6

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

### Subcatchment E1: E1

Runoff Area=241,775 sf 8.69% Impervious Runoff Depth=3.04"  
Flow Length=735' Tc=32.2 min CN=59 Runoff=10.54 cfs 1.406 af

### Subcatchment E2: E2

Runoff Area=395,349 sf 28.72% Impervious Runoff Depth=4.14"  
Flow Length=936' Tc=53.4 min CN=69 Runoff=18.53 cfs 3.130 af

### Link DP1: DP1 (Existing Condition)

Inflow=27.16 cfs 4.535 af  
Primary=27.16 cfs 4.535 af

**Total Runoff Area = 14.626 ac Runoff Volume = 4.535 af Average Runoff Depth = 3.72"**  
**78.88% Pervious = 11.537 ac 21.12% Impervious = 3.089 ac**

**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions

Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/21/2021

Page 7

**Summary for Subcatchment E1: E1**

Runoff = 0.68 cfs @ 12.65 hrs, Volume= 0.153 af, Depth= 0.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Area (sf)	CN	Description
19,452	39	>75% Grass cover, Good, HSG A
5,573	61	>75% Grass cover, Good, HSG B
* 21,019	98	IMPERVIOUS
1,467	30	Meadow, non-grazed, HSG A
170,002	58	Meadow, non-grazed, HSG B
29	71	Meadow, non-grazed, HSG C
2,314	78	Meadow, non-grazed, HSG D
4,974	30	Woods, Good, HSG A
14,843	55	Woods, Good, HSG B
1,962	70	Woods, Good, HSG C
140	77	Woods, Good, HSG D
241,775	59	Weighted Average
220,756		91.31% Pervious Area
21,019		8.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	100	0.0520	0.11		<b>Sheet Flow, Woods SF</b>
					Woods: Light underbrush n= 0.400 P2= 3.08"
17.3	635	0.0150	0.61		<b>Shallow Concentrated Flow, Woodland SCF</b>
					Woodland Kv= 5.0 fps
32.2	735	Total			

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

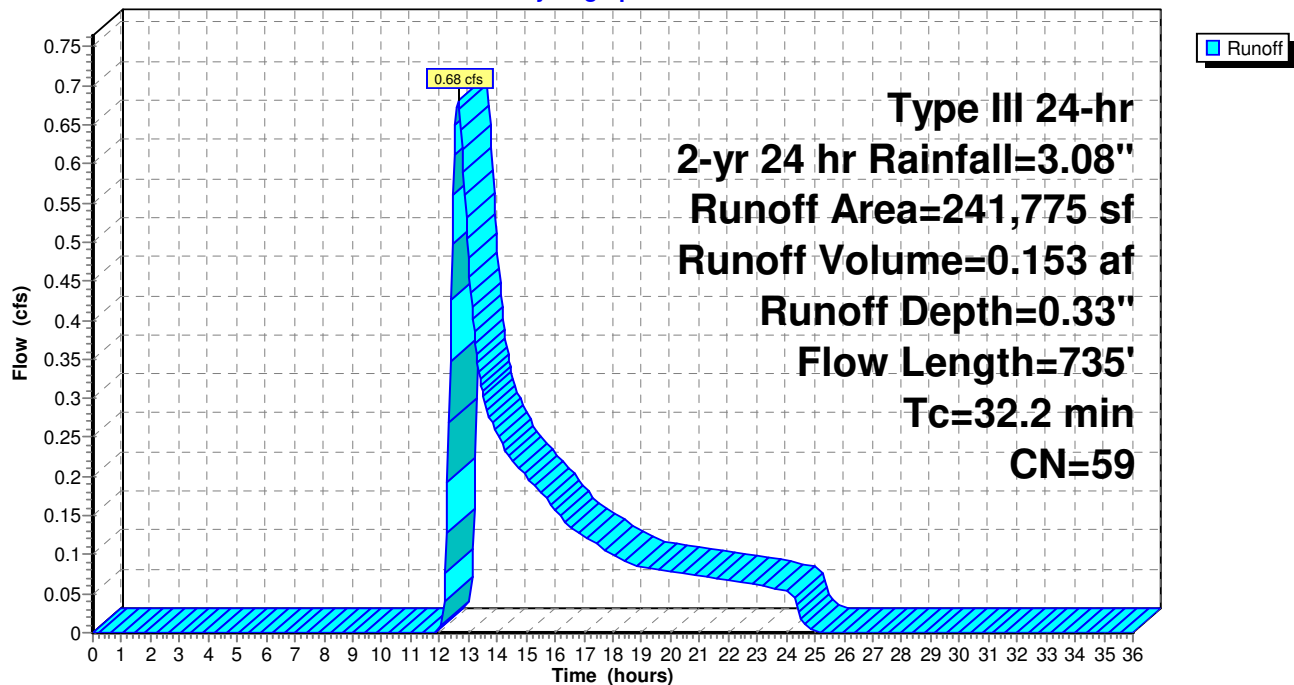
Existing Conditions  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/21/2021

Page 8

### Subcatchment E1: E1

Hydrograph



**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions

Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/21/2021

Page 9

**Summary for Subcatchment E2: E2**

Runoff = 2.74 cfs @ 12.83 hrs, Volume= 0.539 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Area (sf)	CN	Description
44,072	61	>75% Grass cover, Good, HSG B
* 113,537	98	IMPERVIOUS
165,668	58	Meadow, non-grazed, HSG B
72,072	55	Woods, Good, HSG B
395,349	69	Weighted Average
281,812		71.28% Pervious Area
113,537		28.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.6	100	0.0080	0.05		<b>Sheet Flow, Woods SF</b> Woods: Light underbrush n= 0.400 P2= 3.08"
21.1	491	0.0060	0.39		<b>Shallow Concentrated Flow, Woodland SCF</b> Woodland Kv= 5.0 fps
0.7	345	0.0050	8.01	77.07	<b>Pipe Channel, 42IN RCP</b> 42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88' n= 0.012 Concrete pipe, finished
53.4	936	Total			

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions

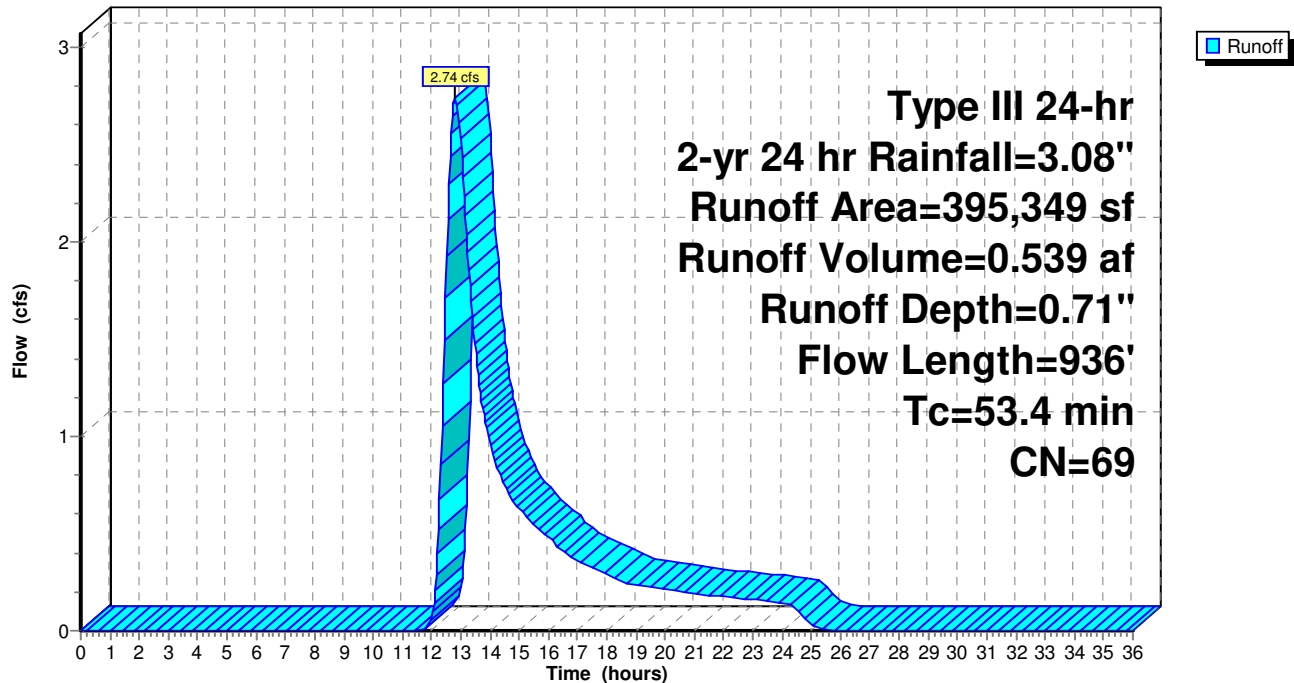
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/21/2021

Page 10

### Subcatchment E2: E2

Hydrograph



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/21/2021

Page 11

### Summary for Link DP1: DP1 (Existing Condition)

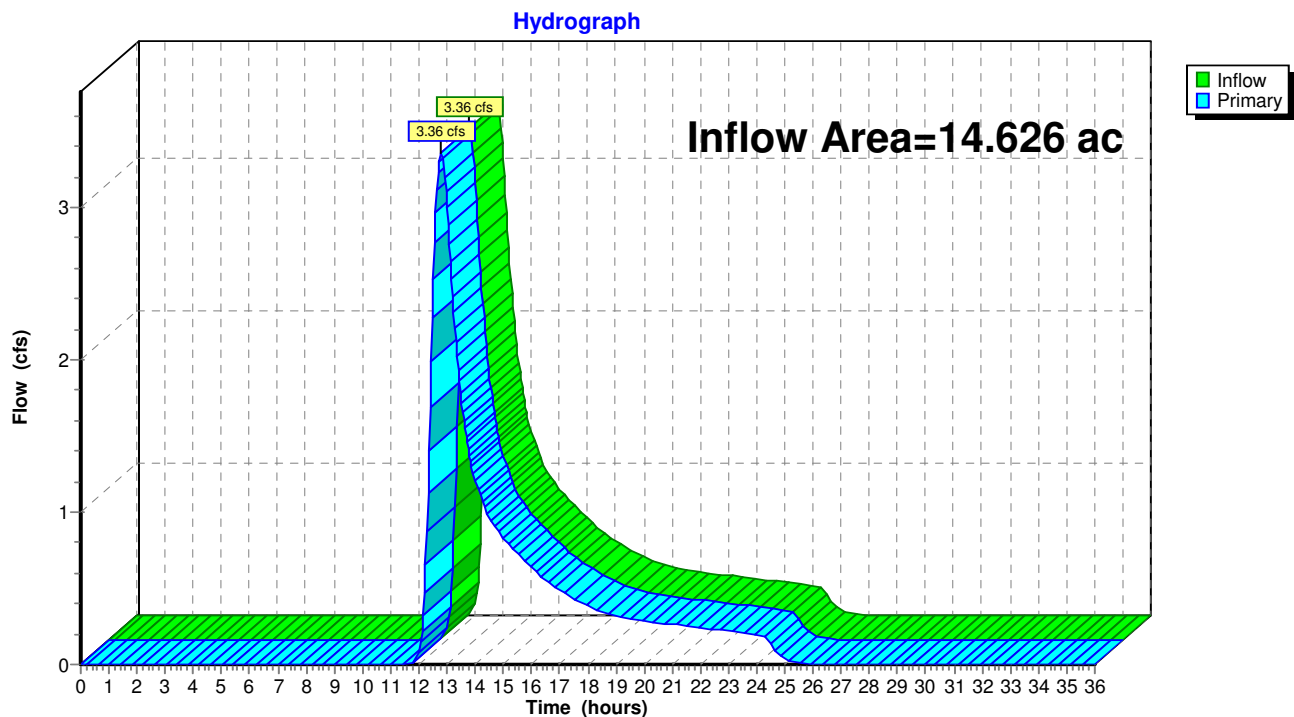
Inflow Area = 14.626 ac, 21.12% Impervious, Inflow Depth = 0.57" for 2-yr 24 hr event

Inflow = 3.36 cfs @ 12.78 hrs, Volume= 0.692 af

Primary = 3.36 cfs @ 12.78 hrs, Volume= 0.692 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

### Link DP1: DP1 (Existing Condition)





## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

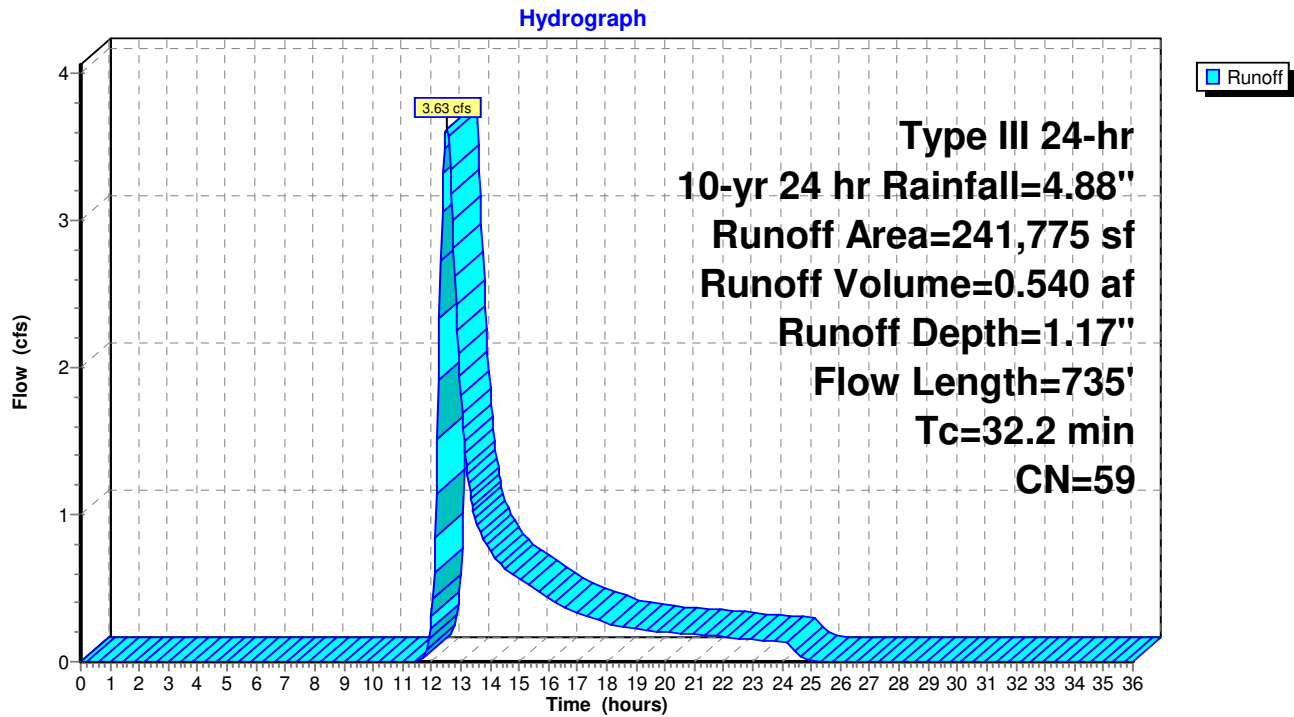
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 10-yr 24 hr Rainfall=4.88"

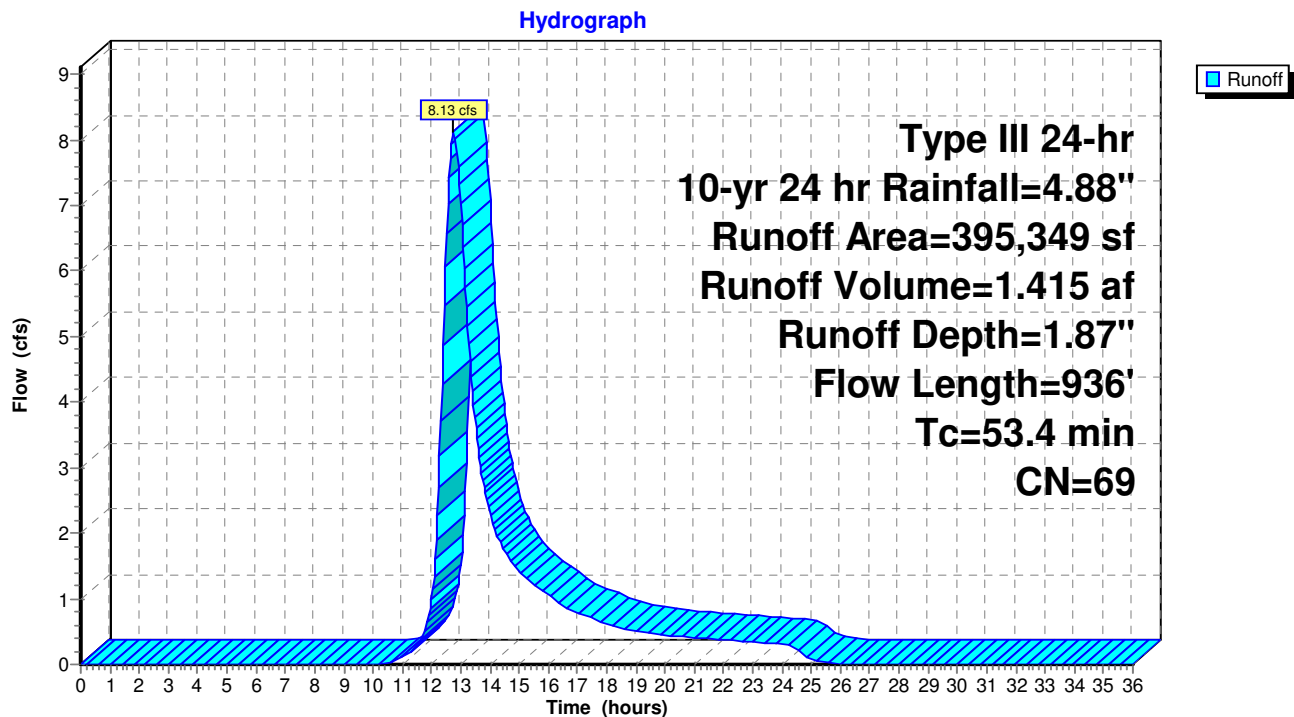
Printed 12/21/2021

Page 12

### Subcatchment E1: E1



### Subcatchment E2: E2



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

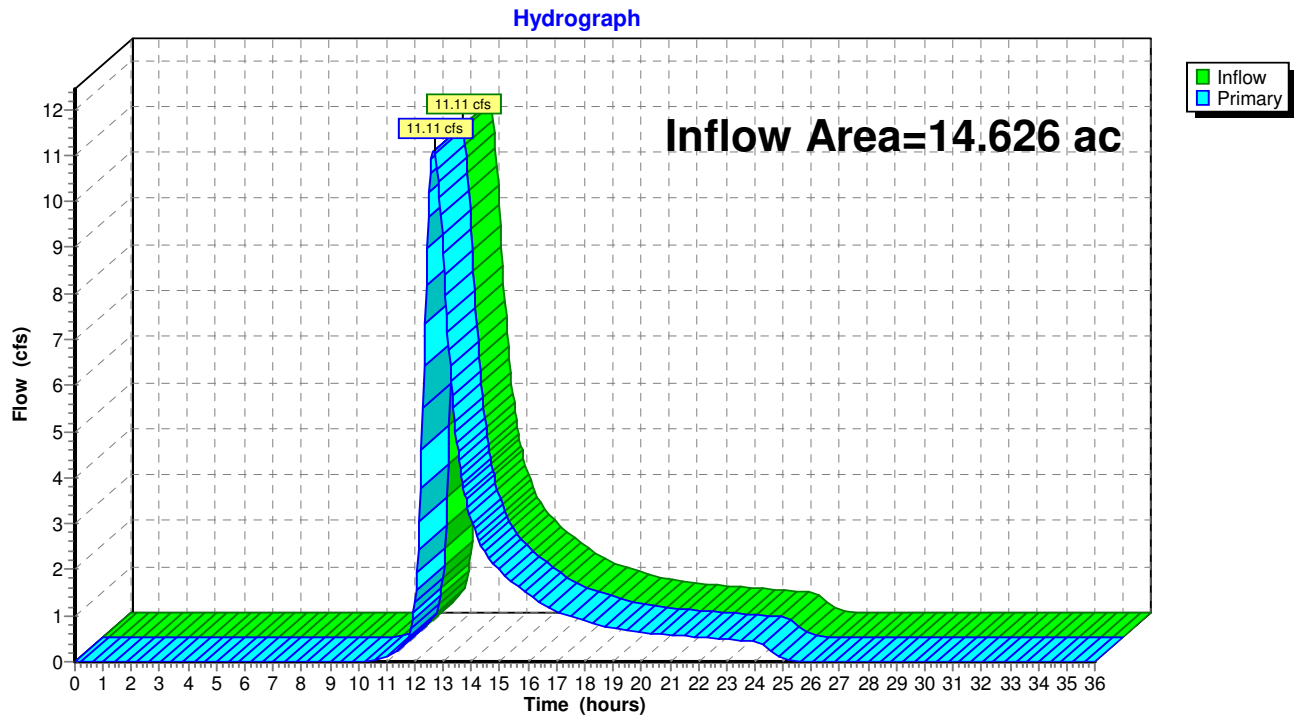
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 10-yr 24 hr Rainfall=4.88"

Printed 12/21/2021

Page 13

### Link DP1: DP1 (Existing Condition)



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

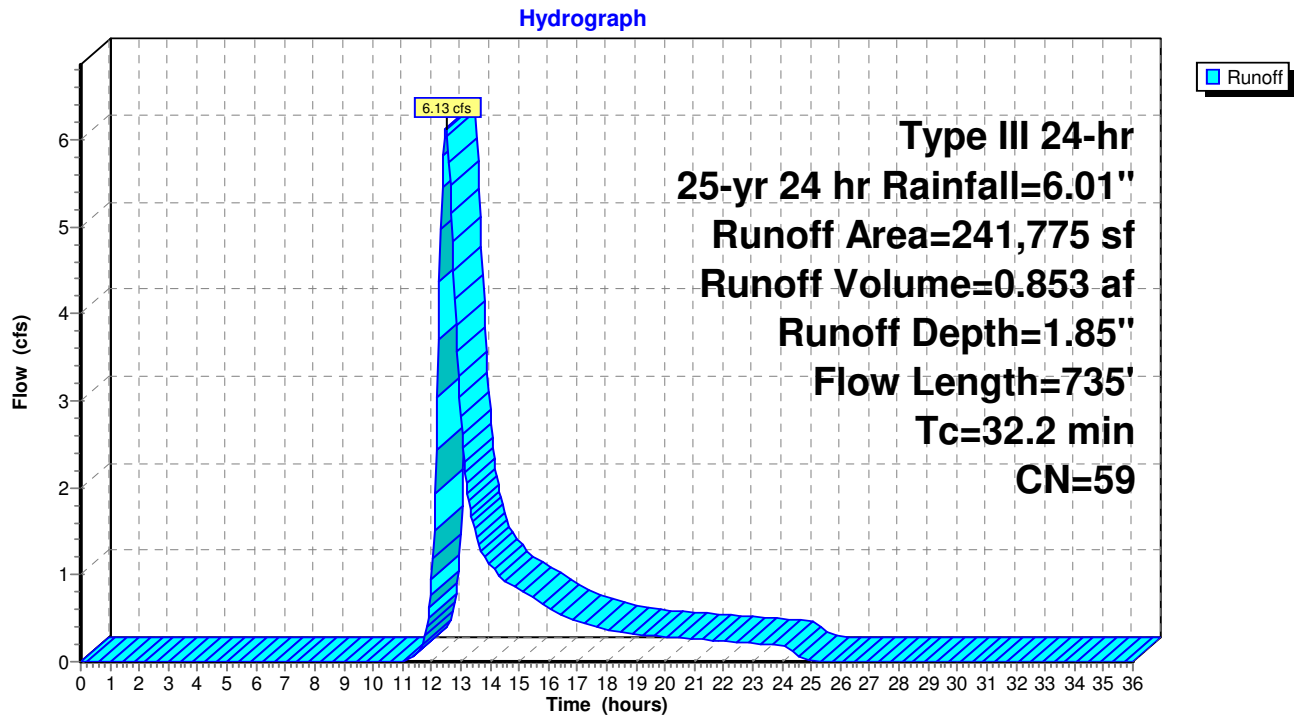
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 25-yr 24 hr Rainfall=6.01"

