ALL-POINTS TECHNOLOGY CORPORATION

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051
Attn: Robert Stein, Chairman

November 21, 2017

Re: Request for Consideration of Changes
Petition No. 1234

Dear Chairman Stein,

On July 16, 2016, the Connecticut Siting Council ("Council") issued a Declaratory Ruling to SolarCity Corporation that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance and operation of an approximately 2.8 megawatt solar voltaic electric generating facility located at the Becton, Dickinson & Company, 7 Grace Way, North Canaan, Connecticut. Subsequently, the Council then considered and approved this project's Development and Management ("D&M") Plan on September 29, 2016.

In accordance with the Regulations of Connecticut State Agencies Section 16-50j-62, we respectfully request the Council consider the following proposed changes.

1. Transfer of Ownership of the Council's Declaratory Ruling from SolarCity Corporation to:

   DG Connecticut Solar, LLC,
   700 Universe Blvd, C1A/JB
   West Palm Beach, FL 33408

   Point of contact for this project is Mithun Vyas, who can be reached at 561-694-3842 or via email at Mithun.vyas@nexteraenergy.com.

2. D&M Plan Modifications - As a result of the new owner's review of site and design constraints, the ground-mounted solar arrays necessitate minor changes to meet their electrical output requirements. The proposed modifications to the approved D&M Plan include:

   - Removal of the eastern ground-mounted solar panel array (a total of 756 panels) and associated improvements;
   - Reduction of the western ground mounted solar panel array from 6,404 to 4,680 panels;
   - Revision to layout and clearing limits of the western array to minimize shading, resulting in an increase of the total project clearing from +/-9.0 acres to +/-9.9 acres; and,
   - Revision to Sedimentation and Erosion Control Plans due to the time of year construction.

The proposed modifications to the approved D&M Plan are depicted on the attached Revised D&M Plan. We respectfully request the Council review and approve the modified D&M Plan.

These proposed modifications do not substantially change post-development effects on the environment. Please refer to the enclosed Connecticut Department of Energy & Environmental Protection Natural Diversity Data Base Consultation Update, dated November 21, 2017. It is our professional opinion that the proposed project modifications represent a de minimis change from the previously approved D&M Plan and will result in no likely adverse impacts to wetlands, vernal pools or State-listed species.

Additionally, although not technically part of the D&M Plan, we would like to notify the Council that the Stormwater Pollution Control Plan that was prepared for the CT DEEP's *General Permit Registration for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* (Application No. 201609557, Permit No. GSN003069) has also been revised to reflect the proposed changes, in accordance with Section 5(b)(5) "Keeping Plans Current" of this permit. A copy of the revised Stormwater Report is provided as an attachment.

If you have any questions or require additional information, please contact me at (860) 983-5153 or via email at mlibertine@allpointstech.com.

Thank you in advance for your consideration.

Sincerely,
All-Points Technology Corporation, P.C.

Bradley J. Parsons, P.E. on behalf of

Michael Libertine
Director of Siting and Permitting

Attachments
- Revised D&M Plan
- DEEP NDDB Consultation Update
- Revised Stormwater Report
- Project Overview Map (Showing Originally Approved and Revised Project limits)

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE · KILLINGWORTH, CT 06419

Natural Diversity Data Base (NDDB) Consultation Update

Date: November 21, 2017

To: Dawn McKay (dawn.mckay@ct.gov)

From: Dean Gustafson, Senior Environmental Scientist

Re: NDDB Determination No: 201601990
Minor Project Revisions
Proposed Decton Dickinson PV Solar Facility
7 Grace Way
North Canaan, Connecticut

On behalf of DG Connecticut Solar, LLC, All-Points Technology Corporation, P.C. ("APT") is submitting additional information in association with a final Natural Diversity Data Base ("NDDB") determination letter issued by the Connecticut Department of Energy & Environmental Protection ("DEEP") on August 22, 2016.

DG Connecticut Solar, LLC is the new owner of record, having recently obtained this project from SolarCity Corporation. As a result of the new owner's review of site and design constraints, the ground-mounted solar arrays necessitate minor changes to meet their electrical output requirements. The proposed modifications include:

- Removal of the eastern ground-mounted solar panel array (a total of 756 panels) and associated improvements;
- Reduction of the western ground mounted solar panel array from 6,404 to 4,680 panels;
- Revision to layout and clearing limits of the western array to minimize shading, resulting in an increase of the total project clearing from ±9.0 acres to ±9.9 acres; and,
- Revision to Sedimentation and Erosion Control Plans due to the time of year construction.

These proposed modifications to the project site plans are depicted on the attached plans. A Proposed Conditions Map is also enclosed depicting the previously reviewed solar facility layout and the modified layout. The modifications will not directly impact wetland or vernal pool habitats and still provide a significant buffer to these resources.

RARE PLANTS

Previous investigations revealed that the Site does not support suitable habitat for any of the listed plant species identified by DEEP in previous correspondence. The proposed project modifications do not result in encroachment into portions of the subject property not previously investigated. Therefore, no likely adverse impact to listed plant species will result from the proposed solar project modifications.

RARE WILDLIFE

The project previously incorporated protection strategies and best management protocols to avoid an adverse effect to the following State-listed vertebrates:

- *Ambystoma laterale* Blue-spotted salamander
- *Liochlorophis vernalis* Smooth green snake
- *Glyptemys insculpta* Wood turtle
- *Clemmys guttata* Spotted turtle

As a result of the identification of blue-spotted salamander complex in the vicinity of the Site and the potential for spotted turtle and wood turtle to be present, a rare species protection program (to be implemented during construction) was proposed and approved by DEEP, as referenced in the final NDDB determination letter as attached. The proposed protection program consists of several components: education of all contractors and sub-contractors prior to initiation of work on the site; protective measures; periodic inspection of the construction project; and, reporting.

APT has assessed the additional ±0.9 acre of tree clearing (necessary to eliminate shading effect on the solar panels) with respect to possible impact to the Critical Terrestrial Habitat ("CTH") associated with nearby vernal pool habitats that are used by blue-spotted salamander (and likely some or all of the other listed herpetofauna). Tree clearing beyond the fenced limits of the solar facility will not result in grubbing or stump removal and will minimize impact to the existing shrub and herbaceous understory to preserve wildlife habitat functions of the resulting scrub-shrub upland habitat. In order to assess potential impact to these pools, APT used the methodology described in *Best Development Practices, Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States* (Calhoun and Klemens, 2002, a.k.a. the "BDP").