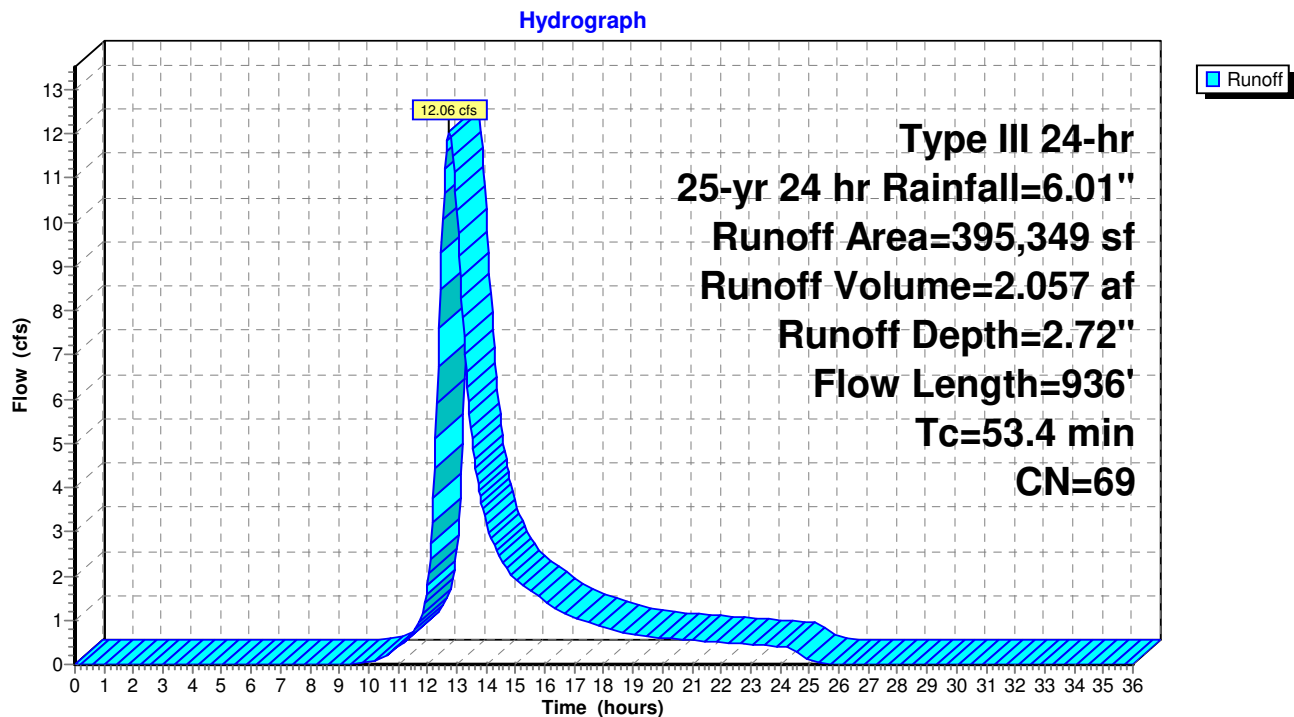
Printed 12/21/2021

Page 14

### Subcatchment E1: E1



### Subcatchment E2: E2



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

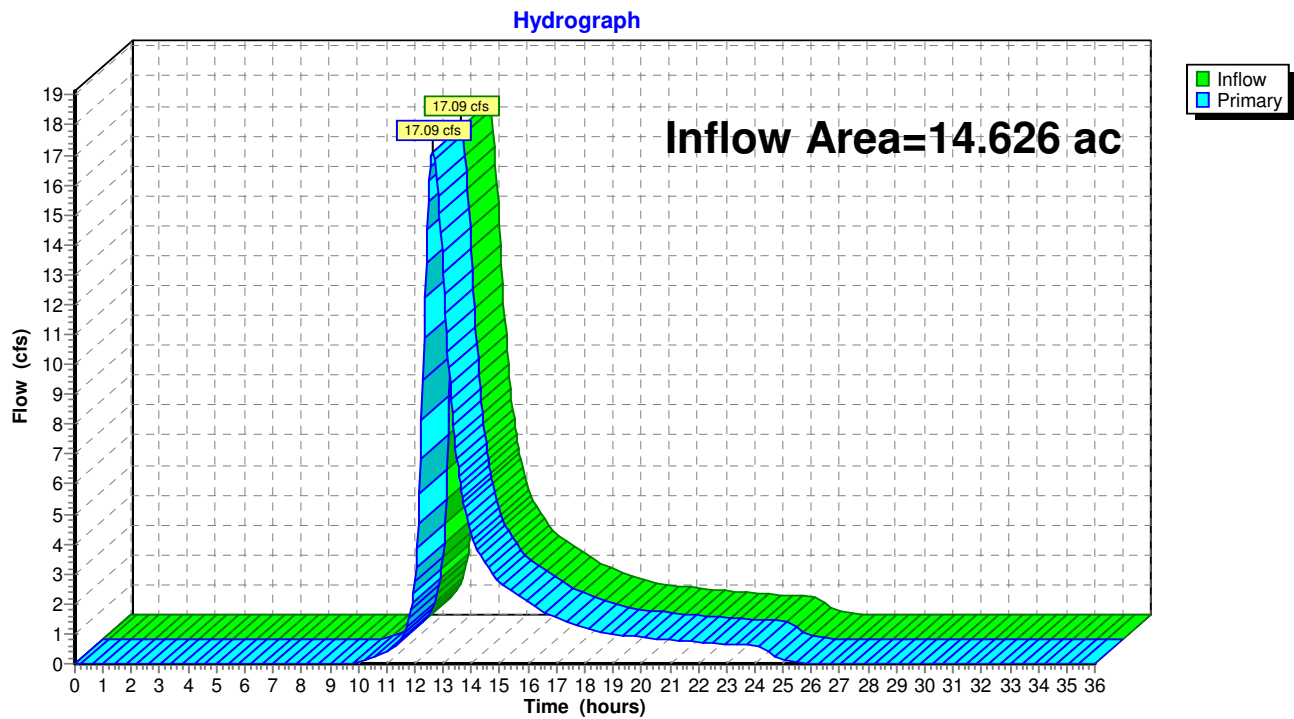
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 25-yr 24 hr Rainfall=6.01"

Printed 12/21/2021

Page 15

### Link DP1: DP1 (Existing Condition)



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

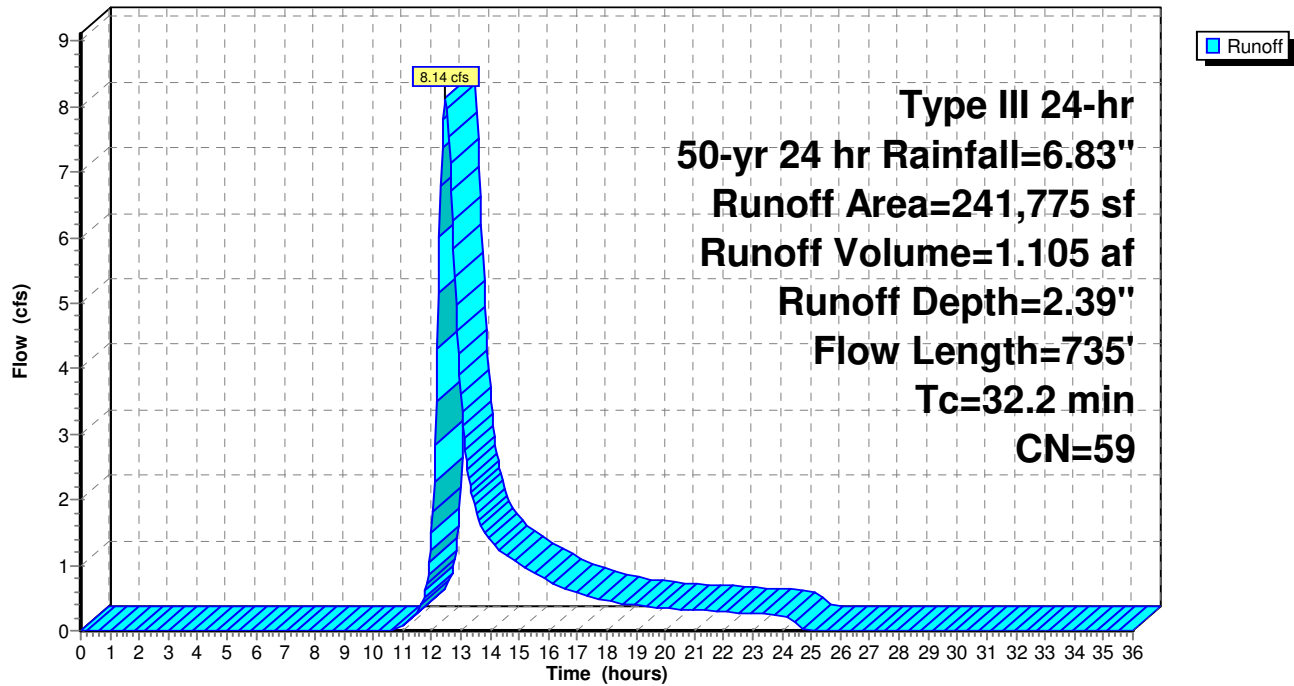
Existing Conditions  
Type III 24-hr 50-yr 24 hr Rainfall=6.83"

Printed 12/21/2021

Page 16

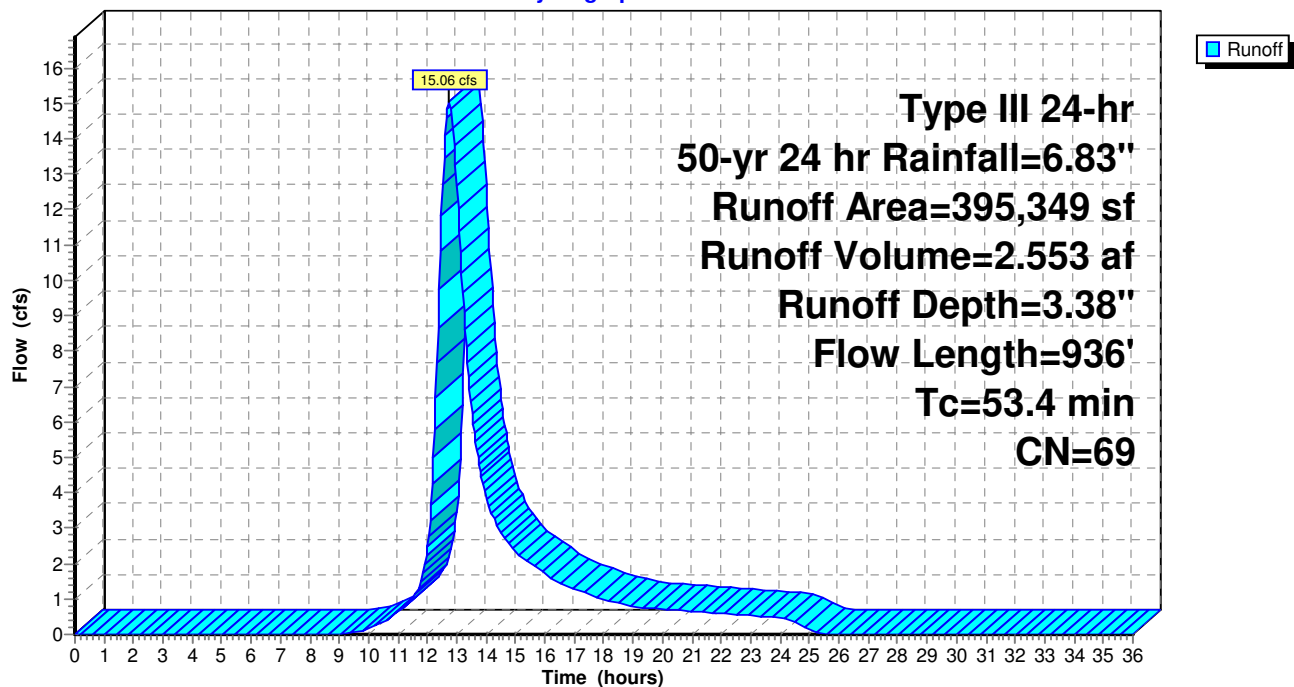
### Subcatchment E1: E1

Hydrograph



### Subcatchment E2: E2

Hydrograph



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

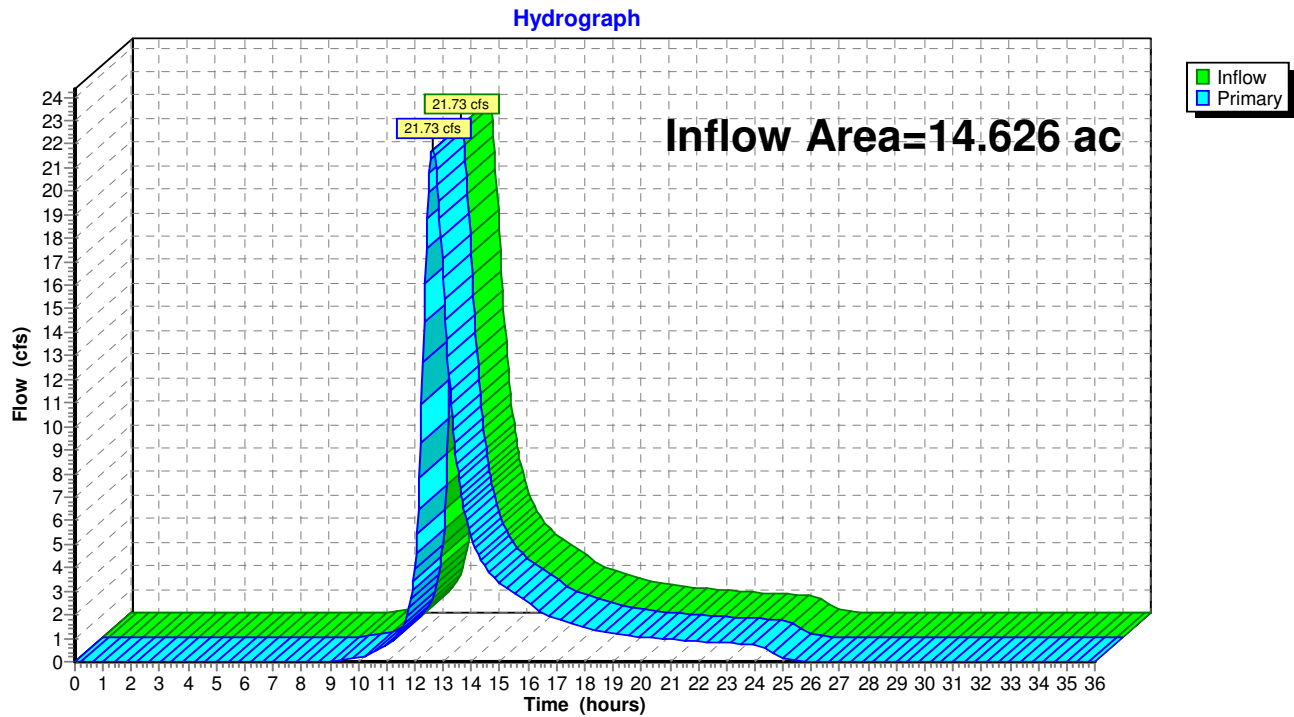
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 50-yr 24 hr Rainfall=6.83"

Printed 12/21/2021

Page 17

### Link DP1: DP1 (Existing Condition)



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

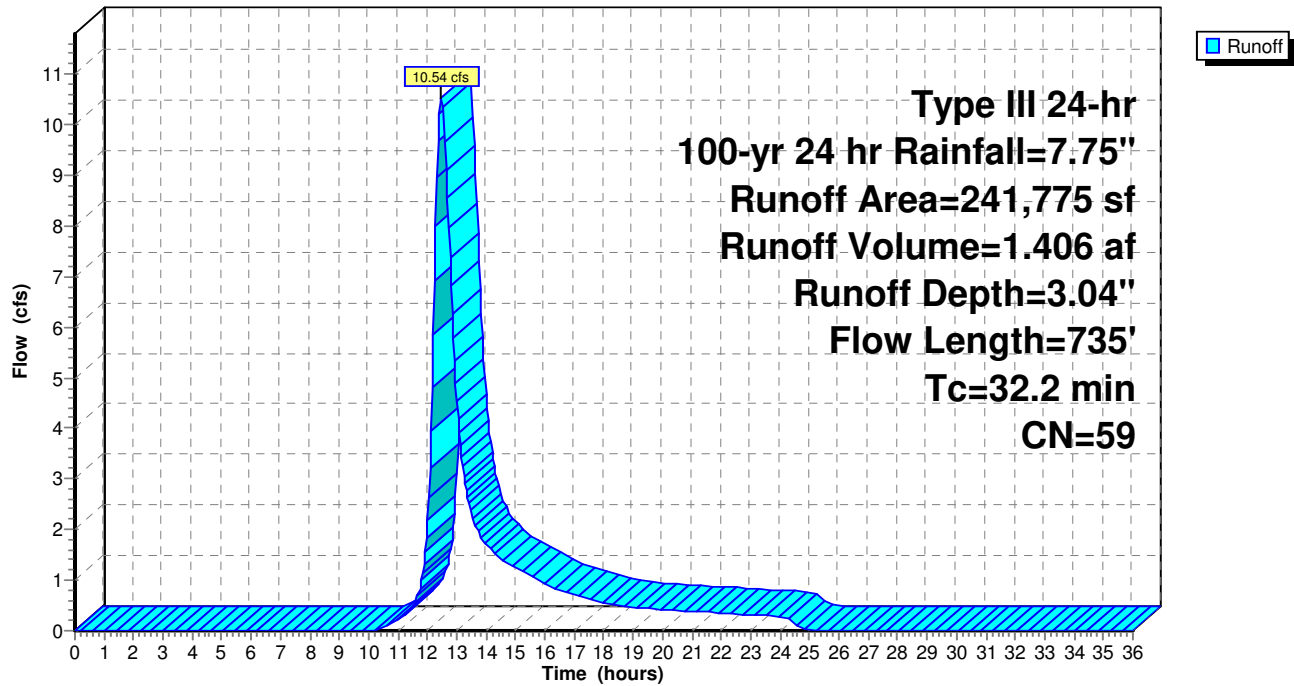
Existing Conditions  
Type III 24-hr 100-yr 24 hr Rainfall=7.75"

Printed 12/21/2021

Page 18

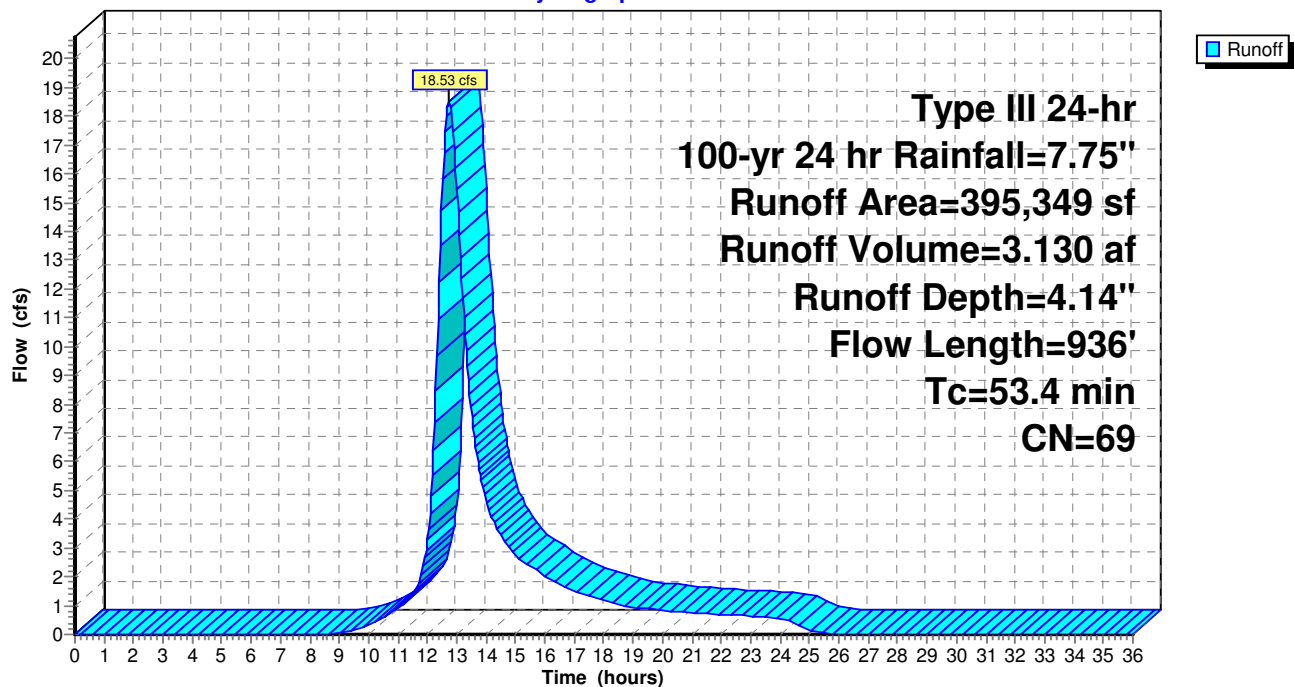
### Subcatchment E1: E1

Hydrograph



### Subcatchment E2: E2

Hydrograph



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

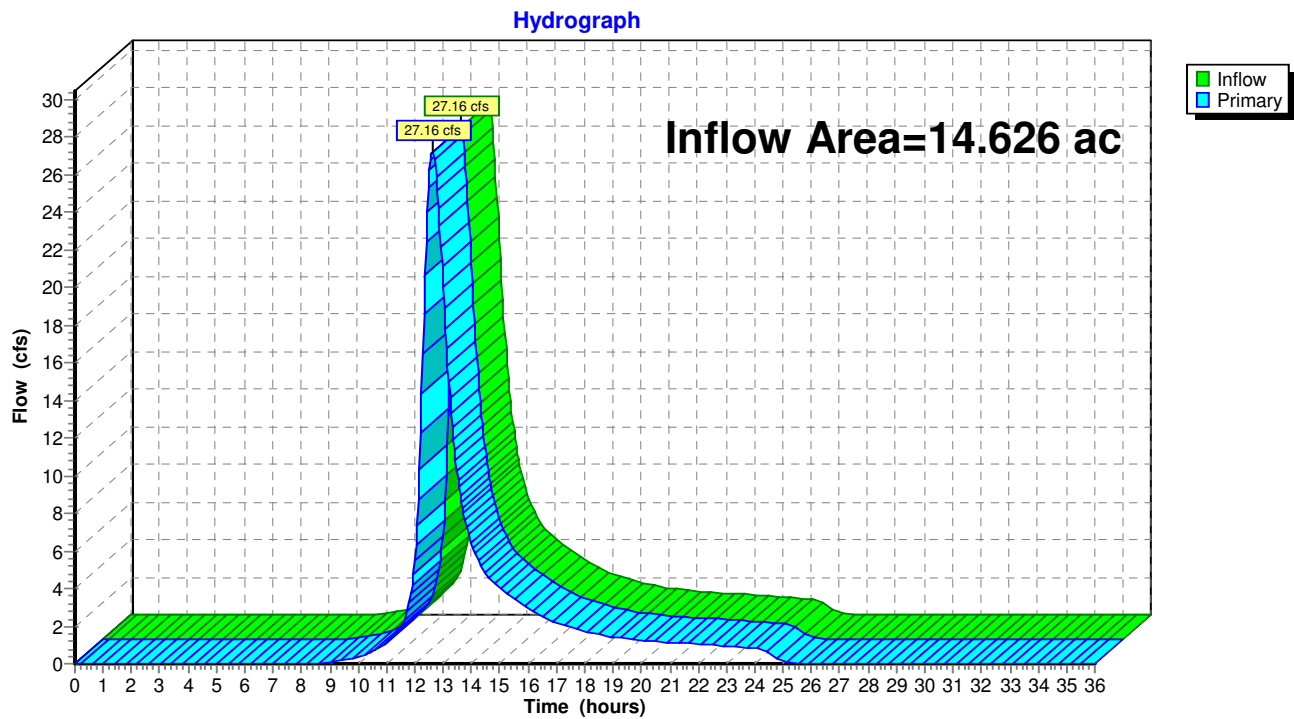
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Existing Conditions  
Type III 24-hr 100-yr 24 hr Rainfall=7.75"

Printed 12/21/2021

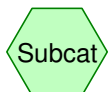
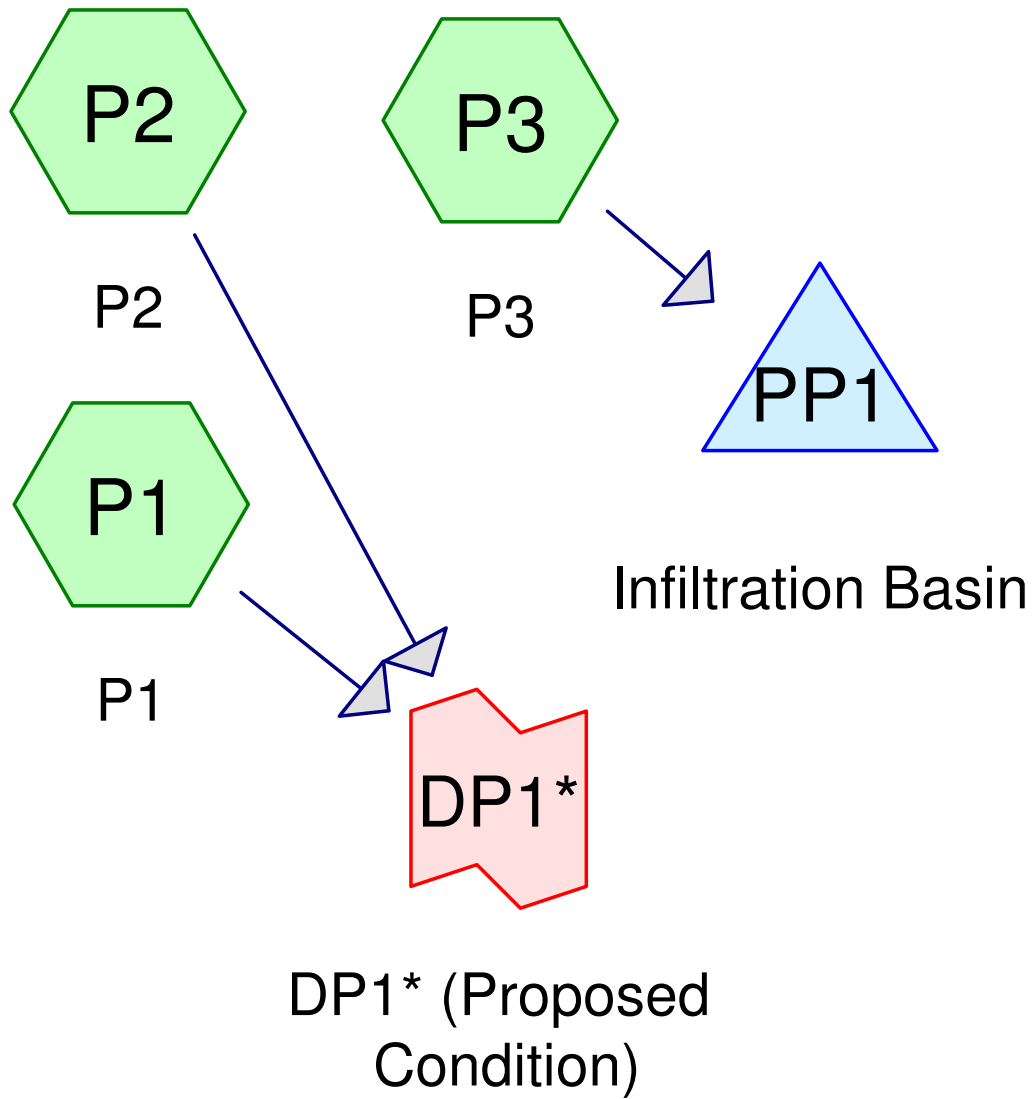
Page 19

### Link DP1: DP1 (Existing Condition)





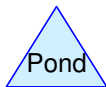
**APPENDIX B**  
**Watershed Computations**  
**(Post-Development Drainage HydroCAD Report)**



Subcat



Reach



Pond



Link

**Routing Diagram for 2482.H - HydroCAD**

Prepared by Design Professionals, Inc. , Printed 12/22/2021  
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

*Type III 24-hr 2-yr 24 hr Rainfall=3.08"*

Printed 12/22/2021

Page 2

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P1: P1**

Runoff Area=385,899 sf 29.42% Impervious Runoff Depth=0.76"  
Tc=53.4 min CN=70 Runoff=2.91 cfs 0.560 af

**Subcatchment P2: P2**

Runoff Area=98,403 sf 21.16% Impervious Runoff Depth=0.43"  
Flow Length=642' Tc=17.2 min CN=62 Runoff=0.53 cfs 0.081 af

**Subcatchment P3: P3**

Runoff Area=152,822 sf 0.12% Impervious Runoff Depth=0.36"  
Flow Length=95' Slope=0.0890 '/' Tc=7.7 min CN=60 Runoff=0.73 cfs 0.106 af

**Pond PP1: Infiltration Basin**

Peak Elev=46.91' Storage=1,777 cf Inflow=0.73 cfs 0.106 af  
Outflow=0.10 cfs 0.106 af

**Link DP1\*: DP1\* (Proposed Condition)**

Inflow=3.15 cfs 0.642 af  
Primary=3.15 cfs 0.642 af

**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

*Type III 24-hr 10-yr 24 hr Rainfall=4.88"*

Printed 12/22/2021

Page 3

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P1: P1**

Runoff Area=385,899 sf 29.42% Impervious Runoff Depth=1.95"  
Tc=53.4 min CN=70 Runoff=8.31 cfs 1.438 af

**Subcatchment P2: P2**

Runoff Area=98,403 sf 21.16% Impervious Runoff Depth=1.36"  
Flow Length=642' Tc=17.2 min CN=62 Runoff=2.34 cfs 0.257 af

**Subcatchment P3: P3**

Runoff Area=152,822 sf 0.12% Impervious Runoff Depth=1.23"  
Flow Length=95' Slope=0.0890 '/' Tc=7.7 min CN=60 Runoff=4.20 cfs 0.360 af

**Pond PP1: Infiltration Basin**

Peak Elev=47.73' Storage=10,700 cf Inflow=4.20 cfs 0.360 af  
Outflow=0.12 cfs 0.235 af

**Link DP1\*: DP1\* (Proposed Condition)**

Inflow=9.14 cfs 1.695 af  
Primary=9.14 cfs 1.695 af

**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

*Type III 24-hr 25-yr 24 hr Rainfall=6.01"*

Printed 12/22/2021

Page 4

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P1: P1**

Runoff Area=385,899 sf 29.42% Impervious Runoff Depth=2.81"  
Tc=53.4 min CN=70 Runoff=12.21 cfs 2.077 af

**Subcatchment P2: P2**

Runoff Area=98,403 sf 21.16% Impervious Runoff Depth=2.10"  
Flow Length=642' Tc=17.2 min CN=62 Runoff=3.79 cfs 0.395 af

**Subcatchment P3: P3**

Runoff Area=152,822 sf 0.12% Impervious Runoff Depth=1.93"  
Flow Length=95' Slope=0.0890 '/' Tc=7.7 min CN=60 Runoff=7.00 cfs 0.564 af

**Pond PP1: Infiltration Basin**

Peak Elev=48.13' Storage=19,262 cf Inflow=7.00 cfs 0.564 af  
Outflow=0.12 cfs 0.238 af

**Link DP1\*: DP1\* (Proposed Condition)**

Inflow=13.51 cfs 2.472 af  
Primary=13.51 cfs 2.472 af

**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

*Type III 24-hr 50-yr 24 hr Rainfall=6.83"*

Printed 12/22/2021

Page 5

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P1: P1**

Runoff Area=385,899 sf 29.42% Impervious Runoff Depth=3.48"  
Tc=53.4 min CN=70 Runoff=15.17 cfs 2.567 af

**Subcatchment P2: P2**

Runoff Area=98,403 sf 21.16% Impervious Runoff Depth=2.68"  
Flow Length=642' Tc=17.2 min CN=62 Runoff=4.93 cfs 0.504 af

**Subcatchment P3: P3**

Runoff Area=152,822 sf 0.12% Impervious Runoff Depth=2.48"  
Flow Length=95' Slope=0.0890 '/' Tc=7.7 min CN=60 Runoff=9.23 cfs 0.726 af

**Pond PP1: Infiltration Basin**

Peak Elev=48.42' Storage=26,233 cf Inflow=9.23 cfs 0.726 af  
Outflow=0.12 cfs 0.240 af

**Link DP1\*: DP1\* (Proposed Condition)**

Inflow=16.85 cfs 3.071 af  
Primary=16.85 cfs 3.071 af

**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

*Type III 24-hr 100-yr 24 hr Rainfall=7.75"*

Printed 12/22/2021

Page 6

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P1: P1**

Runoff Area=385,899 sf 29.42% Impervious Runoff Depth=4.25"

Tc=53.4 min CN=70 Runoff=18.59 cfs 3.138 af

**Subcatchment P2: P2**

Runoff Area=98,403 sf 21.16% Impervious Runoff Depth=3.36"

Flow Length=642' Tc=17.2 min CN=62 Runoff=6.28 cfs 0.633 af

**Subcatchment P3: P3**

Runoff Area=152,822 sf 0.12% Impervious Runoff Depth=3.15"

Flow Length=95' Slope=0.0890 '/' Tc=7.7 min CN=60 Runoff=11.86 cfs 0.920 af

**Pond PP1: Infiltration Basin**

Peak Elev=48.74' Storage=34,541 cf Inflow=11.86 cfs 0.920 af

Outflow=0.12 cfs 0.243 af

**Link DP1\*: DP1\* (Proposed Condition)**

Inflow=20.75 cfs 3.771 af

Primary=20.75 cfs 3.771 af

**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 7

**Summary for Subcatchment P1: P1**

Runoff = 2.91 cfs @ 12.81 hrs, Volume= 0.560 af, Depth= 0.76"

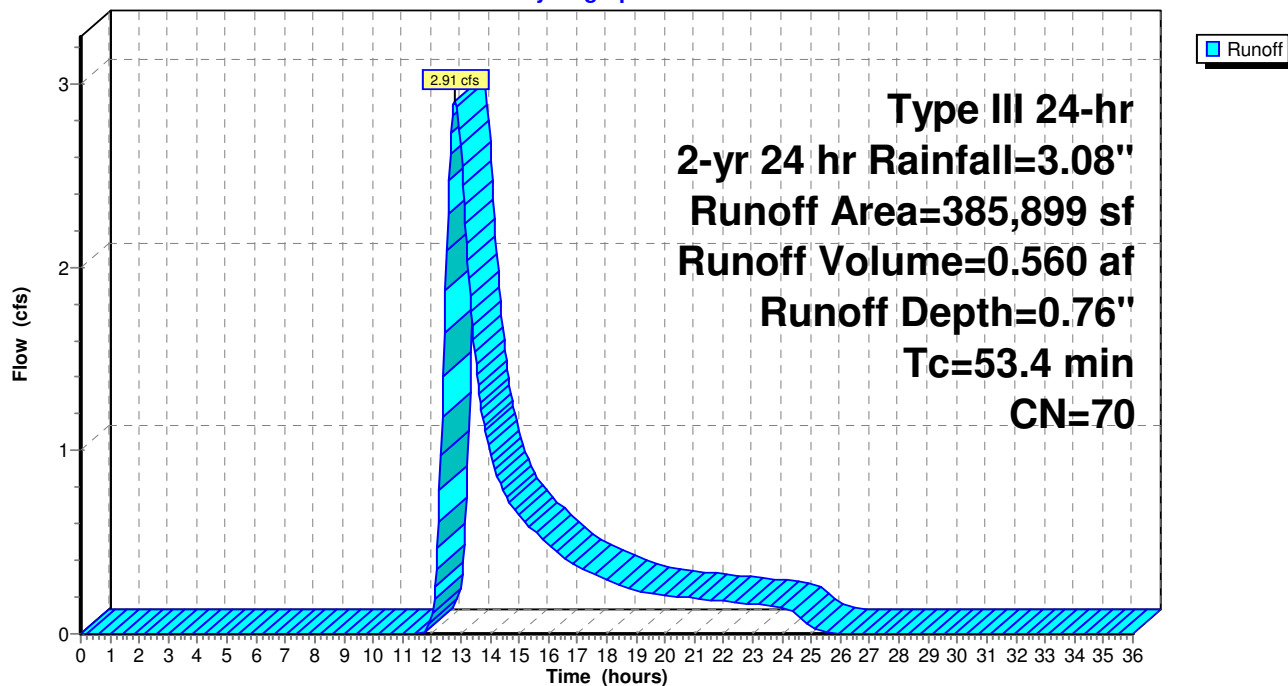
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Area (sf)	CN	Description
61,206	61	>75% Grass cover, Good, HSG B
* 113,537	98	IMPERVIOUS
142,290	58	Meadow, non-grazed, HSG B
68,866	55	Woods, Good, HSG B
385,899	70	Weighted Average
272,362		70.58% Pervious Area
113,537		29.42% Impervious Area

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

**Subcatchment P1: P1**

Hydrograph





**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 8

**Summary for Subcatchment P2: P2**

Runoff = 0.53 cfs @ 12.34 hrs, Volume= 0.081 af, Depth= 0.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Area (sf)	CN	Description
22,384	39	>75% Grass cover, Good, HSG A
38,253	61	>75% Grass cover, Good, HSG B
93	74	>75% Grass cover, Good, HSG C
* 20,820	98	IMPERVIOUS
269	30	Meadow, non-grazed, HSG A
3,412	58	Meadow, non-grazed, HSG B
29	71	Meadow, non-grazed, HSG C
3,240	30	Woods, Good, HSG A
8,034	55	Woods, Good, HSG B
1,869	70	Woods, Good, HSG C
98,403	62	Weighted Average
77,583		78.84% Pervious Area
20,820		21.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	100	0.0271	0.13		<b>Sheet Flow, Grass SF</b>
					Grass: Dense n= 0.240 P2= 3.08"
4.3	542	0.0200	2.12		<b>Shallow Concentrated Flow, Woodland SCF</b>
					Grassed Waterway Kv= 15.0 fps
17.2	642	Total			

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

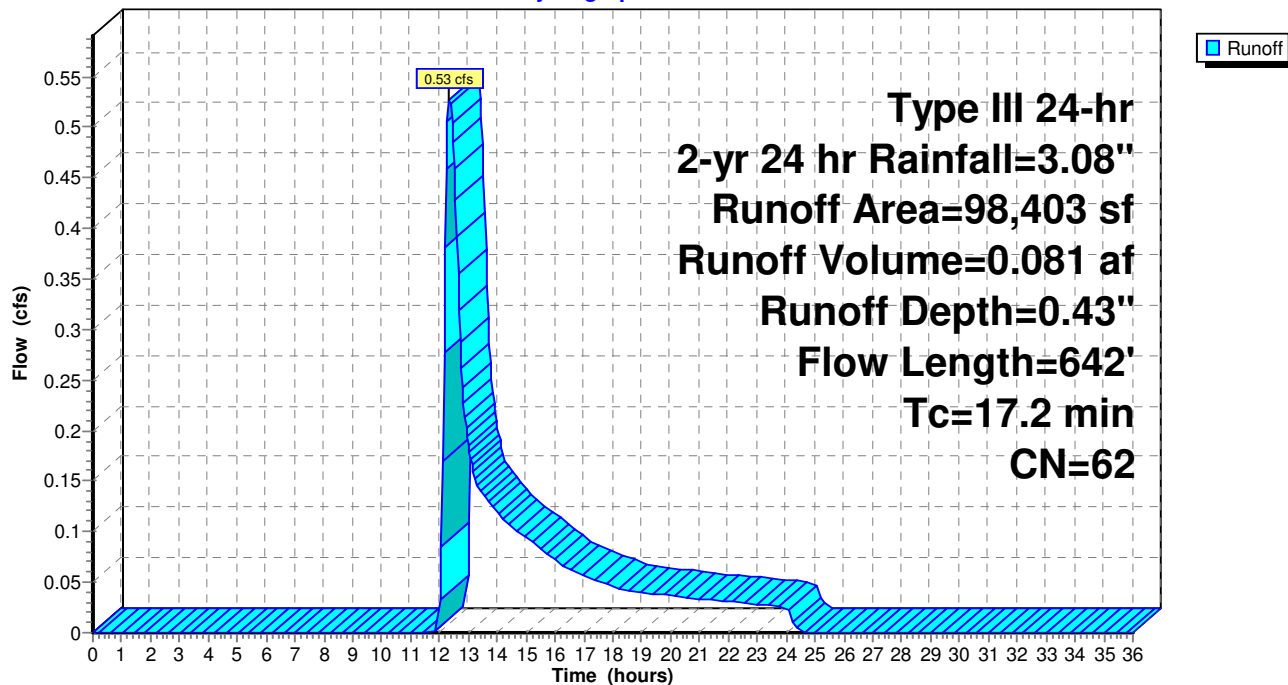
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 9

### Subcatchment P2: P2

Hydrograph



**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 10

**Summary for Subcatchment P3: P3**

Runoff = 0.73 cfs @ 12.17 hrs, Volume= 0.106 af, Depth= 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs  
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Area (sf)	CN	Description
0	39	>75% Grass cover, Good, HSG A
69,803	61	>75% Grass cover, Good, HSG B
0	74	>75% Grass cover, Good, HSG C
* 186	98	IMPERVIOUS
0	30	Meadow, non-grazed, HSG A
80,045	58	Meadow, non-grazed, HSG B
2,314	78	Meadow, non-grazed, HSG D
0	30	Woods, Good, HSG A
334	55	Woods, Good, HSG B
140	77	Woods, Good, HSG D
152,822	60	Weighted Average
152,636		99.88% Pervious Area
186		0.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	95	0.0890	0.21		<b>Sheet Flow, Grass SF</b> Grass: Dense n= 0.240 P2= 3.08"

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

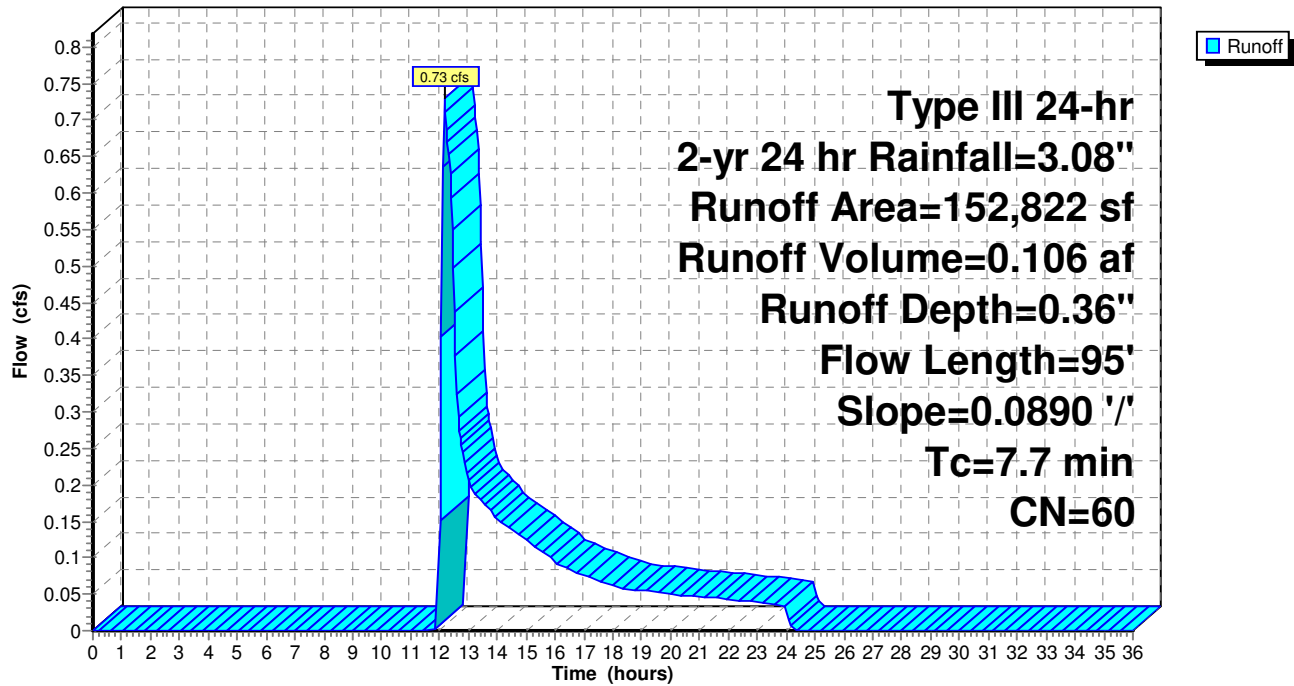
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 11