Table 1 Vernal Pool Impact Analysis

Vernal Pool	Percent Existing CTH Development	Percent Increase in CTH Development as Proposed	Percent Increase in Previous Layout	Percent Change Reconfigured Project	Total Post-Development CTH Final
1	36%	8%	6%	+2%	44%
2	14%	10%	8%	+2%	24%
3	23%	2%	1%	+1%	25%
4	11%	11%	9%	+2%	22%
5	22%	0%	1%	-1%	22%

Vernal pools 2, 3, 4 and 5 comply with the BDP manual in that no development is proposed within the VPE and less than 25% development is proposed within the CTH zone; the landscape surrounding Vernal Pool 5 will remain unchanged. This will protect the aforementioned function of the VPE habitat, and will also protect ample CTH habitat which is used by blue-spotted salamander and other vernal pool indicator species during the non-breeding season for foraging, dispersal, breeding migration and hibernation. Most notably, Vernal Pool 2, which was identified as the principal breeding area for blue-spotted salamander on the Site, will be protected.

Vernal Pool 1 is a Tier 1 pool using the pre-development assessment methodology, but already contains 36% development within the CTH. Because the BDP guidelines recommend no more than 25% development within the CTH, Pool 1 is currently not in compliance with the BDP. A strict interpretation of the guidelines would indicate that no additional development should occur within this Vernal Pool's CTH. The Project had been through numerous iterations and was re-designed to minimize development within this area. The proposed modified layout results in a small increase of 8% within the Pool's CTH; the previously reviewed layout resulted in a CTH increase of 6%. See attached Vernal Pool Analysis Map.

At present, the VPE zone of Vernal Pool 1 is constricted to the east, with disturbed/degraded habitat present along the pool's perimeter. Recognizing the Project's encroachment into the CTH, a Vernal Pool Mitigation Plan has been proposed, and approved through the CT Siting Council, to offset habitat loss through habitat restoration. The mitigation plan will re-establish portions of this important habitat zone, resulting in a single contiguous band of available VPE habitat post-restoration.

CONCLUSION

DG Connecticut Solar, LLC, the owner of this project has proposed minor modifications to a previously-approved ground-mounted solar photovoltaic electric generating facility. These alterations do not substantially change post-development effects on the environment. Based on the information contained herein, it is our professional opinion that the proposed project modifications will result in no likely adverse impacts to wetland or vernal pool habitats or to State-listed species. Therefore, we respectfully request a determination from DEEP that it concurs with these findings.

If you have any questions regarding the above-referenced information, please feel free to contact me by telephone at (860) 663-1697 ext. 201 or via email at dgustafson@allpointstech.com.

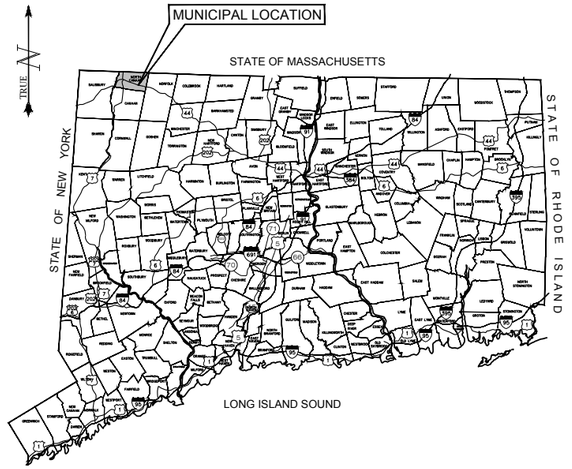
All-Points Technology Corporation, P.C.

Dean Gustafson

Dean Gustafson
Senior Environmental Scientist

Enclosures

Attachment 1
Project Site Plans



DEVELOPMENT & MANAGEMENT PLAN

DG CONNECTICUT SOLAR, LLC

"BECTON, DICKINSON & CO."

7 GRACE WAY
NORTH CANAAN, CT 06018

DRAWING INDEX

SITE INFORMATION

SITE NAME:	"BECTON, DICKINSON & CO."
PROJECT LOCATION:	7 GRACE WAY NORTH CANAAN, CT 06018
SITE TYPE/DESCRIPTION:	ADD (1) ROOF MOUNTED SOLAR PANEL ARRAY (PLANS UNDER SEPARATE COVER BY OTHERS) & (1) GROUND MOUNTED SOLAR PANEL ARRAYS (4,680 PANELS) W/ ASSOCIATED GRAVEL ACCESS DRIVES & EQUIPMENT. ADD CHAIN LINK FENCE TO SURROUND NEW FACILITY & ELECTRIC INTERCONNECTION FROM NEW FACILITY TO EXIST. ELECTRICAL GRID.
PROPERTY OWNER:	BECTON, DICKINSON & COMPANY 1 BECTON DR. FRANKLIN LAKES, NJ 07417
OWNER/APPLICANT:	DG COMMERCIAL SOLAR, LLC 700 UNIVERSE BLVD, C1A/JB WEST PALM BEACH, FL 33408
ENGINEER CONTACT:	BRAD PARSONS (860) 663-1697 x208
LATITUDE:	42°00'30"N
LONGITUDE:	73°20'13"W
ELEVATION:	662'± AMSL
ZONE:	I-ZONE (INDUSTRIAL)
FEMA FIRM DESIGNATION:	PANEL #0901490014C - ZONE X
TOTAL SITE ACREAGE:	77.13 ACRES
TOTAL DISTURBED AREA:	9.92± ACRES

LOCATION MAP

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION

3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PUREPOWER ENGINEERING

5 MARINE VIEW PLAZA, SUITE 301
HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC

NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
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6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON &
ADDRESS: COMPANY
1 BECTON DR.
FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:

TITLE SHEET & INDEX

SHEET NUMBER:

T-1

SURVEY NOTES:

1. THIS MAPPING MEETS NATIONAL MAP ACCURACY STANDARDS FOR CLASS II 40 SCALE MAPPING WITH A 2' CONTOUR INTERVAL.

2. THERE ARE GROUND NOT VISIBLE AREAS DELINEATED WITHIN THIS MAPPING PROJECT. GOLDEN AERIAL SURVEYS, INC. DOES NOT GUARANTEE ACCURACY OF ANY DATA WITHIN THESE AREAS.