### Subcatchment P3: P3

Hydrograph



**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 12

**Summary for Pond PP1: Infiltration Basin**

Inflow Area = 3.508 ac, 0.12% Impervious, Inflow Depth = 0.36" for 2-yr 24 hr event  
 Inflow = 0.73 cfs @ 12.17 hrs, Volume= 0.106 af  
 Outflow = 0.10 cfs @ 15.73 hrs, Volume= 0.106 af, Atten= 86%, Lag= 213.4 min  
 Discarded = 0.10 cfs @ 15.73 hrs, Volume= 0.106 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs  
 Peak Elev= 46.91' @ 15.73 hrs Surf.Area= 4,448 sf Storage= 1,777 cf

Plug-Flow detention time= 245.6 min calculated for 0.106 af (100% of inflow)  
 Center-of-Mass det. time= 245.9 min ( 1,173.3 - 927.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	2,189 cf	<b>Custom Stage Data (Conic)</b> Listed below (Recalc)
#2	47.00'	77,493 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) -Impervious
		79,682 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.00	277	0	0	277
47.00	5,101	2,189	2,189	5,104

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
47.00	5,101	0	0
48.00	22,964	14,033	14,033
49.00	27,625	25,295	39,327
50.00	48,707	38,166	77,493

Device	Routing	Invert	Outlet Devices
#1	Discarded	46.00'	<b>1.000 in/hr Exfiltration over Wetted area</b>

**Discarded OutFlow** Max=0.10 cfs @ 15.73 hrs HW=46.91' (Free Discharge)  
 ↑**1=Exfiltration** (Exfiltration Controls 0.10 cfs)

## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

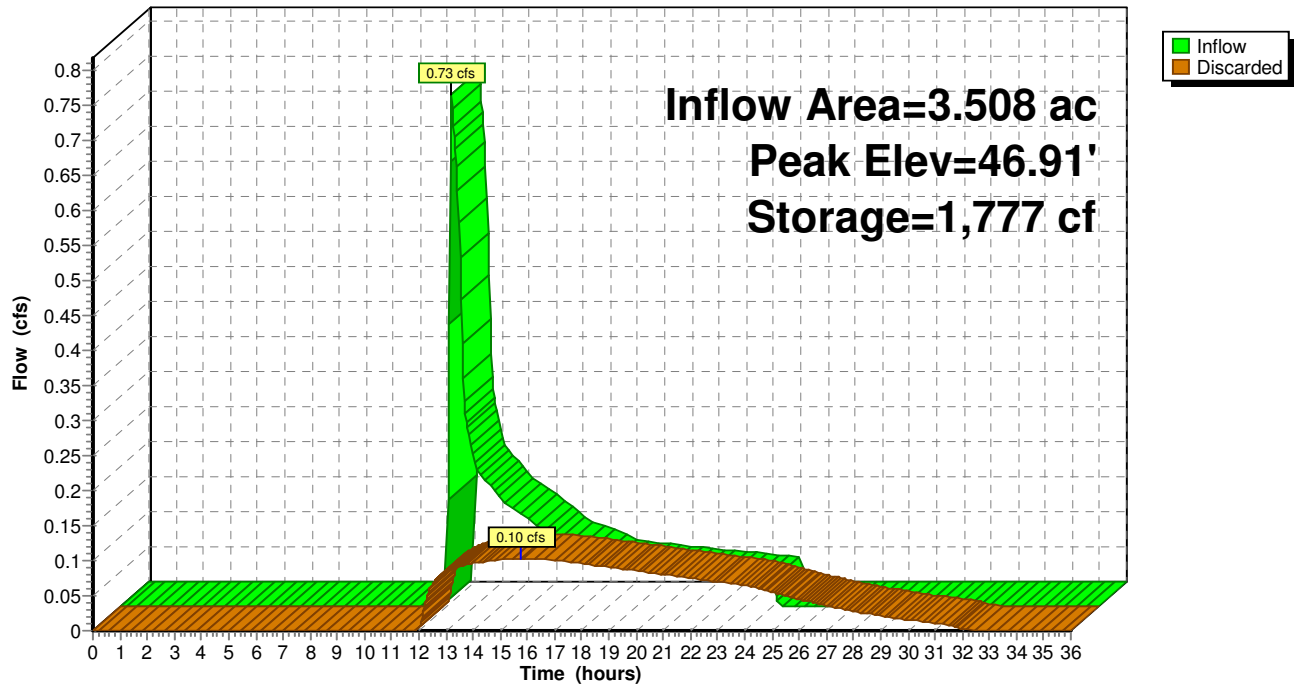
Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 13

### Pond PP1: Infiltration Basin

Hydrograph



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

Type III 24-hr 2-yr 24 hr Rainfall=3.08"

Printed 12/22/2021

Page 14

### Summary for Link DP1\*: DP1\* (Proposed Condition)

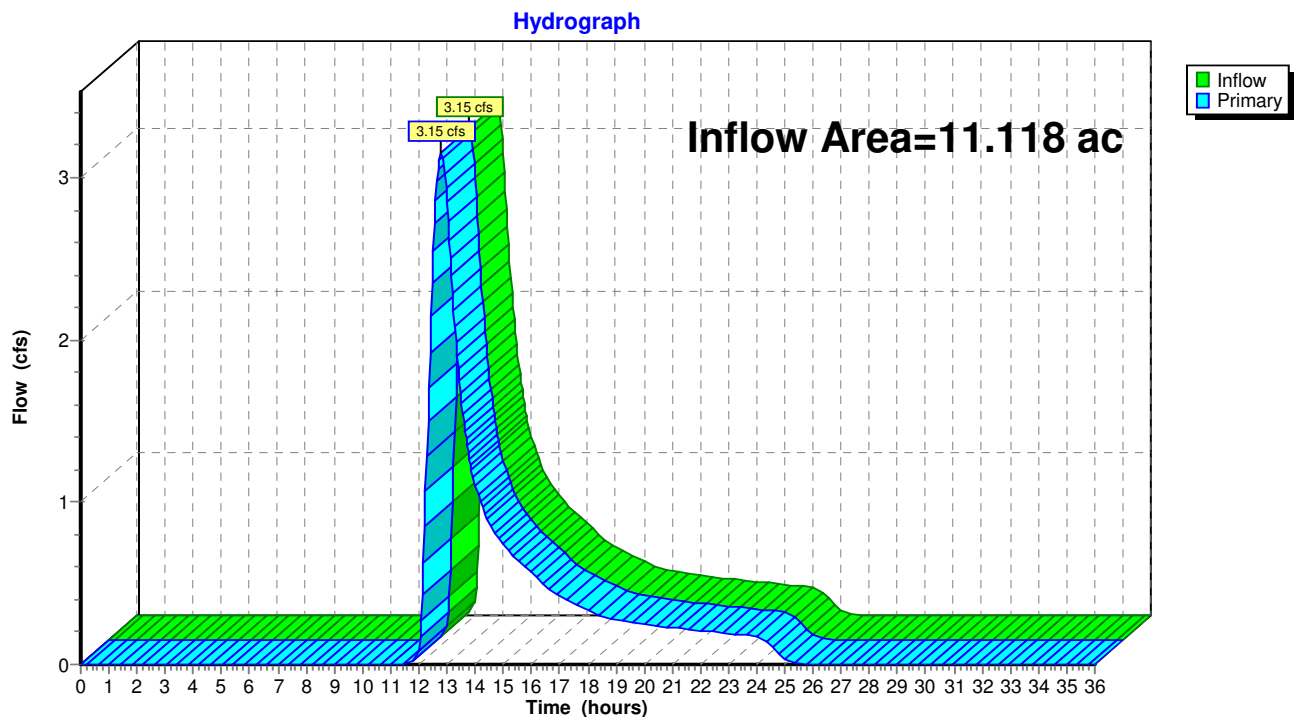
Inflow Area = 11.118 ac, 27.74% Impervious, Inflow Depth = 0.69" for 2-yr 24 hr event

Inflow = 3.15 cfs @ 12.78 hrs, Volume= 0.642 af

Primary = 3.15 cfs @ 12.78 hrs, Volume= 0.642 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

### Link DP1\*: DP1\* (Proposed Condition)



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

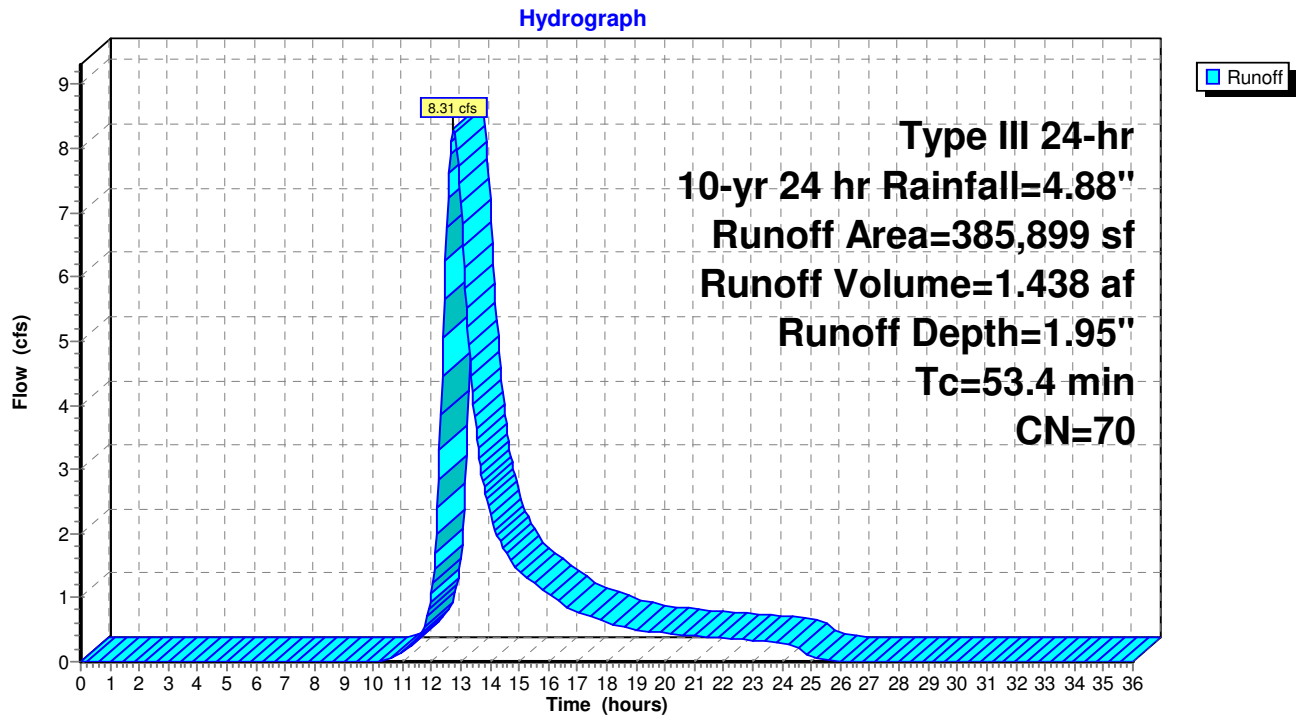
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions  
Type III 24-hr 10-yr 24 hr Rainfall=4.88"

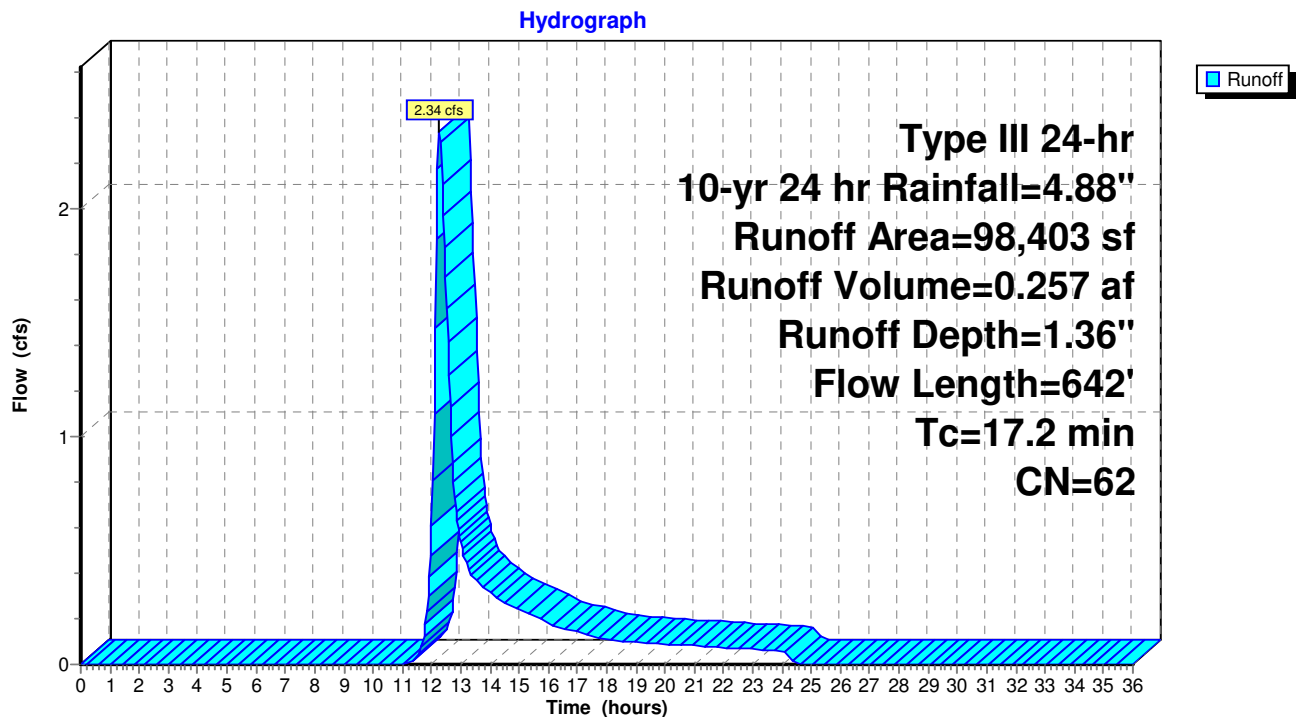
Printed 12/22/2021

Page 15

### Subcatchment P1: P1



### Subcatchment P2: P2





## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

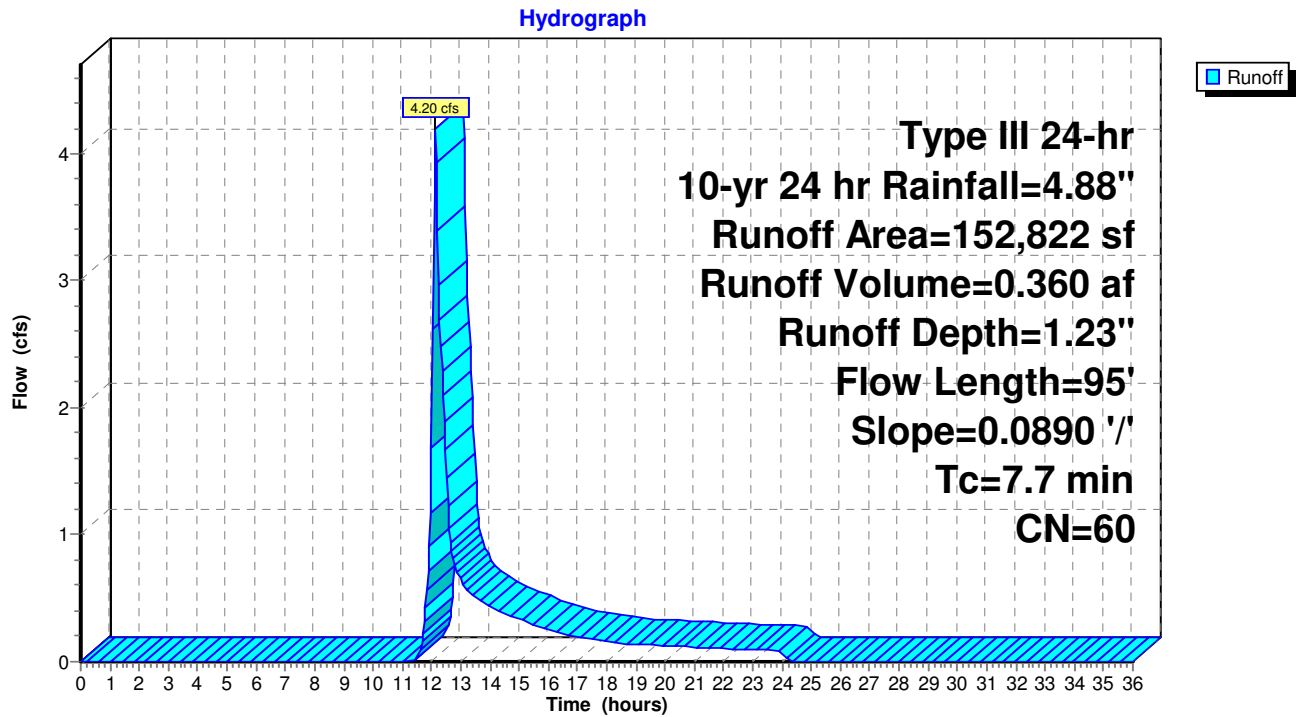
Proposed Conditions

Type III 24-hr 10-yr 24 hr Rainfall=4.88"

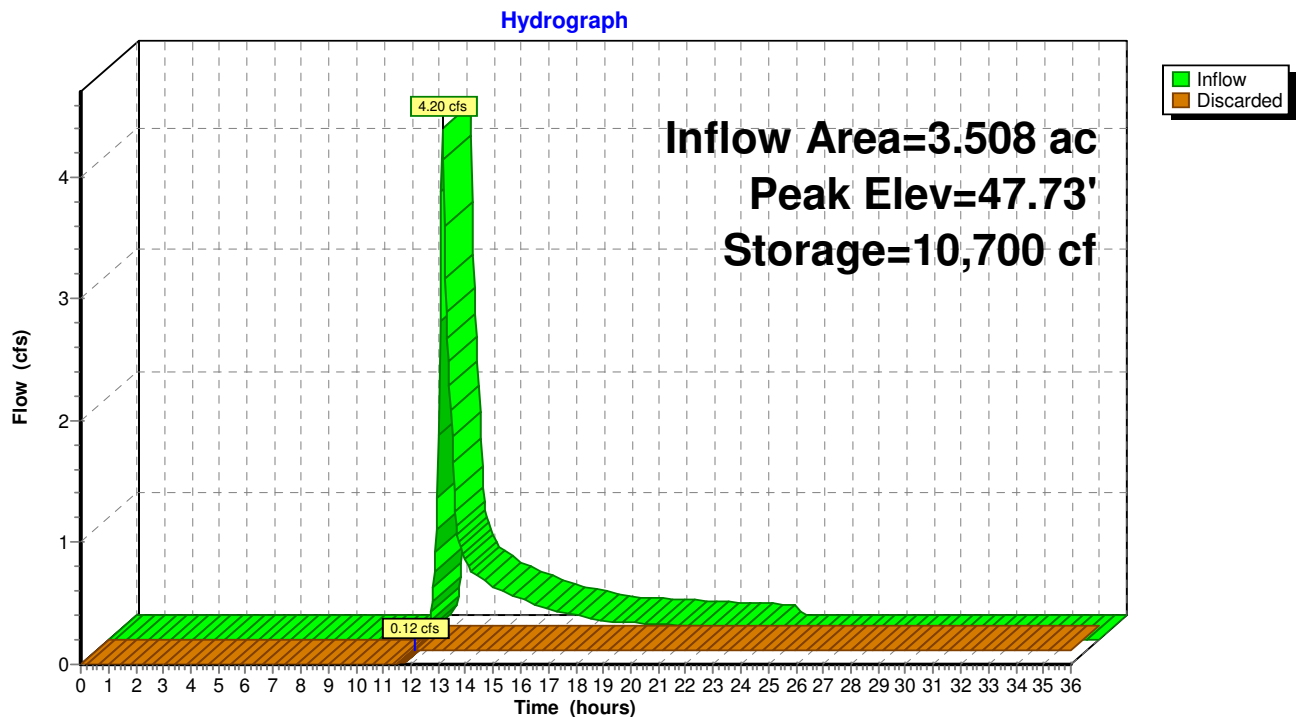
Printed 12/22/2021

Page 16

### Subcatchment P3: P3



### Pond PP1: Infiltration Basin



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

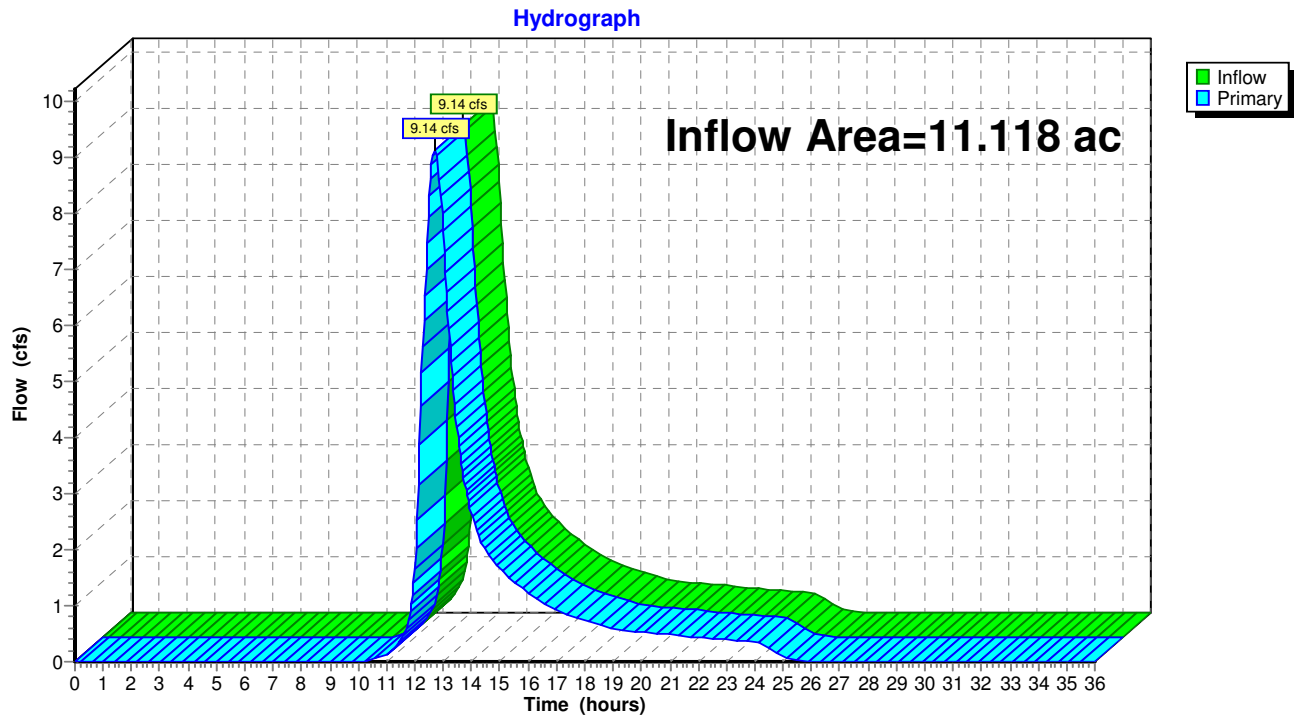
Proposed Conditions

Type III 24-hr 10-yr 24 hr Rainfall=4.88"

Printed 12/22/2021

Page 17

### Link DP1\*: DP1\* (Proposed Condition)



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

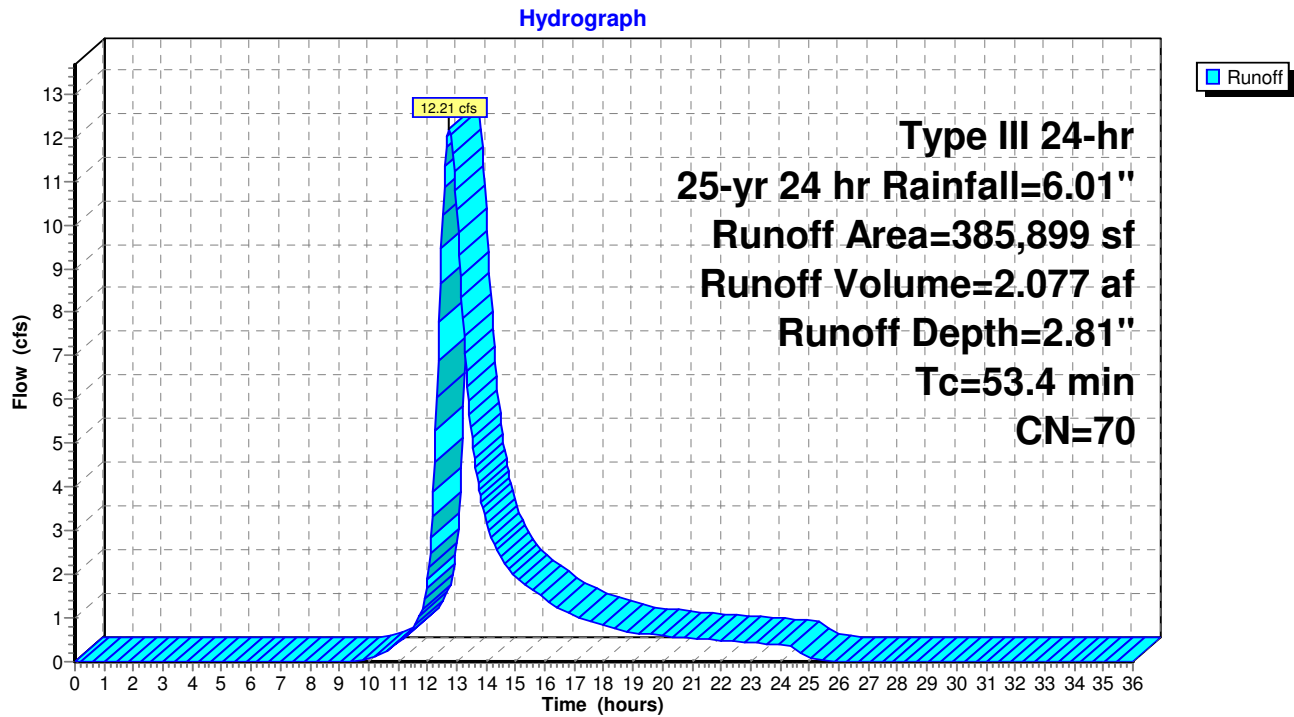
Proposed Conditions

Type III 24-hr 25-yr 24 hr Rainfall=6.01"

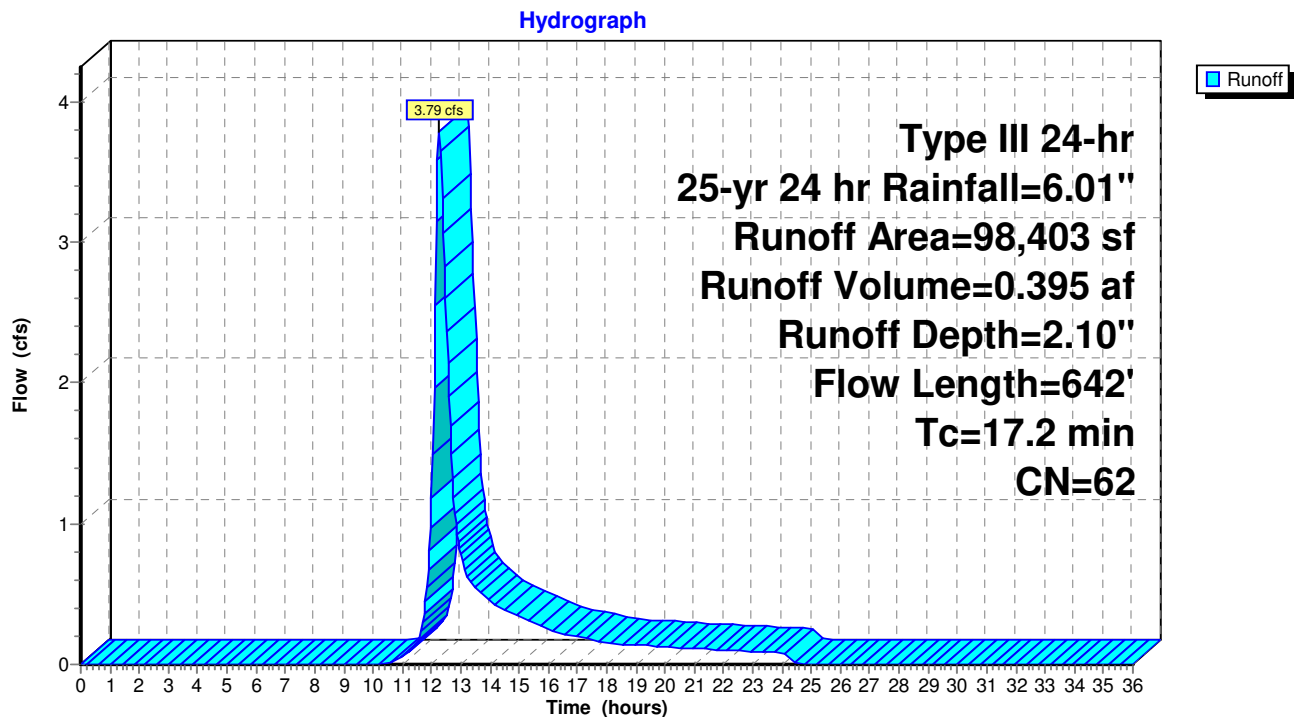
Printed 12/22/2021

Page 18

### Subcatchment P1: P1



### Subcatchment P2: P2



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

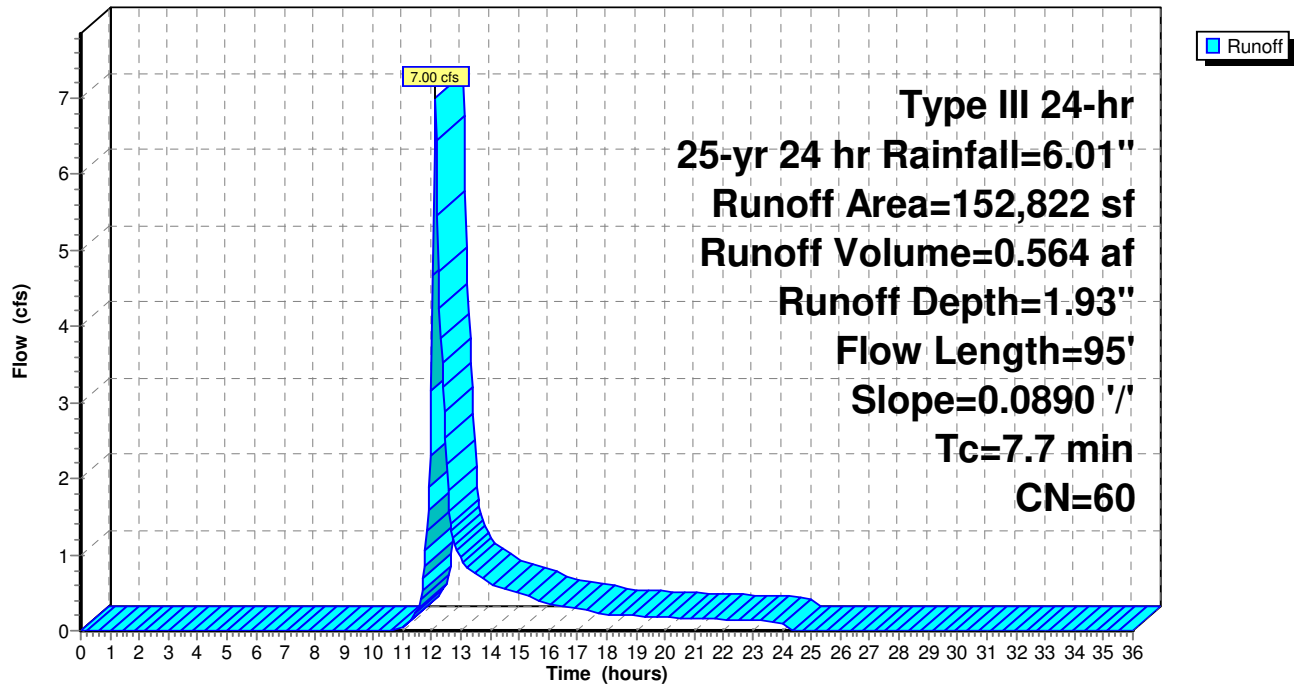
Type III 24-hr 25-yr 24 hr Rainfall=6.01"

Printed 12/22/2021

Page 19

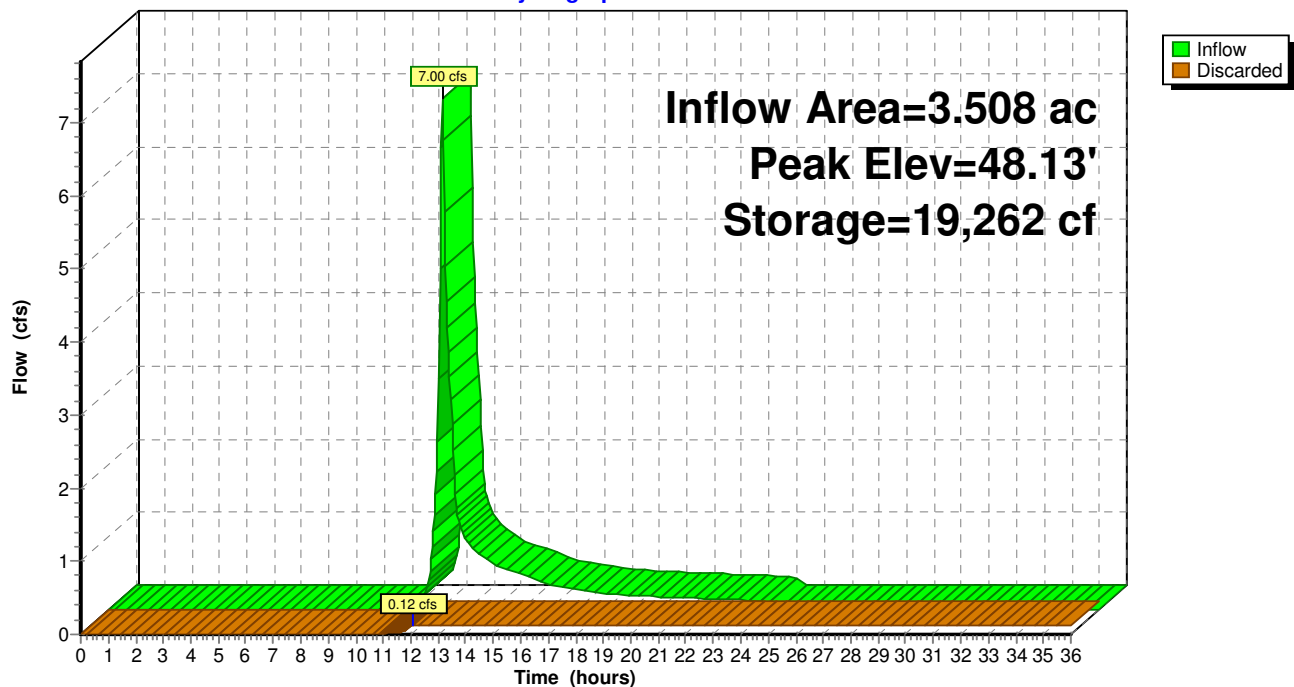
### Subcatchment P3: P3

Hydrograph



### Pond PP1: Infiltration Basin

Hydrograph



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

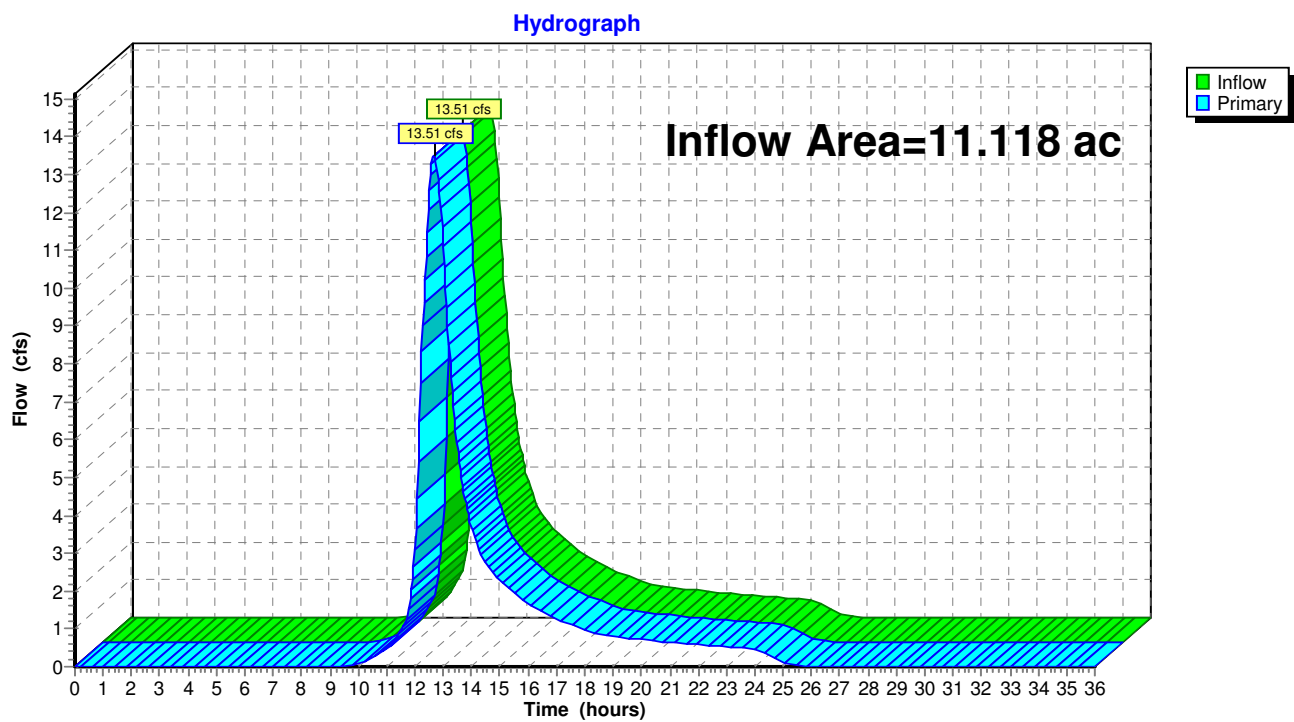
Proposed Conditions

Type III 24-hr 25-yr 24 hr Rainfall=6.01"

Printed 12/22/2021

Page 20

### Link DP1\*: DP1\* (Proposed Condition)



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

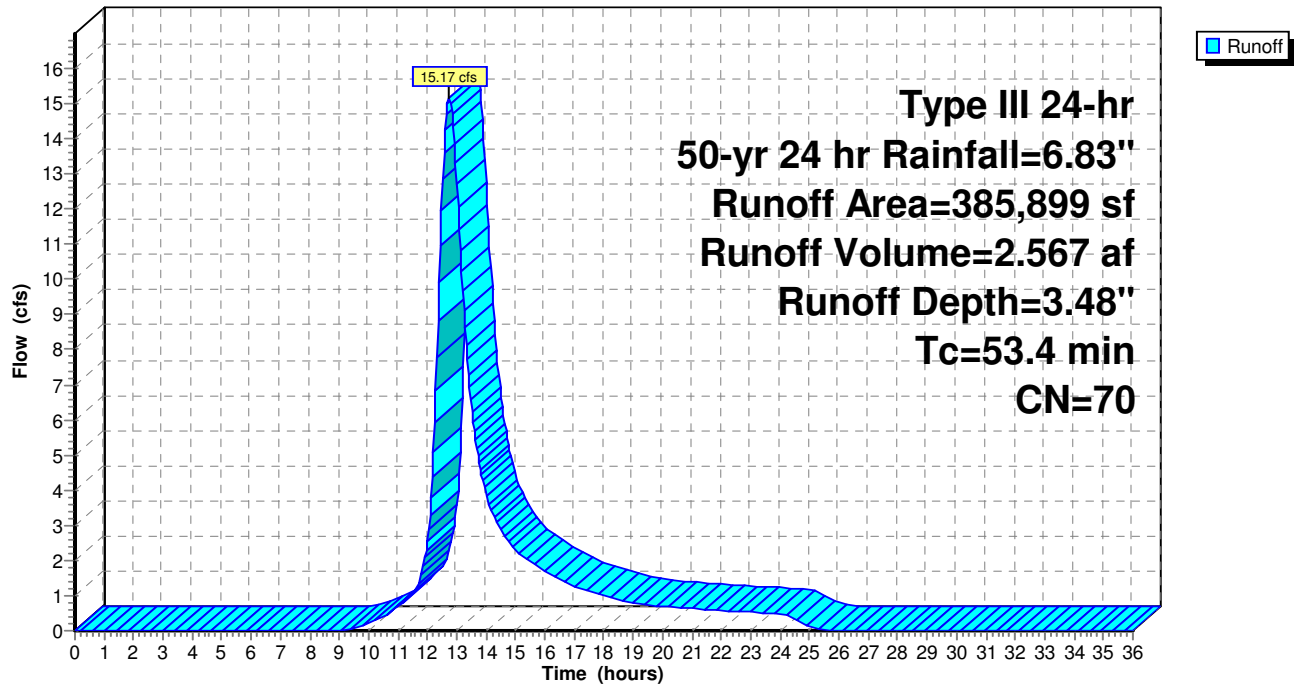
Type III 24-hr 50-yr 24 hr Rainfall=6.83"

Printed 12/22/2021

Page 21

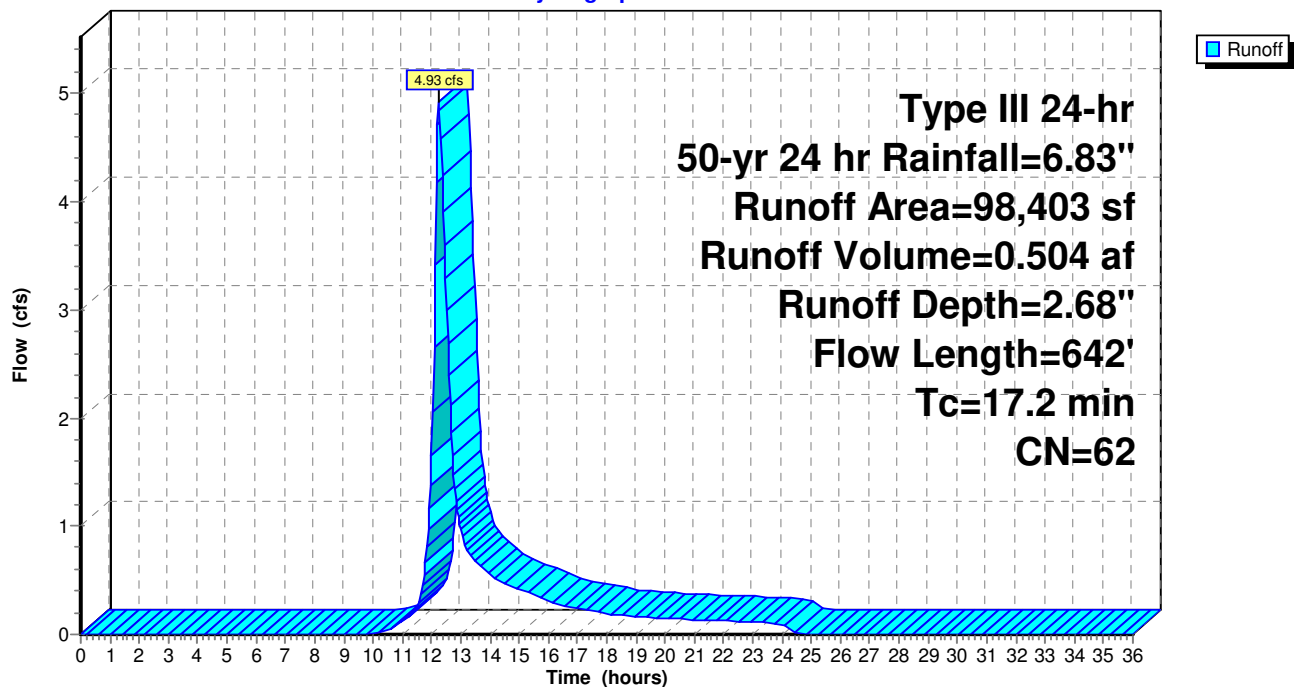
### Subcatchment P1: P1

Hydrograph



### Subcatchment P2: P2

Hydrograph



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

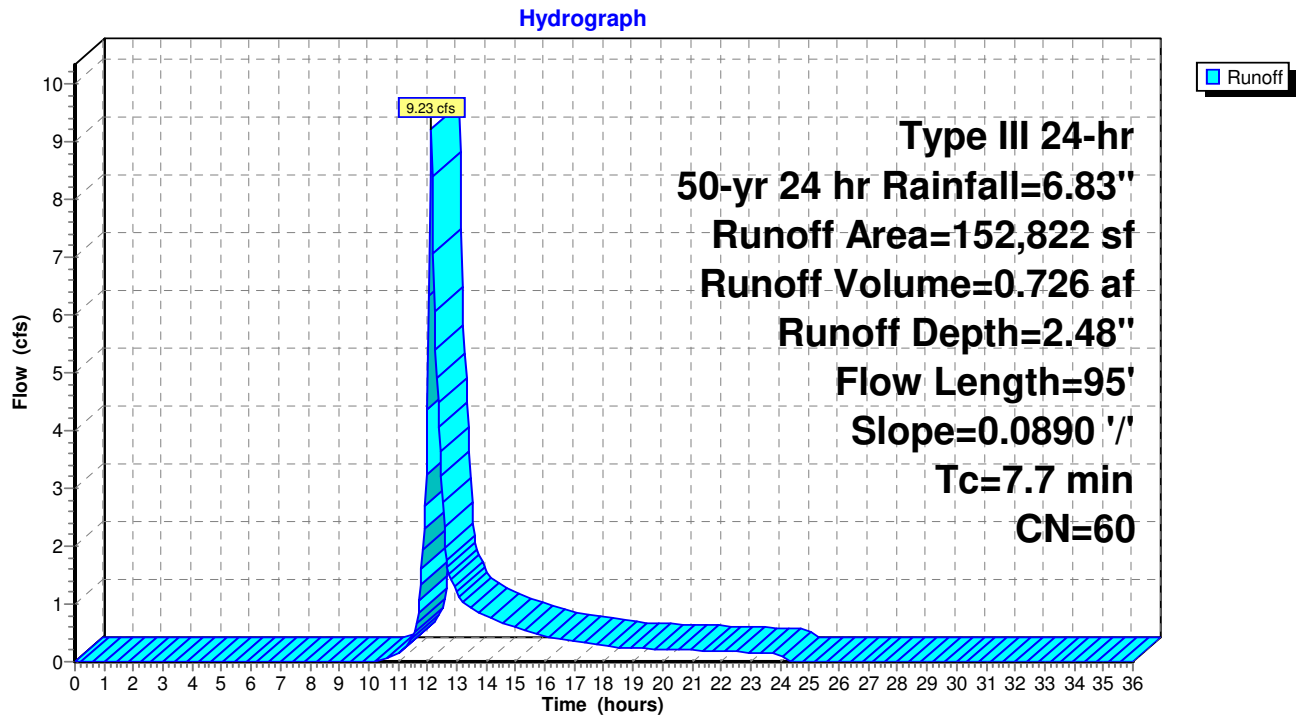
Proposed Conditions

Type III 24-hr 50-yr 24 hr Rainfall=6.83"