3. PHOTOGRAMMETRIC MAPPING OF 73 ACRES 7 GRACE WAY - NORTH CANAAN, CT
   MAPPING SCALE: 1" = 40'
   CONTOUR INTERVAL: 2 FEET
   DATE OF PHOTOGRAPHY: 04-29-2004
   SCALE OF PHOTOGRAPHY: 1" = 500' GAS PROJECT NO. 15-088
   GOLDEN AERIAL SURVEYS, INC.
   WATERBURY, CT 06708
   PHONE: (203) 426-3322
   WWW.GOLDENAERIALSURVEYS.COM

NO	DATE	REVISION
0		
1		
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DESIGN PROFESSIONALS OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DRIVE
FRANKLIN LAKES, NJ 07417
(201) 847-6800

SITE ADDRESS: 7 GRACE WAY
NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

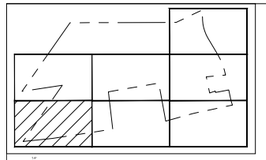
DRAWN BY: -
DATE: 01/2016
CHECKED BY: -

SHEET TITLE:

OVERALL EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-0

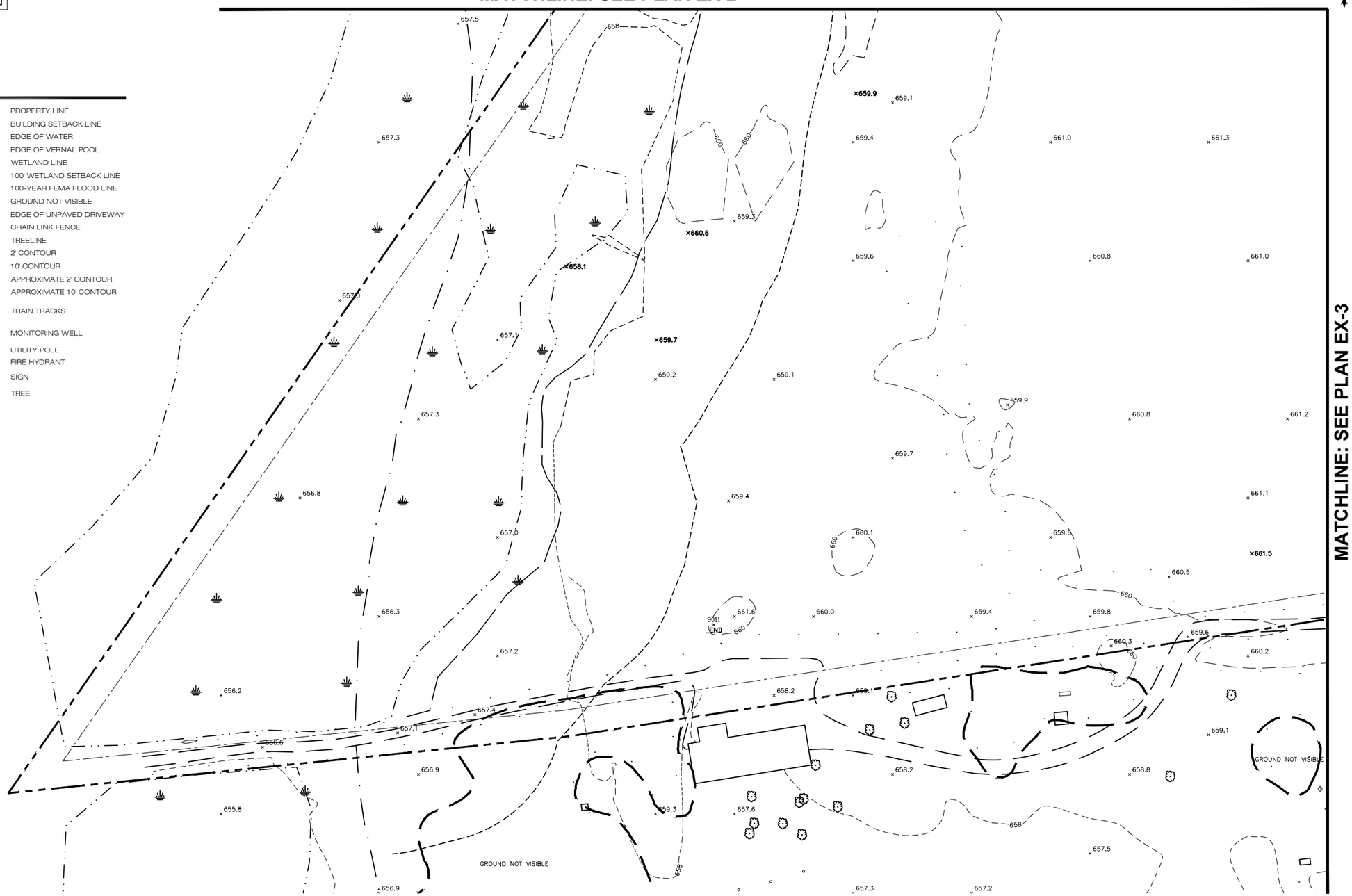


KEY PLAN

LEGEND:

- PROPERTY LINE
- BUILDING SETBACK LINE
- EDGE OF WATER
- EDGE OF VERNAL POOL
- WETLAND LINE
- 100' WETLAND SETBACK LINE
- 100-YEAR FEMA FLOOD LINE
- GROUND NOT VISIBLE
- EDGE OF UNPAVED DRIVEWAY
- CHAIN LINK FENCE
- TREELINE
- 2' CONTOUR
- 10' CONTOUR
- APPROXIMATE 2' CONTOUR
- APPROXIMATE 10' CONTOUR
- TRAIN TRACKS
- MONITORING WELL
- UTILITY POLE
- FIRE HYDRANT
- SIGN
- TREE

MATCHLINE: SEE PLAN EX-2



40 0 20 40 80

(IN FEET) 1 inch = 40 ft.