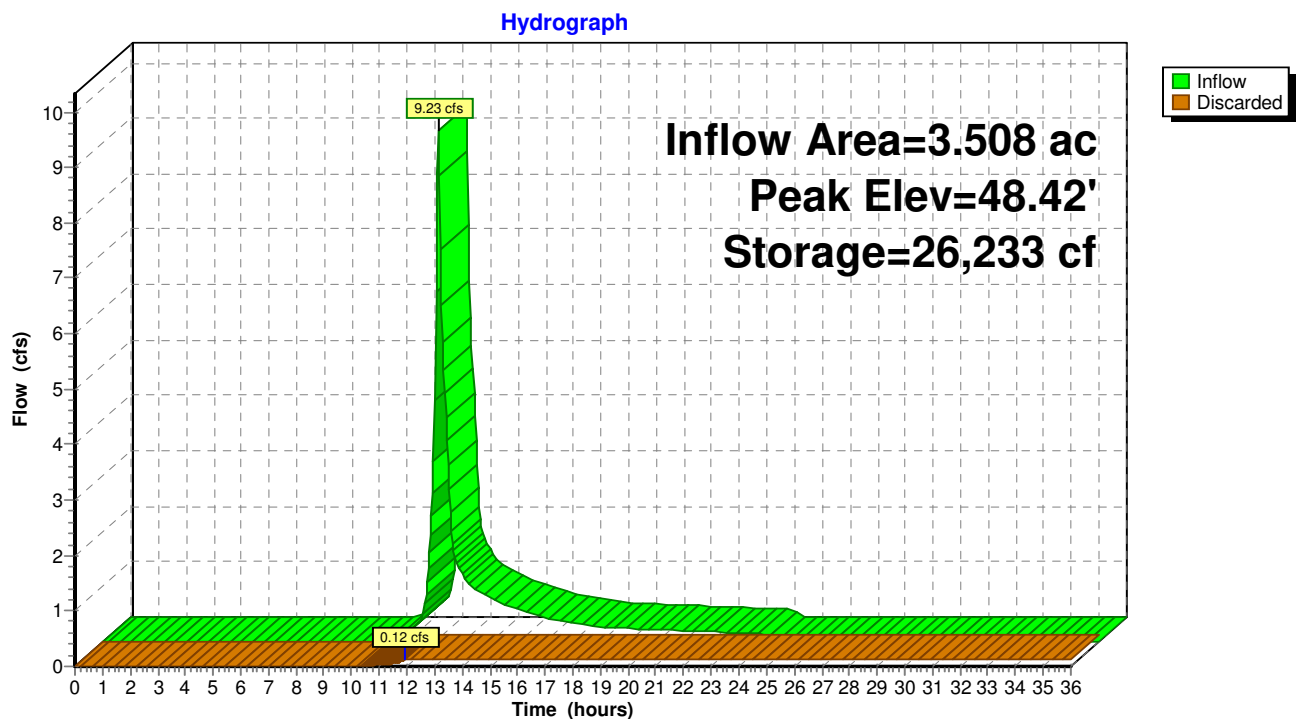
Printed 12/22/2021

Page 22

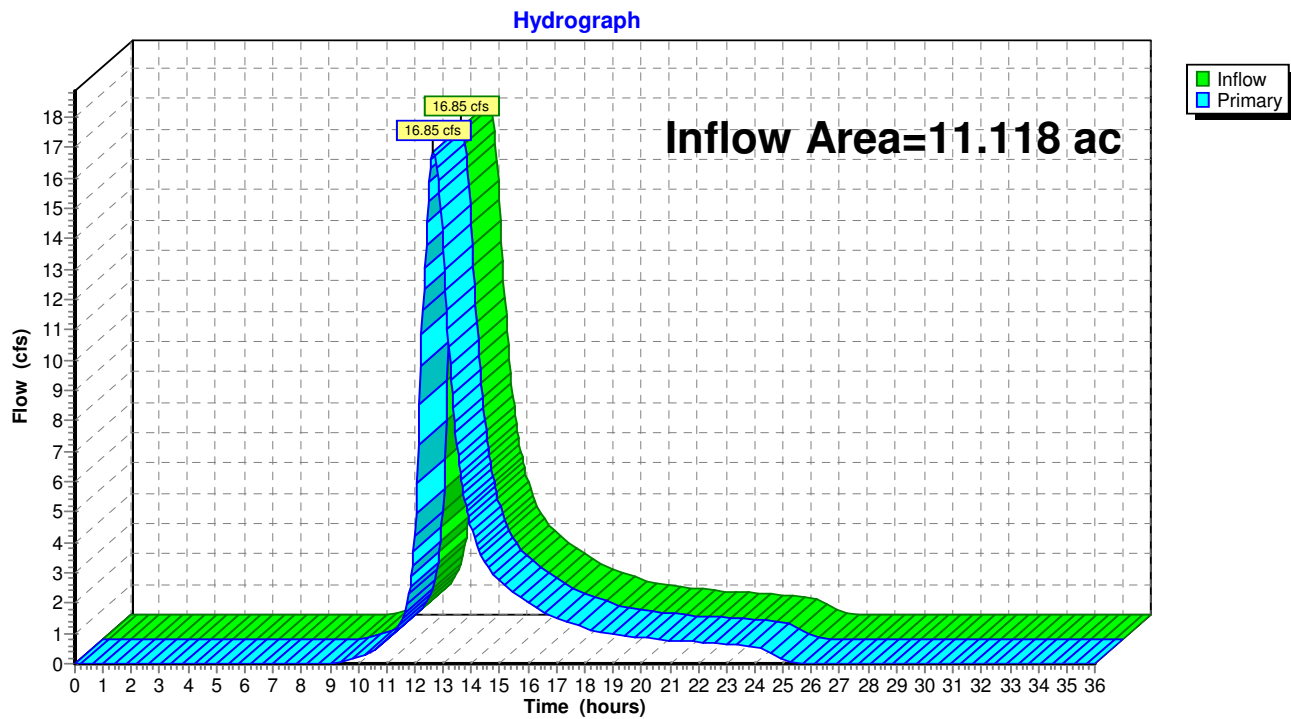
### Subcatchment P3: P3



### Pond PP1: Infiltration Basin



Link DP1\*: DP1\* (Proposed Condition)





## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

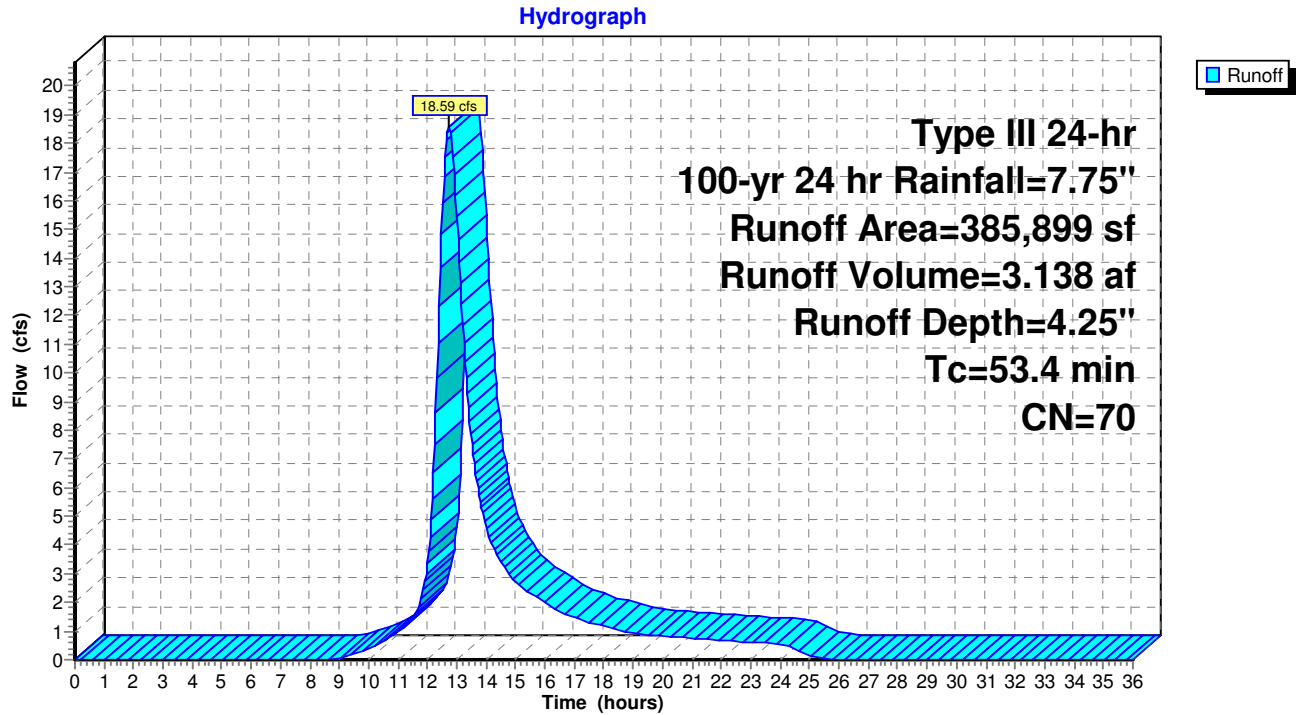
HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions  
Type III 24-hr 100-yr 24 hr Rainfall=7.75"

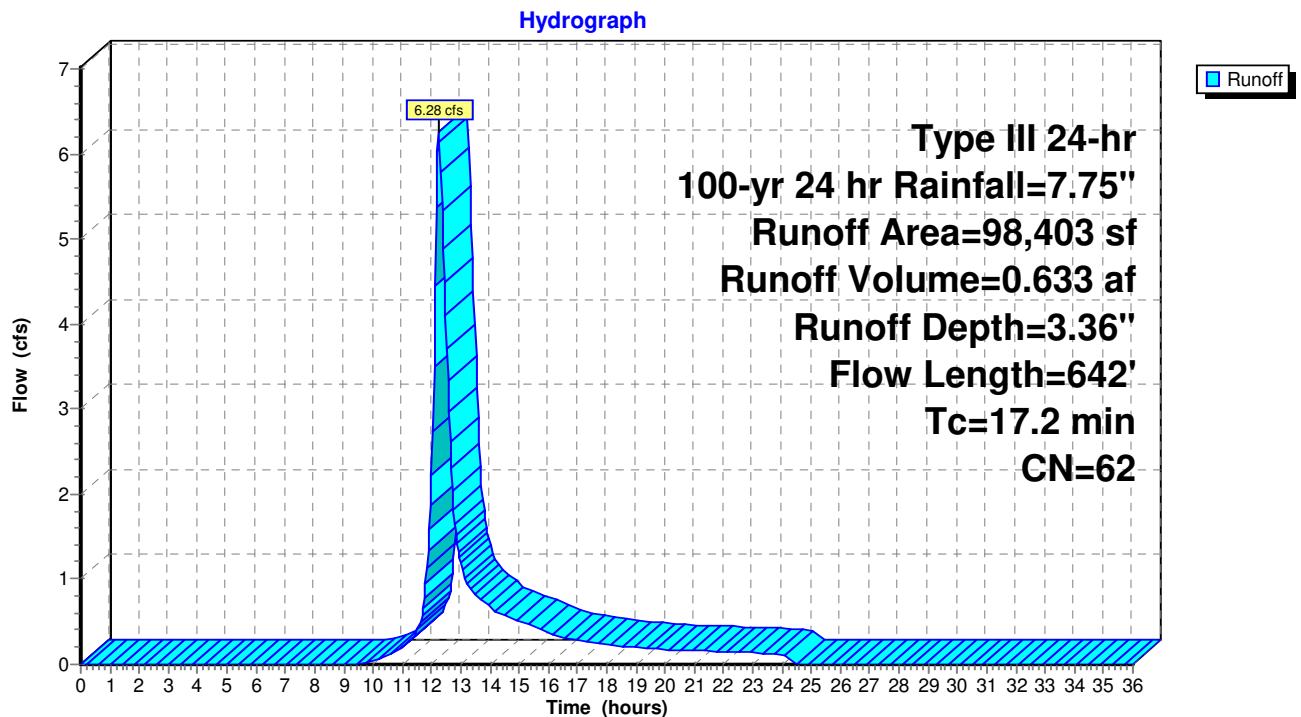
Printed 12/22/2021

Page 24

### Subcatchment P1: P1



### Subcatchment P2: P2



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

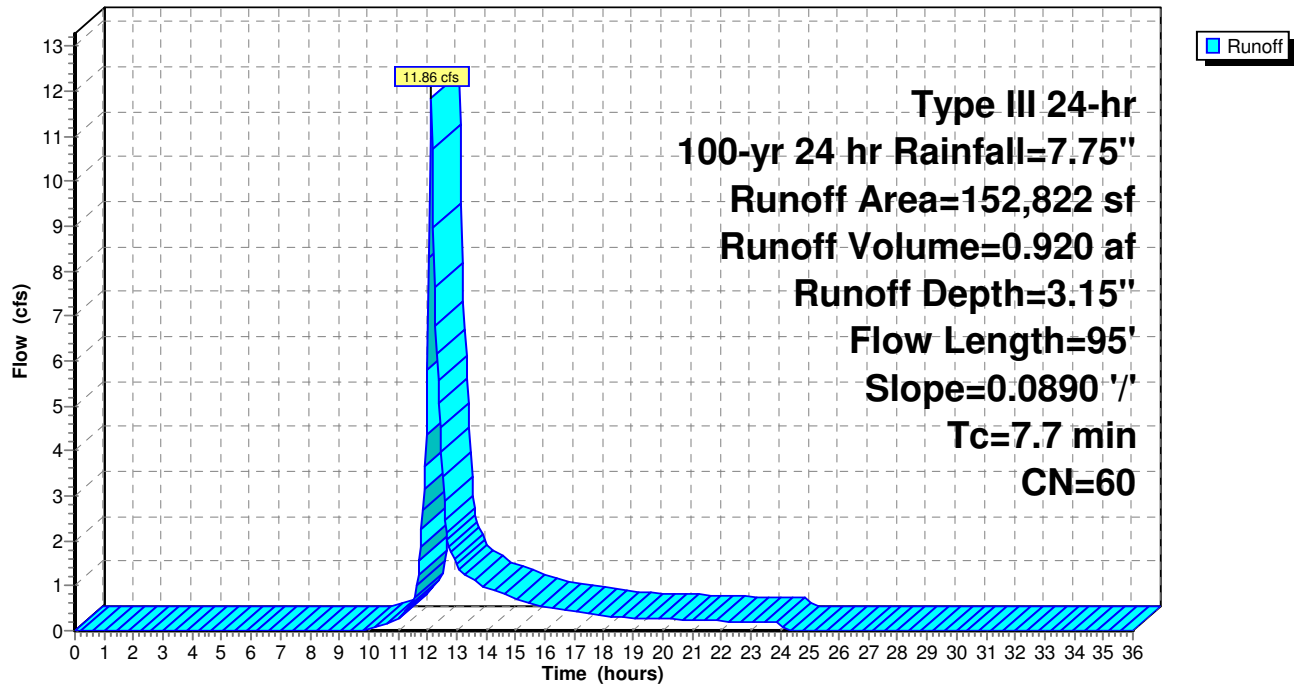
Type III 24-hr 100-yr 24 hr Rainfall=7.75"

Printed 12/22/2021

Page 25

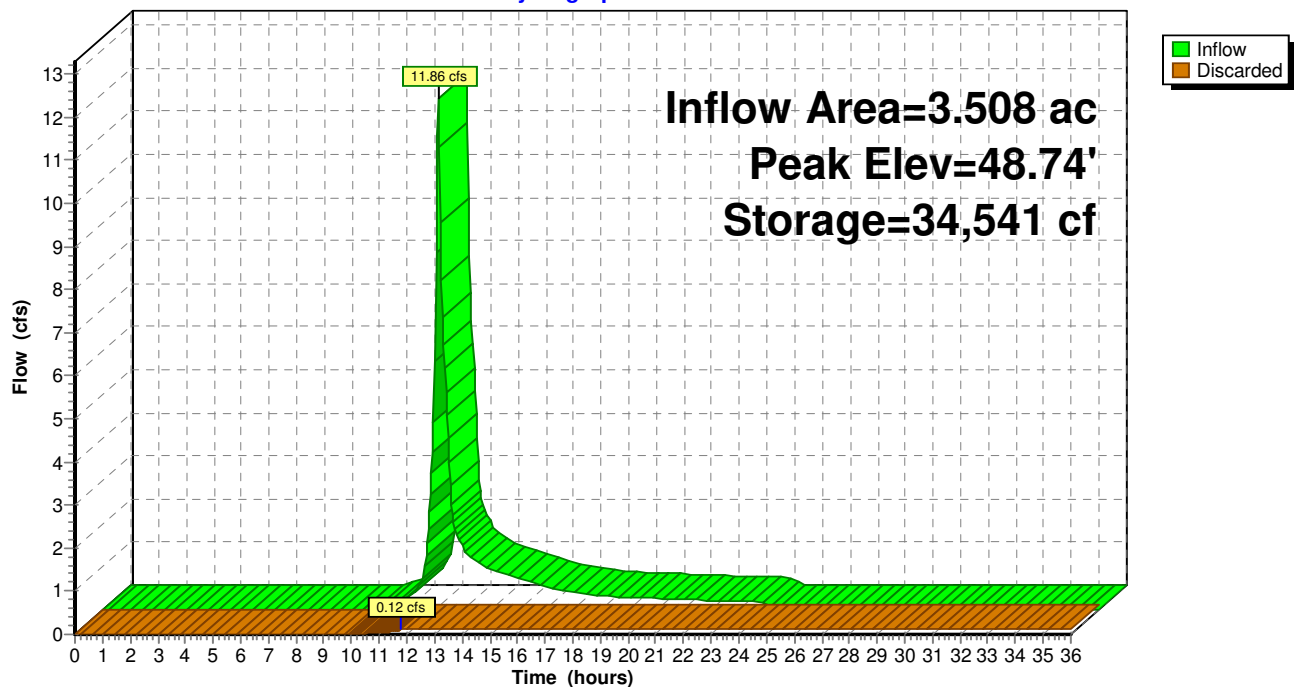
### Subcatchment P3: P3

Hydrograph



### Pond PP1: Infiltration Basin

Hydrograph



## 2482.H - HydroCAD

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

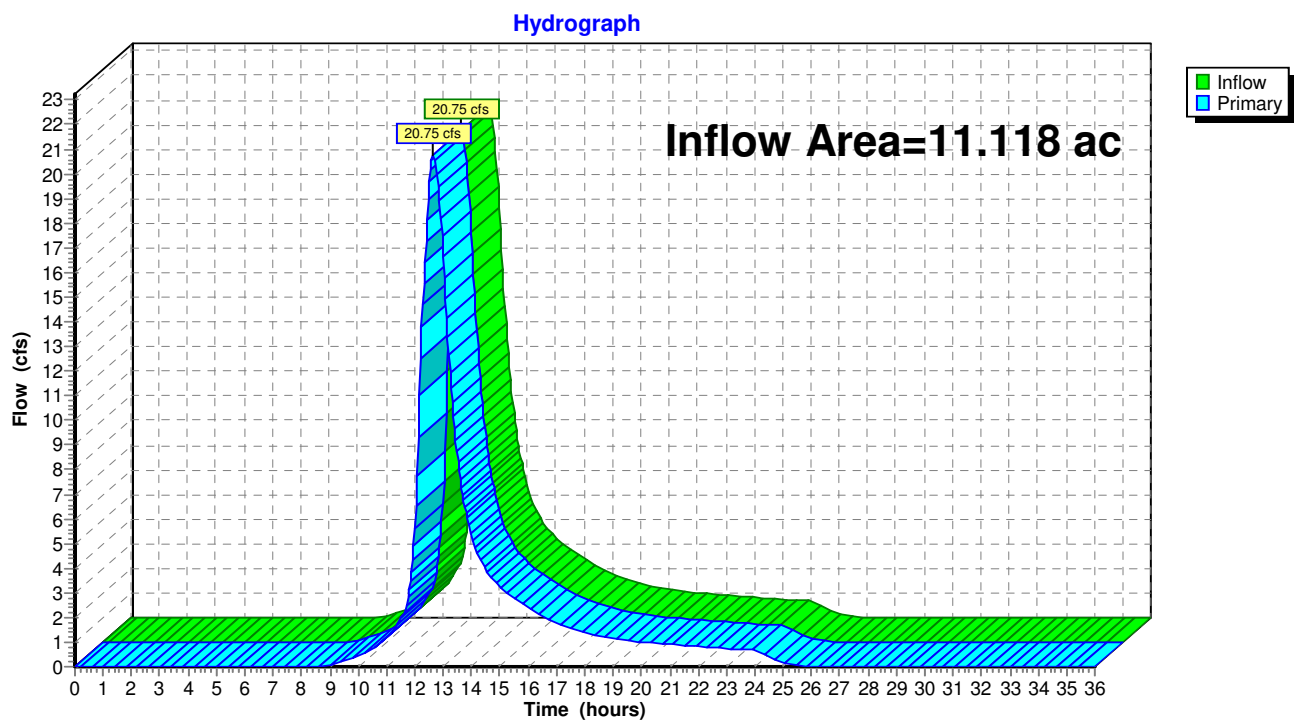
Proposed Conditions

Type III 24-hr 100-yr 24 hr Rainfall=7.75"

Printed 12/22/2021

Page 26

### Link DP1\*: DP1\* (Proposed Condition)



**2482.H - HydroCAD**

Prepared by Design Professionals, Inc.

HydroCAD® 10.00-25 s/n 09320 © 2019 HydroCAD Software Solutions LLC

Proposed Conditions

Type III 24-hr 100-yr 24 hr Rainfall=7.75"

Printed 12/23/2021

Page 27

**Summary for Pond PP1: Infiltration Basin**

\*No infiltration accounted for in Volume #2

Inflow Area = 3.508 ac, 0.12% Impervious, Inflow Depth = 3.15" for 100-yr 24 hr event  
 Inflow = 11.86 cfs @ 12.12 hrs, Volume= 0.920 af  
 Outflow = 0.12 cfs @ 11.80 hrs, Volume= 0.243 af, Atten= 99%, Lag= 0.0 min  
 Discarded = 0.12 cfs @ 11.80 hrs, Volume= 0.243 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs  
 Peak Elev= 48.74' @ 24.09 hrs Surf.Area= 5,101 sf Storage= 34,541 cf

Plug-Flow detention time= 702.3 min calculated for 0.243 af (26% of inflow)  
 Center-of-Mass det. time= 564.7 min ( 1,414.1 - 849.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	2,189 cf	<b>Custom Stage Data (Conic)</b> Listed below (Recalc)
#2	47.00'	77,493 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc) -Impervious
		79,682 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.00	277	0	0	277
47.00	5,101	2,189	2,189	5,104

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
47.00	5,101	0	0
48.00	22,964	14,033	14,033
49.00	27,625	25,295	39,327
50.00	48,707	38,166	77,493

Device	Routing	Invert	Outlet Devices
#1	Discarded	46.00'	<b>1.000 in/hr Exfiltration over Wetted area</b>

**Discarded OutFlow** Max=0.12 cfs @ 11.80 hrs HW=47.02' (Free Discharge)↑ **1=Exfiltration** (Exfiltration Controls 0.12 cfs)

**APPENDIX C**  
**NRCS Soil Map & Data**



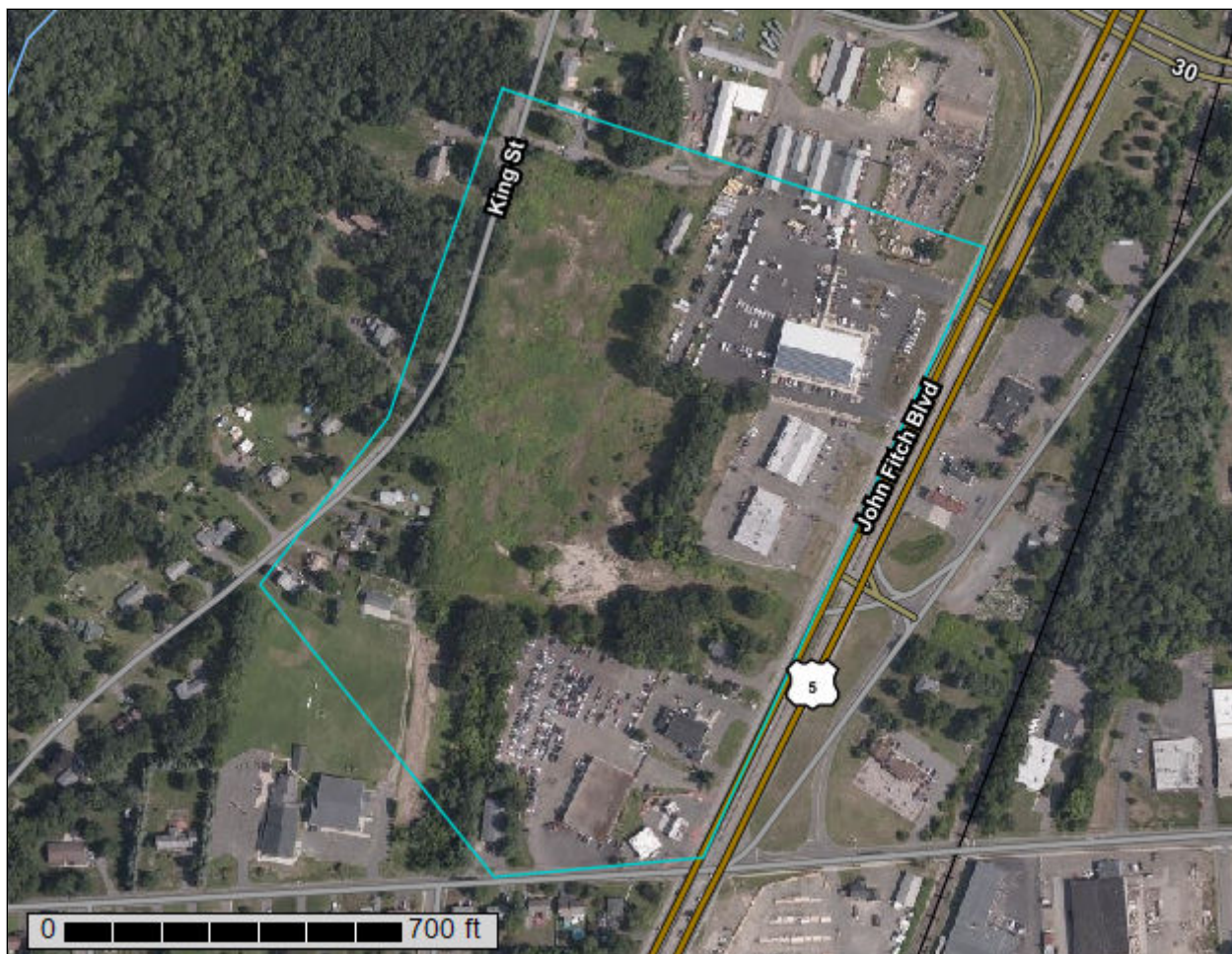
United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for State of Connecticut



# Preface

---

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.



# Contents

---

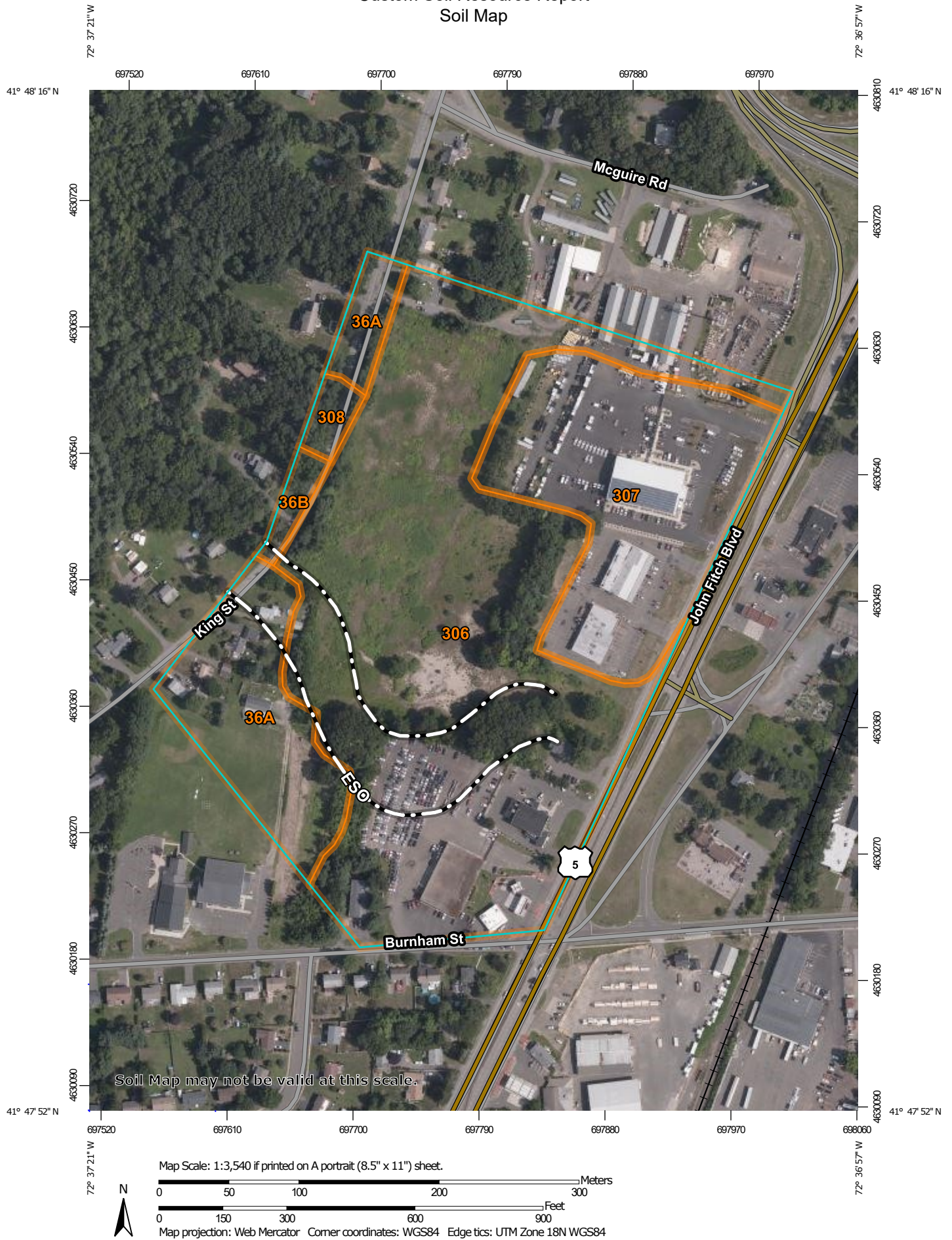
<b>Preface</b> .....	2
<b>Soil Map</b> .....	5
Soil Map.....	6
Legend.....	7
Map Unit Legend.....	8
Map Unit Descriptions.....	8
State of Connecticut.....	10
36A—Windsor loamy sand, 0 to 3 percent slopes.....	10
36B—Windsor loamy sand, 3 to 8 percent slopes.....	11
306—Udorthents-Urban land complex.....	12
307—Urban land.....	14
308—Udorthents, smoothed.....	15
<b>Soil Information for All Uses</b> .....	17
Soil Properties and Qualities.....	17
Soil Qualities and Features.....	17
Hydrologic Soil Group.....	17
<b>References</b> .....	22

# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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: State of Connecticut  
Survey Area Data: Version 21, Sep 7, 2021

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

Date(s) aerial images were photographed: Jul 15, 2019—Aug 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.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
36A	Windsor loamy sand, 0 to 3 percent slopes	4.5	13.7%
36B	Windsor loamy sand, 3 to 8 percent slopes	0.4	1.2%
306	Udorthents-Urban land complex	20.1	61.3%
307	Urban land	7.4	22.6%
308	Udorthents, smoothed	0.4	1.2%
<b>Totals for Area of Interest</b>		<b>32.8</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

## Custom Soil Resource Report

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## State of Connecticut

### 36A—Windsor loamy sand, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2svkg

*Elevation:* 0 to 990 feet

*Mean annual precipitation:* 36 to 71 inches

*Mean annual air temperature:* 39 to 55 degrees F

*Frost-free period:* 140 to 240 days

*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Windsor, loamy sand, and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Windsor, Loamy Sand

##### Setting

*Landform:* Outwash plains, outwash terraces, deltas, dunes

*Landform position (three-dimensional):* Tread, riser

*Down-slope shape:* Linear, convex

*Across-slope shape:* Linear, convex

*Parent material:* Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

##### Typical profile

*O - 0 to 1 inches:* moderately decomposed plant material

*A - 1 to 3 inches:* loamy sand

*Bw - 3 to 25 inches:* loamy sand

*C - 25 to 65 inches:* sand

##### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Excessively drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to very high (1.42 to 99.90 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 3.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 2s

*Hydrologic Soil Group:* A

*Ecological site:* F144AY022MA - Dry Outwash

*Hydric soil rating:* No

### Minor Components

#### Deerfield, loamy sand

*Percent of map unit:* 10 percent  
*Landform:* Deltas, terraces, outwash plains  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Tread, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Hinckley, loamy sand

*Percent of map unit:* 5 percent  
*Landform:* Deltas, kames, eskers, outwash plains  
*Landform position (two-dimensional):* Summit, shoulder, backslope  
*Landform position (three-dimensional):* Head slope, nose slope, side slope, crest, rise  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex, linear  
*Hydric soil rating:* No

## 36B—Windsor loamy sand, 3 to 8 percent slopes

### Map Unit Setting

*National map unit symbol:* 2svkf  
*Elevation:* 0 to 1,210 feet  
*Mean annual precipitation:* 36 to 71 inches  
*Mean annual air temperature:* 39 to 55 degrees F  
*Frost-free period:* 140 to 240 days  
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Windsor, loamy sand, and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Windsor, Loamy Sand

#### Setting

*Landform:* Dunes, outwash plains, deltas, outwash terraces  
*Landform position (three-dimensional):* Tread, riser  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Convex, linear  
*Parent material:* Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

#### Typical profile

*O - 0 to 1 inches:* moderately decomposed plant material  
*A - 1 to 3 inches:* loamy sand



## Custom Soil Resource Report

*Bw - 3 to 25 inches:* loamy sand

*C - 25 to 65 inches:* sand

### Properties and qualities

*Slope:* 3 to 8 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Excessively drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to very high (1.42 to 99.90 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.9 mmhos/cm)

*Available water supply, 0 to 60 inches:* Low (about 4.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 2s

*Hydrologic Soil Group:* A

*Ecological site:* F144AY022MA - Dry Outwash

*Hydric soil rating:* No

### Minor Components

#### Hinckley, loamy sand

*Percent of map unit:* 10 percent

*Landform:* Deltas, kames, eskers, outwash plains

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Head slope, nose slope, side slope, crest, rise

*Down-slope shape:* Convex

*Across-slope shape:* Convex, linear

*Hydric soil rating:* No

#### Deerfield, loamy sand

*Percent of map unit:* 5 percent

*Landform:* Deltas, terraces, outwash plains

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Tread, tal

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

## 306—Udorthents-Urban land complex

### Map Unit Setting

*National map unit symbol:* 9lmg

*Elevation:* 0 to 2,000 feet

*Mean annual precipitation:* 43 to 56 inches

*Mean annual air temperature:* 45 to 55 degrees F

## Custom Soil Resource Report

*Frost-free period:* 120 to 185 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Udorthents and similar soils:* 50 percent

*Urban land:* 35 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Udorthents

#### Setting

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Drift

#### Typical profile

*A - 0 to 5 inches:* loam

*C1 - 5 to 21 inches:* gravelly loam

*C2 - 21 to 80 inches:* very gravelly sandy loam

#### Properties and qualities

*Slope:* 0 to 25 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Medium

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 1.98 in/hr)

*Depth to water table:* About 54 to 72 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* Moderate (about 6.8 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3e

*Hydrologic Soil Group:* B

*Hydric soil rating:* No

### Description of Urban Land

#### Typical profile

*H - 0 to 6 inches:* material

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydrologic Soil Group:* D

*Hydric soil rating:* Unranked

### Minor Components

#### Unnamed, undisturbed soils

*Percent of map unit:* 8 percent

*Hydric soil rating:* No

#### Udorthents, wet substratum

*Percent of map unit:* 5 percent

*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Rock outcrop**

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

### **307—Urban land**

**Map Unit Setting**

*National map unit symbol:* 9lmh  
*Elevation:* 0 to 2,000 feet  
*Mean annual precipitation:* 43 to 56 inches  
*Mean annual air temperature:* 45 to 55 degrees F  
*Frost-free period:* 120 to 185 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Urban land:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Urban Land**

**Typical profile**

*H - 0 to 6 inches:* material

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* Unranked

**Minor Components**

**Udorthents, wet substratum**

*Percent of map unit:* 10 percent  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Unnamed, undisturbed soils**

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

### 308—Udorthents, smoothed

#### Map Unit Setting

*National map unit symbol:* 9lmj  
*Elevation:* 0 to 2,000 feet  
*Mean annual precipitation:* 43 to 56 inches  
*Mean annual air temperature:* 45 to 55 degrees F  
*Frost-free period:* 120 to 185 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Udorthents and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Udorthents

##### Setting

*Down-slope shape:* Convex  
*Across-slope shape:* Linear

##### Typical profile

*A - 0 to 5 inches:* loam  
*C1 - 5 to 21 inches:* gravelly loam  
*C2 - 21 to 80 inches:* very gravelly sandy loam

##### Properties and qualities

*Slope:* 0 to 35 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to high (0.00 to 1.98 in/hr)  
*Depth to water table:* About 24 to 54 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Moderate (about 6.8 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

#### Minor Components

##### Udorthents, wet substratum

*Percent of map unit:* 7 percent  
*Hydric soil rating:* No

## Custom Soil Resource Report

### **Unnamed, undisturbed soils**

*Percent of map unit: 7 percent*

*Hydric soil rating: No*

### **Urban land**

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

### **Rock outcrop**

*Percent of map unit: 1 percent*

*Hydric soil rating: No*

# **Soil Information for All Uses**

---

## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## **Hydrologic Soil Group**

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.

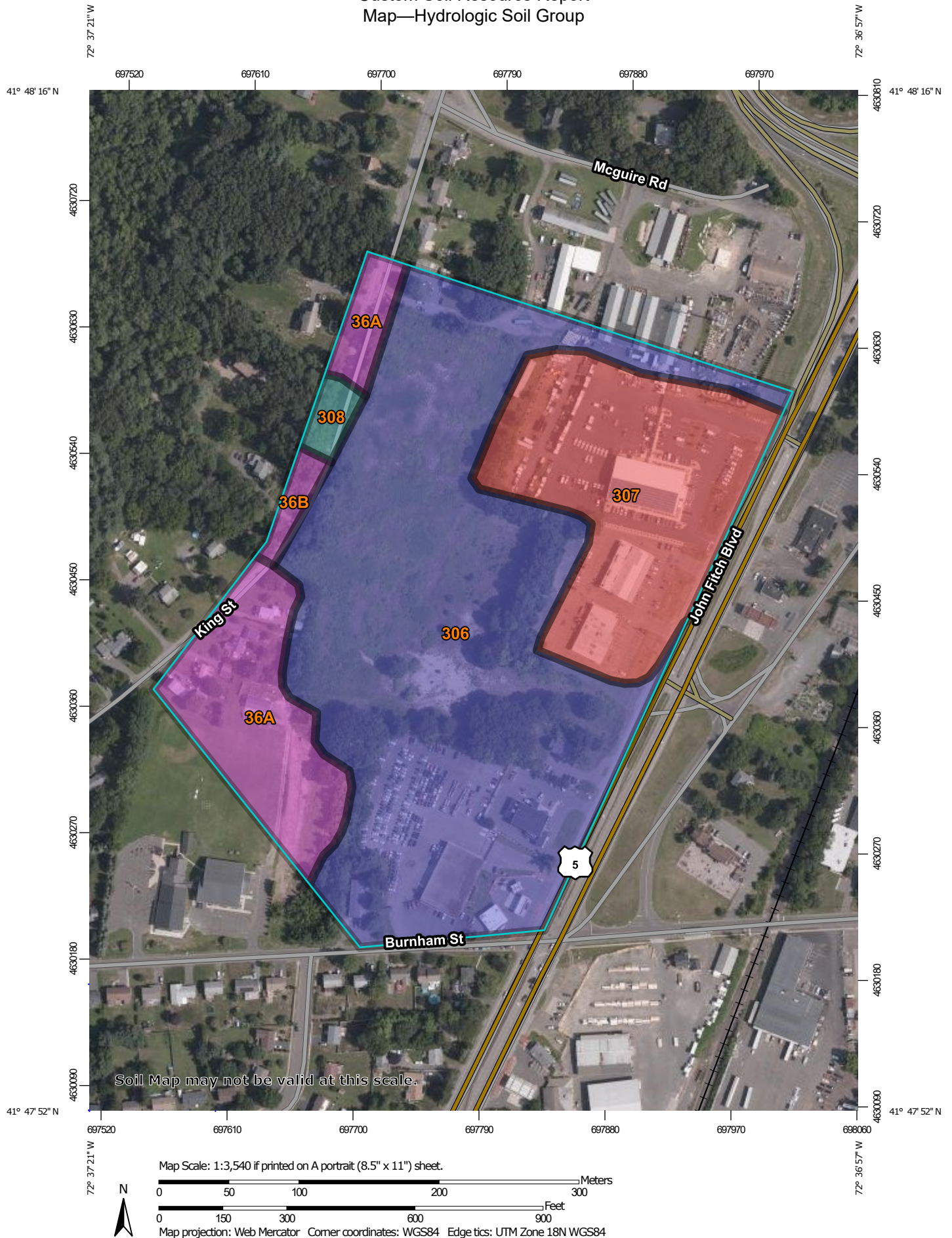
## Custom Soil Resource Report

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.

# Custom Soil Resource Report Map—Hydrologic Soil Group





## Custom Soil Resource Report

### 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 1:12,000.

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: State of Connecticut  
Survey Area Data: Version 21, Sep 7, 2021

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

Date(s) aerial images were photographed: Jul 15, 2019—Aug 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.