TRUE NORTH

NO	DATE	REVISION
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DESIGN PROFESSIONALS OF RECORD

PROF: BRADLEY J. PARSONS P.E.
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SITE ADDRESS: 7 GRACE WAY
NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: -

DATE: 01/2016

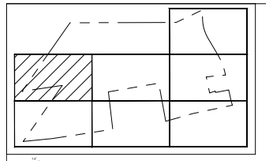
CHECKED BY: -

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-1



KEY PLAN

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- PROPERTY LINE
- BUILDING SETBACK LINE
- EDGE OF WATER
- EDGE OF VERNAL POOL
- WETLAND LINE
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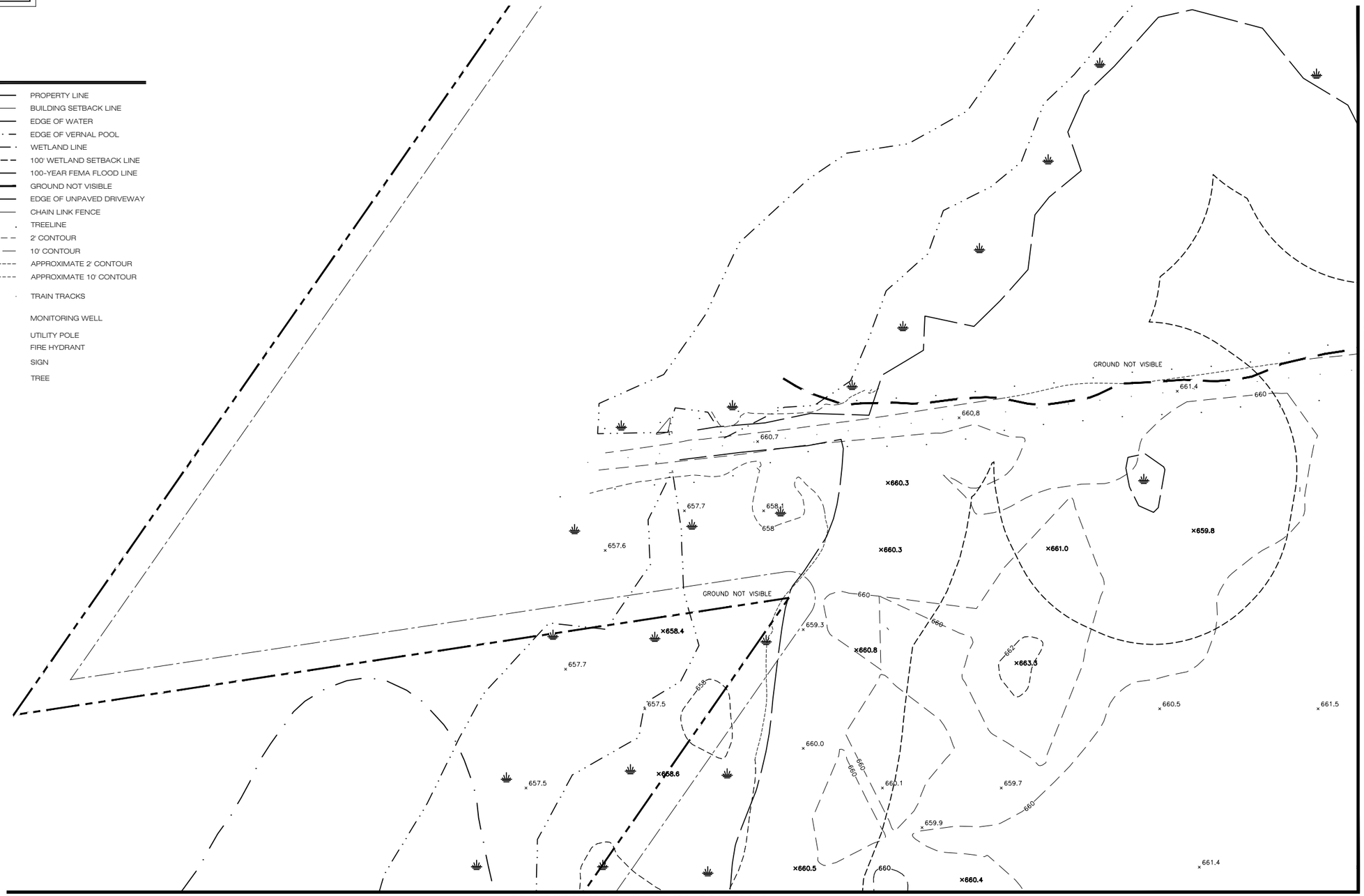

MATCHLINE: SEE PLAN EX-1

MATCHLINE: SEE PLAN EX-4

TRUE NORTH

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

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DESIGN PROFESSIONALS OF RECORD

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OWNER: BECTON, DICKINSON & COMPANY
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(201) 847-6800

SITE ADDRESS: 7 GRACE WAY
NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: -
DATE: 01/2016
CHECKED BY: -

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-2

KEY PLAN

MATCHLINE: SEE PLAN EX-4

MATCHLINE: SEE PLAN EX-1

MATCHLINE: SEE PLAN EX-5

POND

GROUND NOT VISIBLE

GROUND NOT VISIBLE

GROUND NOT VISIBLE

LEGEND:

- PROPERTY LINE
- BUILDING SETBACK LINE
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- TREE

40 0 20 40 80

(IN FEET) 1 inch = 40 ft.

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DESIGN PROFESSIONALS OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DRIVE
FRANKLIN LAKES, NJ 07417
(201) 847-6800

SITE ADDRESS: 7 GRACE WAY
NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: -

DATE: 01/2016

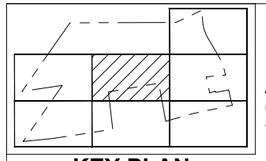
CHECKED BY: -

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-3



KEY PLAN

LEGEND:

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- APPROXIMATE 10' CONTOUR
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- SIGN
- TREE

TRUE NORTH

MATCHLINE: SEE PLAN EX-2

MATCHLINE: SEE PLAN EX-6

GROUND NOT VISIBLE

BITUMINOUS

CONC.

P.I.V.

DIRT PARKING

BOULDERS

BOULDERS (TYP.)

27"x40" OVAL RCP

INV.=660.10

15"x30" OVAL RCP

INV.=660.14

18"x30" OVAL RCP

INV.=660.10

75" HDPE

INV.=660.23

GROUND NOT VISIBLE

MATCHLINE: SEE PLAN EX-3

(IN FEET) 1 inch = 40 ft.

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PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DRIVE FRANKLIN LAKES, NJ 07417 (201) 847-6800

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

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DATE: 01/2016

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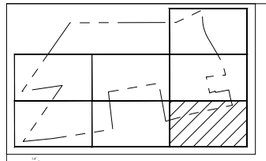
EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-4



KEY PLAN

MATCHLINE: SEE PLAN EX-6

MATCHLINE: SEE PLAN EX-3

LEGEND:

- PROPERTY LINE
- BUILDING SETBACK LINE
- EDGE OF WATER
- EDGE OF VERNAL POOL
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- TREE

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(IN FEET) 1 inch = 40 ft.

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DRAWN BY: -

DATE: 01/2016

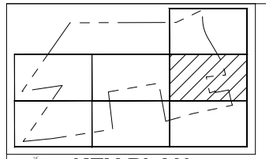
CHECKED BY: -

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-5



KEY PLAN

MATCHLINE: SEE PLAN EX-7

MATCHLINE: SEE PLAN EX-4

MATCHLINE: SEE PLAN EX-5

MANUFACTURING BUILDING
A/C UNIT
TRANSFORMER
TRANSFORMER
A/C UNIT
BIT.
CONC. WALK
TRANSFORMER
INV.=661.86
INV.=662.28
15" HDPE
INV.=661.68
INV.=661.59
10" HDPE
P.I.V.
P.I.V.
BLDG.
BIT.
A/C UNIT
SWALE
TANKS ON CONC. PAD
BLDG.
GROUND NOT VISIBLE
BIT. DRIVE
MON. WELL
BOULDERS (TYP.)
BOLLARDS
DIRT PARKING
DIRT PARKING
BOLLARDS
C.L.F.
GROUND NOT VISIBLE
BIT. DRIVE
GROUND NOT VISIBLE
BIT. DRIVE
664.7
663.1
662.7
662.5
675.4
675.1
664.2
664.5
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665.3
666.7
665.9
668.5
667.5
667.2
663.6
668.9
669.2
675.2
677.2
679.3
679.4
679.4
688.3
694.7
670.9
670
680
690
662
664

LEGEND:

- PROPERTY LINE
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- 2' CONTOUR
- 10' CONTOUR
- APPROXIMATE 2' CONTOUR
- APPROXIMATE 10' CONTOUR
- TRAIN TRACKS
- MONITORING WELL
- UTILITY POLE
- FIRE HYDRANT
- SIGN
- TREE

TRUE NORTH

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

NO	DATE	REVISION
0		
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DRIVE FRANKLIN LAKES, NJ 07417 (201) 847-6800

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

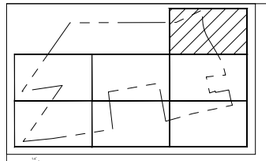
DRAWN BY: -
DATE: 01/2016
CHECKED BY: -

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-6



KEY PLAN

LEGEND:

- PROPERTY LINE
- BUILDING SETBACK LINE
- EDGE OF WATER
- EDGE OF VERNAL POOL
- WETLAND LINE
- 100' WETLAND SETBACK LINE
- 100-YEAR FEMA FLOOD LINE
- GROUND NOT VISIBLE
- EDGE OF UNPAVED DRIVEWAY
- CHAIN LINK FENCE
- TREELINE
- 2' CONTOUR
- 10' CONTOUR
- APPROXIMATE 2' CONTOUR
- APPROXIMATE 10' CONTOUR
- TRAIN TRACKS
- MONITORING WELL
- UTILITY POLE
- FIRE HYDRANT
- SIGN
- TREE

MATCHLINE: SEE PLAN EX-6

(IN FEET) 1 inch = 40 ft.

NO	DATE	REVISION
0		
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6		

DESIGN PROFESSIONALS OF RECORD

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ADD: 3 SADDLEBROOK DRIVE
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FRANKLIN LAKES, NJ 07417
(201) 847-6800

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NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: -

DATE: 01/2016

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SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-7

TRUE N

120 0 60 120 240
(IN FEET) 1 inch = 120 ft.

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WWW.ALLPOINTSTECH.COM

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(201) 687-9975 x102
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0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
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DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON &
ADDRESS: COMPANY
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FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17
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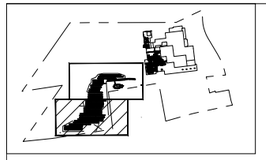
SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

SP-0



KEY PLAN

TRUE N

MATCHLINE: SEE SHEET SP-2

WETLAND LIMIT (TYP.)

177'

PROPOSED CLEARING LIMITS (TOTAL PROJECT CLEARING AREA = 9.92± ACRES 432,136± SF). CLEARING ACTIVITIES TO INCLUDE THE REMOVAL OF ALL BRUSH, TREES, & STUMPS. CLEARED MATERIAL TO BE CHIPPED, LEAVED STOCKPILED TO BE USED FOR TEMPORARY STABILIZATION. ALL DISTURBED AREAS TO BE LOAMED & SEEDED. (TYP.)

13' TYP.

100' O.C. (TYP.)

10 / DN-1 PROPOSED SNAKE COVER BOARD (TYP. 5 PL)

4 / DN-1 PROPOSED 8' HIGH CHAIN LINK FENCE (TYP.)

3 / DN-1 PROPOSED SOLAR PANEL ARRAY (TYP.) (4,680 TOTAL PANELS)

BUILDING SETBACK LINE (TYP.)

PROPERTY LINE (TYP.)

20'

20'

GROUND NOT VISIBLE

100-YEAR FEMA FLOOD LINE (TYP.)

40 0 20 40 80

(IN FEET) 1 inch = 40 ft.

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SHEET TITLE:

SITE PLAN

SHEET NUMBER:

SP-1

KEY PLAN

MATCHLINE: SEE PLAN SP-1

TRUE N

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SHEET TITLE:

SITE PLAN

SHEET NUMBER:

SP-2

TRUE N

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SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

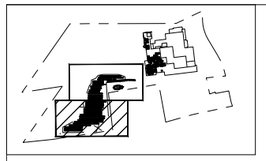
DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:

OVERALL GRADING & DRAINAGE PLAN

SHEET NUMBER:

GD-0



KEY PLAN

TRUE NORTH

8 / DN-1 PROPOSED 5' WIDE INFILTRATION BASIN
BOTTOM ELEV. = 659.00
TOP ELEV. = 660.00

EXISTING WETLAND LIMIT (TYP.)