**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
36A	Windsor loamy sand, 0 to 3 percent slopes	A	4.5	13.7%
36B	Windsor loamy sand, 3 to 8 percent slopes	A	0.4	1.2%
306	Udorthents-Urban land complex	B	20.1	61.3%
307	Urban land	D	7.4	22.6%
308	Udorthents, smoothed	C	0.4	1.2%
<b>Totals for Area of Interest</b>			<b>32.8</b>	<b>100.0%</b>

**Rating Options—Hydrologic Soil Group**

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

# References

---

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

**APPENDIX D**  
**NOAA Rainfall Data**



**NOAA Atlas 14, Volume 10, Version 3**  
**Location name: South Windsor, Connecticut, USA\***  
**Latitude: 41.8019°, Longitude: -72.6202°**  
**Elevation: 54.7 ft\*\***

\* source: ESRI Maps

\*\* source: USGS



**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

**PF tabular**

<b>PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)<sup>1</sup></b>										
<b>Duration</b>	<b>Average recurrence interval (years)</b>									
	<b>1</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>25</b>	<b>50</b>	<b>100</b>	<b>200</b>	<b>500</b>	<b>1000</b>
<b>5-min</b>	<b>4.01</b> (3.14-5.11)	<b>4.87</b> (3.82-6.22)	<b>6.28</b> (4.90-8.03)	<b>7.44</b> (5.77-9.58)	<b>9.04</b> (6.78-12.2)	<b>10.2</b> (7.54-14.1)	<b>11.5</b> (8.21-16.5)	<b>12.9</b> (8.72-19.0)	<b>15.0</b> (9.71-22.8)	<b>16.6</b> (10.5-25.9)
<b>10-min</b>	<b>2.84</b> (2.23-3.62)	<b>3.45</b> (2.70-4.40)	<b>4.44</b> (3.47-5.69)	<b>5.27</b> (4.09-6.78)	<b>6.40</b> (4.80-8.63)	<b>7.25</b> (5.33-10.0)	<b>8.15</b> (5.81-11.7)	<b>9.16</b> (6.17-13.5)	<b>10.6</b> (6.87-16.2)	<b>11.8</b> (7.46-18.3)
<b>15-min</b>	<b>2.23</b> (1.75-2.84)	<b>2.71</b> (2.12-3.45)	<b>3.49</b> (2.72-4.46)	<b>4.13</b> (3.20-5.32)	<b>5.02</b> (3.76-6.77)	<b>5.69</b> (4.18-7.85)	<b>6.39</b> (4.56-9.17)	<b>7.18</b> (4.84-10.6)	<b>8.31</b> (5.39-12.7)	<b>9.24</b> (5.85-14.4)
<b>30-min</b>	<b>1.49</b> (1.17-1.90)	<b>1.82</b> (1.42-2.32)	<b>2.34</b> (1.83-3.00)	<b>2.78</b> (2.16-3.58)	<b>3.39</b> (2.54-4.57)	<b>3.85</b> (2.82-5.31)	<b>4.32</b> (3.08-6.20)	<b>4.86</b> (3.28-7.14)	<b>5.62</b> (3.65-8.57)	<b>6.25</b> (3.96-9.73)
<b>60-min</b>	<b>0.936</b> (0.733-1.19)	<b>1.14</b> (0.893-1.45)	<b>1.48</b> (1.15-1.89)	<b>1.75</b> (1.36-2.26)	<b>2.13</b> (1.60-2.88)	<b>2.42</b> (1.78-3.34)	<b>2.72</b> (1.94-3.91)	<b>3.06</b> (2.07-4.50)	<b>3.55</b> (2.30-5.40)	<b>3.94</b> (2.49-6.14)
<b>2-hr</b>	<b>0.608</b> (0.479-0.769)	<b>0.736</b> (0.580-0.932)	<b>0.946</b> (0.742-1.20)	<b>1.12</b> (0.874-1.43)	<b>1.36</b> (1.03-1.83)	<b>1.54</b> (1.14-2.12)	<b>1.73</b> (1.25-2.48)	<b>1.96</b> (1.32-2.86)	<b>2.29</b> (1.49-3.47)	<b>2.57</b> (1.63-3.98)
<b>3-hr</b>	<b>0.466</b> (0.369-0.588)	<b>0.564</b> (0.446-0.713)	<b>0.725</b> (0.570-0.919)	<b>0.858</b> (0.671-1.09)	<b>1.04</b> (0.790-1.40)	<b>1.18</b> (0.875-1.62)	<b>1.32</b> (0.958-1.90)	<b>1.50</b> (1.02-2.18)	<b>1.77</b> (1.15-2.67)	<b>1.99</b> (1.27-3.07)
<b>6-hr</b>	<b>0.292</b> (0.232-0.366)	<b>0.355</b> (0.282-0.445)	<b>0.457</b> (0.362-0.576)	<b>0.542</b> (0.427-0.687)	<b>0.659</b> (0.503-0.879)	<b>0.745</b> (0.558-1.02)	<b>0.839</b> (0.612-1.20)	<b>0.954</b> (0.649-1.38)	<b>1.13</b> (0.739-1.70)	<b>1.29</b> (0.820-1.97)
<b>12-hr</b>	<b>0.176</b> (0.141-0.220)	<b>0.216</b> (0.173-0.269)	<b>0.281</b> (0.224-0.352)	<b>0.335</b> (0.265-0.422)	<b>0.409</b> (0.314-0.543)	<b>0.464</b> (0.349-0.632)	<b>0.523</b> (0.384-0.746)	<b>0.598</b> (0.408-0.859)	<b>0.713</b> (0.467-1.06)	<b>0.812</b> (0.520-1.24)
<b>24-hr</b>	<b>0.103</b> (0.083-0.128)	<b>0.128</b> (0.103-0.159)	<b>0.169</b> (0.136-0.211)	<b>0.203</b> (0.162-0.255)	<b>0.250</b> (0.194-0.331)	<b>0.285</b> (0.216-0.387)	<b>0.323</b> (0.239-0.460)	<b>0.371</b> (0.254-0.531)	<b>0.448</b> (0.295-0.664)	<b>0.516</b> (0.331-0.779)
<b>2-day</b>	<b>0.058</b> (0.047-0.072)	<b>0.074</b> (0.060-0.091)	<b>0.099</b> (0.080-0.122)	<b>0.120</b> (0.096-0.149)	<b>0.148</b> (0.116-0.196)	<b>0.169</b> (0.129-0.230)	<b>0.192</b> (0.144-0.275)	<b>0.224</b> (0.154-0.318)	<b>0.275</b> (0.181-0.405)	<b>0.321</b> (0.206-0.481)
<b>3-day</b>	<b>0.042</b> (0.034-0.052)	<b>0.054</b> (0.044-0.066)	<b>0.072</b> (0.058-0.089)	<b>0.087</b> (0.070-0.108)	<b>0.108</b> (0.085-0.143)	<b>0.123</b> (0.095-0.167)	<b>0.141</b> (0.106-0.201)	<b>0.164</b> (0.113-0.232)	<b>0.202</b> (0.133-0.297)	<b>0.237</b> (0.153-0.354)
<b>4-day</b>	<b>0.034</b> (0.028-0.042)	<b>0.043</b> (0.035-0.053)	<b>0.058</b> (0.047-0.071)	<b>0.070</b> (0.056-0.086)	<b>0.087</b> (0.068-0.114)	<b>0.099</b> (0.076-0.133)	<b>0.112</b> (0.085-0.160)	<b>0.131</b> (0.090-0.185)	<b>0.162</b> (0.107-0.236)	<b>0.189</b> (0.122-0.282)
<b>7-day</b>	<b>0.023</b> (0.019-0.028)	<b>0.029</b> (0.023-0.035)	<b>0.038</b> (0.031-0.046)	<b>0.046</b> (0.037-0.056)	<b>0.056</b> (0.044-0.074)	<b>0.064</b> (0.050-0.086)	<b>0.073</b> (0.055-0.103)	<b>0.085</b> (0.059-0.119)	<b>0.104</b> (0.069-0.151)	<b>0.121</b> (0.078-0.179)
<b>10-day</b>	<b>0.019</b> (0.015-0.022)	<b>0.023</b> (0.019-0.028)	<b>0.030</b> (0.024-0.036)	<b>0.035</b> (0.029-0.043)	<b>0.043</b> (0.034-0.056)	<b>0.049</b> (0.038-0.065)	<b>0.056</b> (0.042-0.078)	<b>0.064</b> (0.044-0.089)	<b>0.077</b> (0.051-0.112)	<b>0.089</b> (0.058-0.132)
<b>20-day</b>	<b>0.013</b> (0.011-0.016)	<b>0.016</b> (0.013-0.019)	<b>0.019</b> (0.016-0.023)	<b>0.022</b> (0.018-0.027)	<b>0.026</b> (0.021-0.034)	<b>0.030</b> (0.023-0.039)	<b>0.033</b> (0.025-0.045)	<b>0.037</b> (0.026-0.051)	<b>0.043</b> (0.029-0.062)	<b>0.048</b> (0.032-0.071)
<b>30-day</b>	<b>0.011</b> (0.009-0.013)	<b>0.013</b> (0.011-0.015)	<b>0.015</b> (0.013-0.018)	<b>0.017</b> (0.014-0.021)	<b>0.020</b> (0.016-0.026)	<b>0.022</b> (0.017-0.029)	<b>0.025</b> (0.018-0.033)	<b>0.027</b> (0.019-0.037)	<b>0.031</b> (0.021-0.044)	<b>0.034</b> (0.022-0.049)
<b>45-day</b>	<b>0.009</b> (0.008-0.011)	<b>0.011</b> (0.009-0.013)	<b>0.012</b> (0.010-0.015)	<b>0.014</b> (0.011-0.017)	<b>0.016</b> (0.012-0.020)	<b>0.017</b> (0.013-0.022)	<b>0.019</b> (0.014-0.025)	<b>0.020</b> (0.014-0.028)	<b>0.022</b> (0.015-0.032)	<b>0.024</b> (0.016-0.035)
<b>60-day</b>	<b>0.008</b> (0.007-0.010)	<b>0.009</b> (0.008-0.011)	<b>0.010</b> (0.009-0.013)	<b>0.012</b> (0.010-0.014)	<b>0.013</b> (0.010-0.016)	<b>0.014</b> (0.011-0.018)	<b>0.015</b> (0.011-0.020)	<b>0.017</b> (0.012-0.023)	<b>0.018</b> (0.012-0.025)	<b>0.019</b> (0.012-0.028)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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

Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

**PF graphical**



**NOAA Atlas 14, Volume 10, Version 3**  
**Location name: South Windsor, Connecticut, USA\***  
**Latitude: 41.8019°, Longitude: -72.6202°**  
**Elevation: 54.7 ft\*\***

\* source: ESRI Maps  
 \*\* source: USGS



**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

**PF tabular**

<b>PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)<sup>1</sup></b>										
<b>Duration</b>	<b>Average recurrence interval (years)</b>									
	<b>1</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>25</b>	<b>50</b>	<b>100</b>	<b>200</b>	<b>500</b>	<b>1000</b>
<b>5-min</b>	<b>0.334</b> (0.262-0.426)	<b>0.406</b> (0.318-0.518)	<b>0.523</b> (0.408-0.669)	<b>0.620</b> (0.481-0.798)	<b>0.753</b> (0.565-1.02)	<b>0.854</b> (0.628-1.18)	<b>0.959</b> (0.684-1.38)	<b>1.08</b> (0.727-1.58)	<b>1.25</b> (0.809-1.90)	<b>1.39</b> (0.877-2.16)
<b>10-min</b>	<b>0.474</b> (0.371-0.604)	<b>0.575</b> (0.450-0.733)	<b>0.740</b> (0.578-0.949)	<b>0.878</b> (0.681-1.13)	<b>1.07</b> (0.800-1.44)	<b>1.21</b> (0.889-1.67)	<b>1.36</b> (0.968-1.95)	<b>1.53</b> (1.03-2.24)	<b>1.77</b> (1.15-2.69)	<b>1.96</b> (1.24-3.06)
<b>15-min</b>	<b>0.557</b> (0.437-0.710)	<b>0.677</b> (0.530-0.863)	<b>0.872</b> (0.681-1.12)	<b>1.03</b> (0.801-1.33)	<b>1.25</b> (0.941-1.69)	<b>1.42</b> (1.05-1.96)	<b>1.60</b> (1.14-2.29)	<b>1.80</b> (1.21-2.64)	<b>2.08</b> (1.35-3.17)	<b>2.31</b> (1.46-3.60)
<b>30-min</b>	<b>0.747</b> (0.585-0.951)	<b>0.908</b> (0.711-1.16)	<b>1.17</b> (0.915-1.50)	<b>1.39</b> (1.08-1.79)	<b>1.70</b> (1.27-2.29)	<b>1.92</b> (1.41-2.65)	<b>2.16</b> (1.54-3.10)	<b>2.43</b> (1.64-3.57)	<b>2.81</b> (1.82-4.29)	<b>3.13</b> (1.98-4.87)
<b>60-min</b>	<b>0.936</b> (0.733-1.19)	<b>1.14</b> (0.893-1.45)	<b>1.48</b> (1.15-1.89)	<b>1.75</b> (1.36-2.26)	<b>2.13</b> (1.60-2.88)	<b>2.42</b> (1.78-3.34)	<b>2.72</b> (1.94-3.91)	<b>3.06</b> (2.07-4.50)	<b>3.55</b> (2.30-5.40)	<b>3.94</b> (2.49-6.14)
<b>2-hr</b>	<b>1.22</b> (0.958-1.54)	<b>1.47</b> (1.16-1.87)	<b>1.89</b> (1.49-2.41)	<b>2.24</b> (1.75-2.87)	<b>2.72</b> (2.06-3.66)	<b>3.08</b> (2.28-4.24)	<b>3.46</b> (2.49-4.97)	<b>3.91</b> (2.65-5.71)	<b>4.58</b> (2.98-6.94)	<b>5.14</b> (3.26-7.96)
<b>3-hr</b>	<b>1.40</b> (1.11-1.77)	<b>1.70</b> (1.34-2.14)	<b>2.18</b> (1.71-2.76)	<b>2.58</b> (2.02-3.29)	<b>3.13</b> (2.37-4.19)	<b>3.53</b> (2.63-4.86)	<b>3.97</b> (2.88-5.70)	<b>4.50</b> (3.05-6.55)	<b>5.30</b> (3.45-8.01)	<b>5.99</b> (3.81-9.22)
<b>6-hr</b>	<b>1.75</b> (1.39-2.19)	<b>2.12</b> (1.69-2.67)	<b>2.74</b> (2.17-3.45)	<b>3.25</b> (2.56-4.11)	<b>3.94</b> (3.01-5.27)	<b>4.46</b> (3.34-6.11)	<b>5.02</b> (3.66-7.19)	<b>5.71</b> (3.89-8.27)	<b>6.78</b> (4.43-10.2)	<b>7.69</b> (4.91-11.8)
<b>12-hr</b>	<b>2.12</b> (1.70-2.65)	<b>2.60</b> (2.08-3.25)	<b>3.39</b> (2.70-4.24)	<b>4.04</b> (3.20-5.08)	<b>4.93</b> (3.79-6.55)	<b>5.59</b> (4.21-7.61)	<b>6.31</b> (4.63-8.99)	<b>7.20</b> (4.92-10.4)	<b>8.59</b> (5.63-12.8)	<b>9.79</b> (6.26-14.9)
<b>24-hr</b>	<b>2.47</b> (1.99-3.06)	<b>3.08</b> (2.48-3.81)	<b>4.06</b> (3.26-5.06)	<b>4.88</b> (3.89-6.11)	<b>6.01</b> (4.65-7.95)	<b>6.83</b> (5.19-9.29)	<b>7.75</b> (5.74-11.0)	<b>8.91</b> (6.10-12.7)	<b>10.8</b> (7.07-15.9)	<b>12.4</b> (7.95-18.7)
<b>2-day</b>	<b>2.80</b> (2.27-3.44)	<b>3.53</b> (2.86-4.35)	<b>4.74</b> (3.82-5.86)	<b>5.74</b> (4.60-7.14)	<b>7.12</b> (5.55-9.40)	<b>8.11</b> (6.21-11.0)	<b>9.24</b> (6.93-13.2)	<b>10.7</b> (7.37-15.3)	<b>13.2</b> (8.70-19.4)	<b>15.4</b> (9.91-23.1)
<b>3-day</b>	<b>3.04</b> (2.48-3.73)	<b>3.86</b> (3.13-4.73)	<b>5.18</b> (4.19-6.38)	<b>6.28</b> (5.05-7.78)	<b>7.79</b> (6.10-10.3)	<b>8.89</b> (6.83-12.0)	<b>10.1</b> (7.63-14.5)	<b>11.8</b> (8.12-16.7)	<b>14.6</b> (9.61-21.4)	<b>17.0</b> (11.0-25.5)
<b>4-day</b>	<b>3.26</b> (2.66-3.99)	<b>4.12</b> (3.36-5.05)	<b>5.53</b> (4.49-6.80)	<b>6.70</b> (5.40-8.28)	<b>8.31</b> (6.52-10.9)	<b>9.47</b> (7.30-12.8)	<b>10.8</b> (8.15-15.4)	<b>12.6</b> (8.66-17.8)	<b>15.5</b> (10.3-22.7)	<b>18.2</b> (11.7-27.1)
<b>7-day</b>	<b>3.85</b> (3.16-4.68)	<b>4.81</b> (3.94-5.86)	<b>6.39</b> (5.21-7.81)	<b>7.69</b> (6.23-9.46)	<b>9.49</b> (7.47-12.4)	<b>10.8</b> (8.34-14.5)	<b>12.3</b> (9.26-17.3)	<b>14.2</b> (9.83-20.0)	<b>17.4</b> (11.5-25.3)	<b>20.3</b> (13.1-30.0)
<b>10-day</b>	<b>4.45</b> (3.66-5.40)	<b>5.47</b> (4.49-6.64)	<b>7.13</b> (5.83-8.68)	<b>8.50</b> (6.91-10.4)	<b>10.4</b> (8.20-13.5)	<b>11.8</b> (9.11-15.7)	<b>13.3</b> (10.0-18.6)	<b>15.3</b> (10.6-21.4)	<b>18.6</b> (12.3-26.9)	<b>21.4</b> (13.9-31.7)
<b>20-day</b>	<b>6.41</b> (5.30-7.72)	<b>7.48</b> (6.18-9.02)	<b>9.23</b> (7.60-11.2)	<b>10.7</b> (8.74-13.0)	<b>12.7</b> (10.0-16.2)	<b>14.2</b> (10.9-18.6)	<b>15.8</b> (11.8-21.6)	<b>17.7</b> (12.4-24.6)	<b>20.7</b> (13.8-29.8)	<b>23.3</b> (15.1-34.1)
<b>30-day</b>	<b>8.09</b> (6.72-9.72)	<b>9.19</b> (7.62-11.0)	<b>11.0</b> (9.08-13.3)	<b>12.5</b> (10.2-15.1)	<b>14.5</b> (11.5-18.4)	<b>16.1</b> (12.4-20.8)	<b>17.7</b> (13.2-23.8)	<b>19.5</b> (13.7-26.9)	<b>22.2</b> (14.9-31.7)	<b>24.4</b> (15.9-35.7)
<b>45-day</b>	<b>10.2</b> (8.52-12.2)	<b>11.4</b> (9.45-13.6)	<b>13.2</b> (11.0-15.9)	<b>14.8</b> (12.2-17.8)	<b>16.9</b> (13.4-21.2)	<b>18.5</b> (14.3-23.7)	<b>20.1</b> (14.9-26.7)	<b>21.8</b> (15.4-30.0)	<b>24.1</b> (16.2-34.3)	<b>25.9</b> (16.9-37.7)
<b>60-day</b>	<b>12.0</b> (10.0-14.3)	<b>13.2</b> (11.0-15.8)	<b>15.1</b> (12.6-18.1)	<b>16.7</b> (13.8-20.1)	<b>18.9</b> (15.0-23.6)	<b>20.6</b> (15.9-26.3)	<b>22.3</b> (16.5-29.3)	<b>23.9</b> (16.9-32.7)	<b>25.9</b> (17.5-36.7)	<b>27.3</b> (17.9-39.7)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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

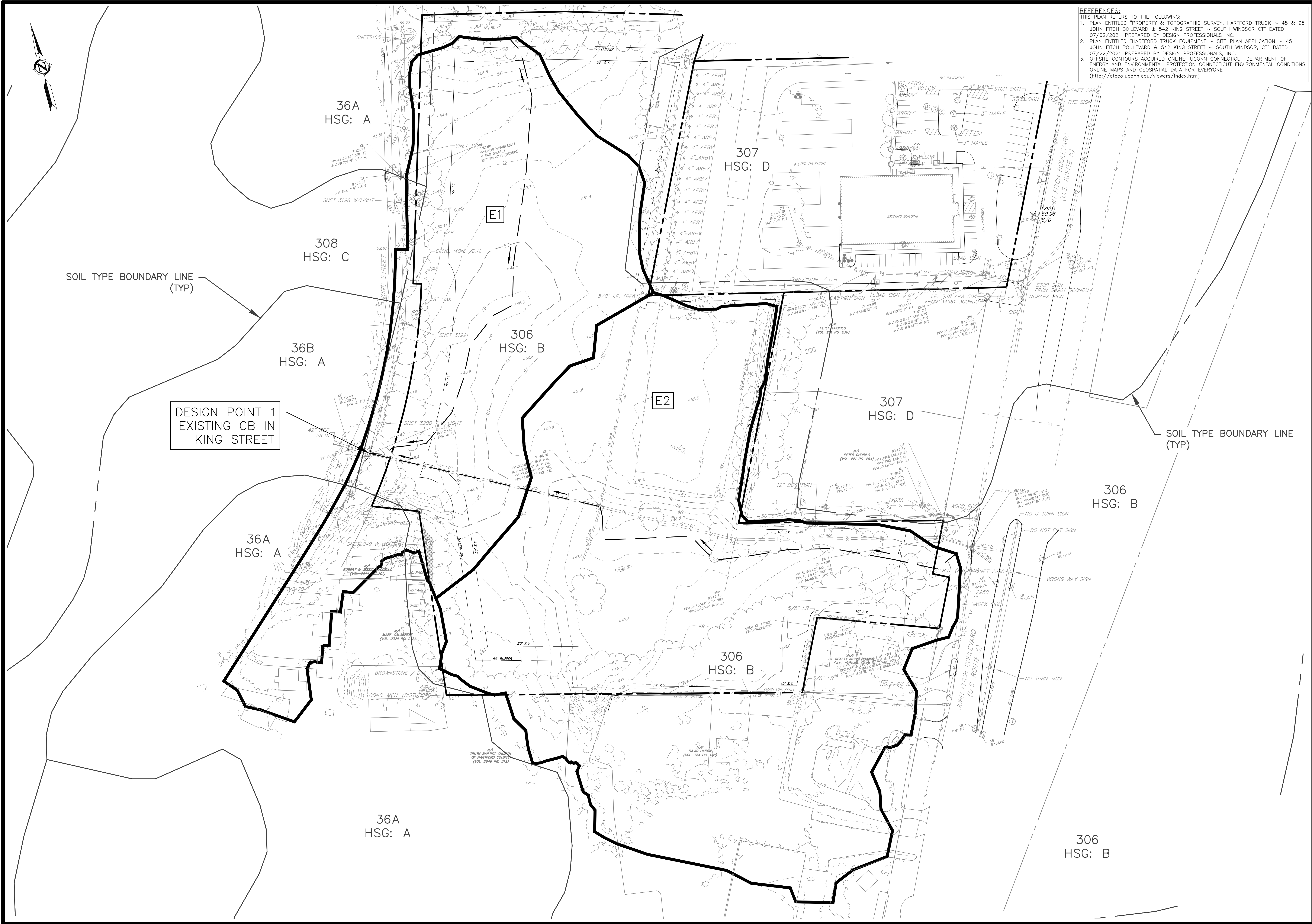
Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

**PF graphical**

**APPENDIX E**  
**Drainage Area Maps**





REFERENCES:  
THIS PLAN REFERS TO THE FOLLOWING:  
1. PLAN ENTITLED "PROPERTY & TOPOGRAPHIC SURVEY, HARTFORD TRUCK ~ 45 & 95 JOHN FITCH BOULEVARD & 542 KING STREET ~ SOUTH WINDSOR CT" DATED 07/02/2021 PREPARED BY DESIGN PROFESSIONALS INC.  
2. PLAN ENTITLED "HARTFORD TRUCK EQUIPMENT ~ SITE PLAN APPLICATION ~ 45 JOHN FITCH BOULEVARD & 542 KING STREET ~ SOUTH WINDSOR, CT" DATED 07/22/2021 PREPARED BY DESIGN PROFESSIONALS, INC.  
3. OFFSITE CONTOURS ACQUIRED ONLINE: UCONN CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION CONNECTICUT ENVIRONMENTAL CONDITIONS ONLINE MAPS AND GEOSPATIAL DATA FOR EVERYONE (<http://cteco.uconn.edu/viewers/index.htm>)

EXISTING CONDITION  
DRAINAGE AREA MAP

SHEET  
**C-DA1**  
SHEET 1 OF 2

NO.	DATE	REVISIONS	BY

**HARTFORD TRUCK EQUIPMENT**  
45 JOHN FITCH BOULEVARD & 542 KING STREET  
SOUTH WINDSOR, CONNECTICUT  
GIS Nos. 47700045, & 50400542

PREPARED FOR  
**Hartford Truck Equipment, Inc.**  
C/o Mr. Blake Brannon  
95 John Fitch Boulevard  
South Windsor, CT 06074  
860-290-9324 T

PROJECT NO.  
**2482-H**  
DATE  
**12/22/2021**  
DESIGN BY  
**DJH**  
CHECKED BY  
**DJH**  
SCALE  
**1" = 60'**

design  
professionals  
CIVIL & TRAFFIC ENGINEERS / LAND SURVEYORS  
PLANNERS / LANDSCAPE ARCHITECTS

21 EBBETT DRIVE  
P.O. BOX 167  
SOUTH WINDSOR, CT 06074  
860-290-9324 T  
www.designprofessionals.com

The plan is a final product based on the best available information and is not a warranty. It is the responsibility of the client to verify the accuracy of the information. The plan is not to be used for any purpose other than that for which it was prepared. The plan is not to be used for any purpose other than that for which it was prepared. The plan is not to be used for any purpose other than that for which it was prepared.