MATCHLINE: SEE PLAN GD-2

GRADE TO DRAIN

GRADE TO DRAIN

GRADE TO DRAIN

GRADE TO DRAIN

GRADE TO DRAIN

GROUND NOT VISIBLE

8 / DN-1 PROPOSED 5' WIDE INFILTRATION BASIN
BOTTOM ELEV. = 659.00
TOP ELEV. = 660.00

100-YEAR FEMA FLOOD LINE (TYP.)

PROPERTY LINE (TYP.)

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

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APT FILING NUMBER: CT530100

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SHEET TITLE:

GRADING & DRAINAGE PLAN

SHEET NUMBER:

GD-1

KEY PLAN

MATCHLINE: SEE PLAN GD-1

(IN FEET) 1 inch = 40 ft.

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APT FILING NUMBER: CT530100

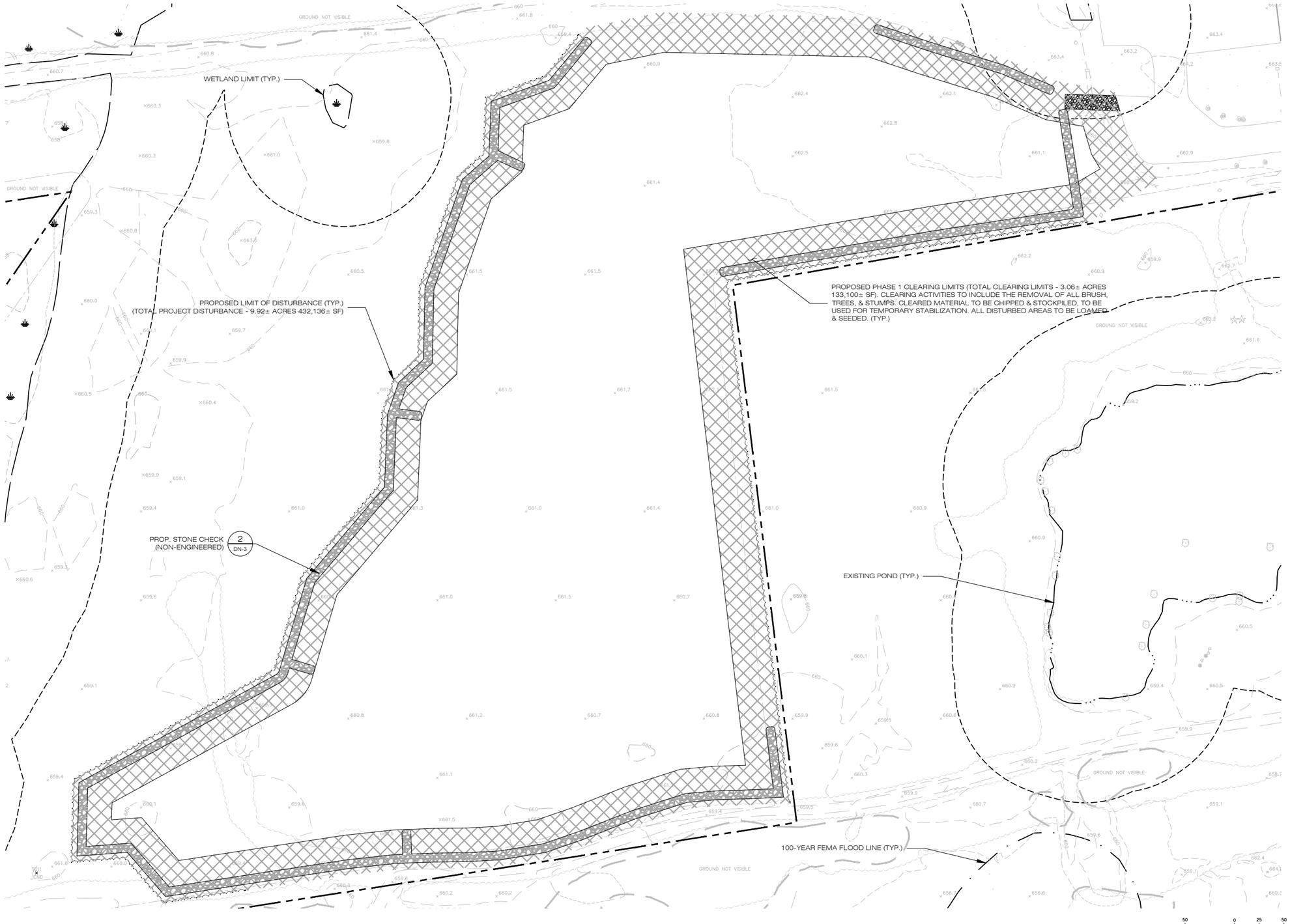
DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:

GRADING & DRAINAGE PLAN

SHEET NUMBER:

GD-2



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APT FILING NUMBER: CT530100

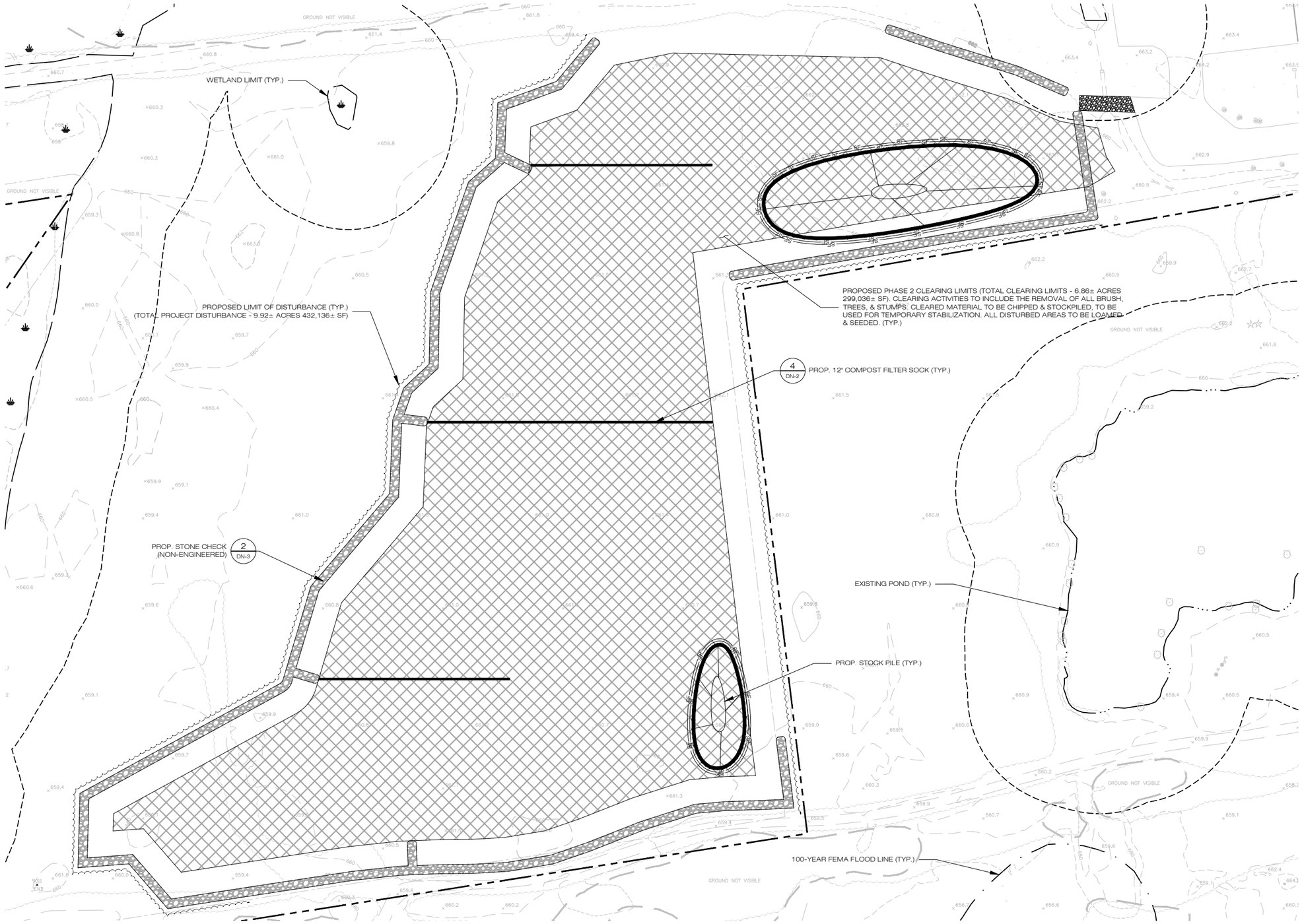
DRAWN BY: ELZ
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 1

SHEET NUMBER:

EC-1



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SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

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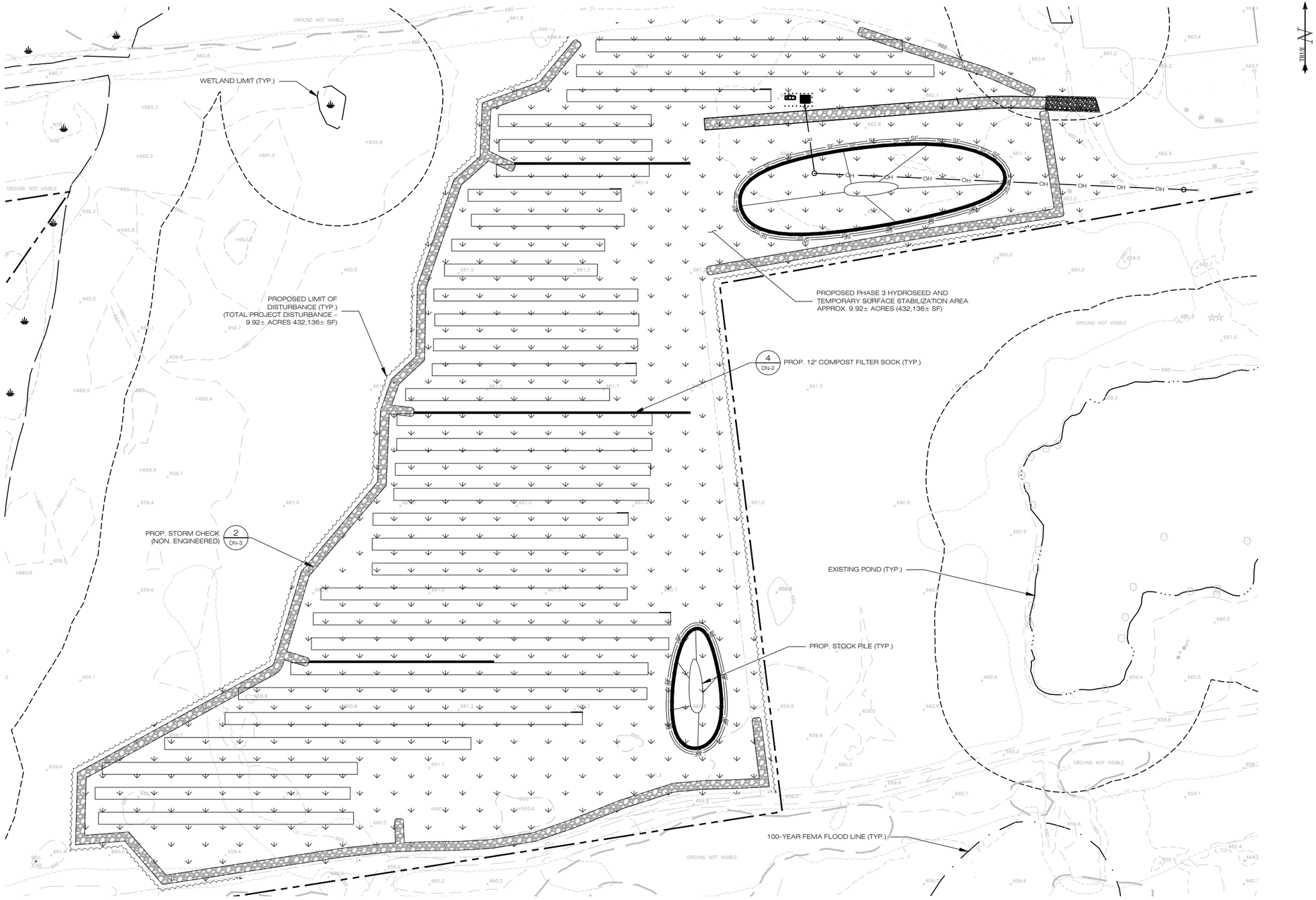
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 2

SHEET NUMBER:

EC-2



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BECTON, DICKINSON & CO.

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SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 3

SHEET NUMBER:

EC-3

DG CONNECTICUT SOLAR, LLC

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DATE: 11/16/17 CHECKED BY: BJP

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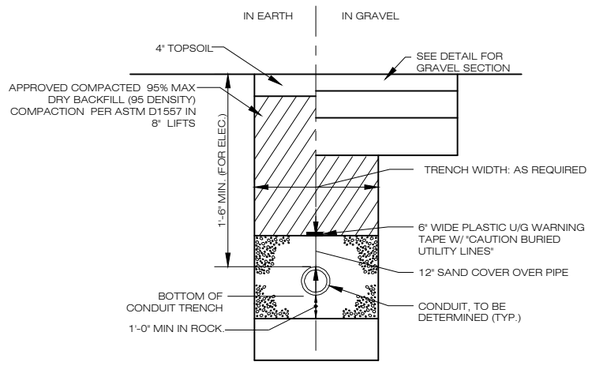
SEDIMENTATION & EROSION CONTROL PLAN PHASE 4

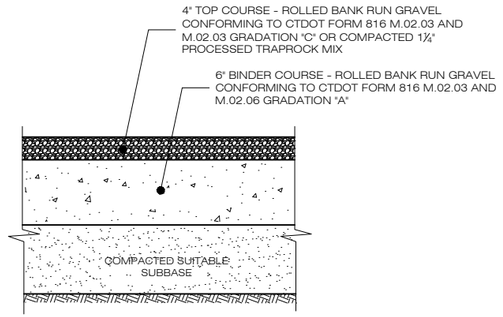
SHEET NUMBER:

EC-4



1 DN-1 ELECTRICAL TRENCH DETAIL

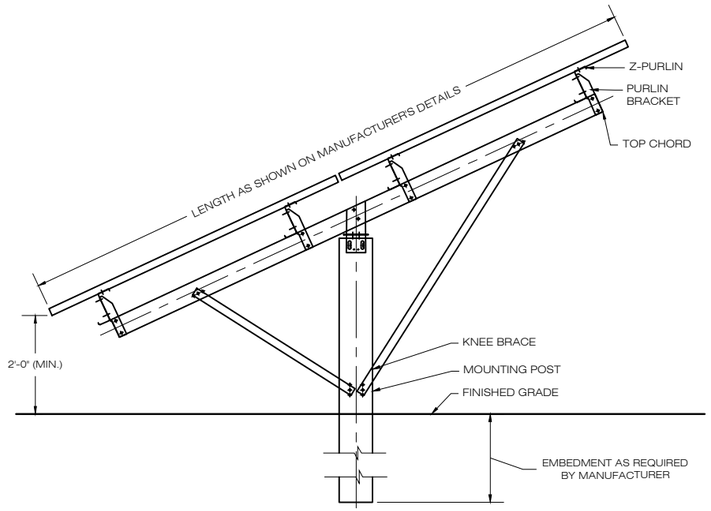
SCALE : N.T.S.



NOTES:
1. SUBBASE MAY CONSIST OF NATIVE MATERIALS IF FOUND ACCEPTABLE BY THE ENGINEER. SUBBASE TO BE COMPACTED TO 95% MAX DRY DENSITY
2. SUBBASE IS TO BE FREE FROM DEBRIS AND UNSUITABLE MATERIALS

2 DN-1 GRAVEL ACCESS DRIVE SECTION

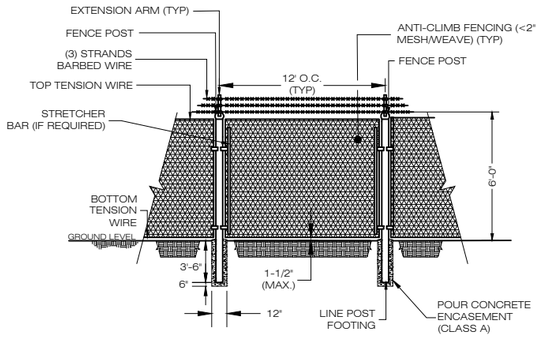
SCALE : NTS



NOTES:
SEE MANUFACTURER'S DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING RACKING SYSTEM REQUIREMENTS AND INSTALLATION PROCEDURES. RACKING SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

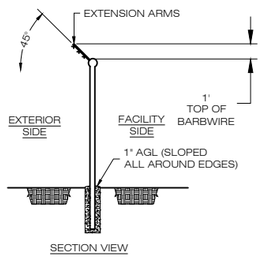
3 DN-1 TYPICAL POST MOUNTED RACKING SYSTEM

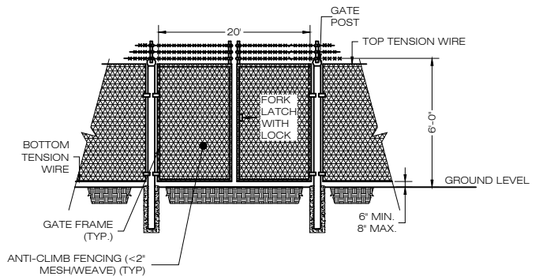
SCALE : NTS



4 DN-1 CHAIN-LINK FENCING DETAIL

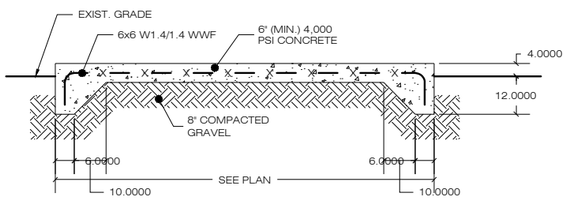
SCALE : NTS





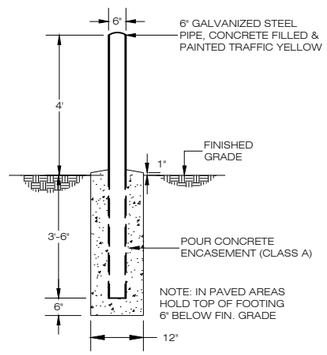
5 DN-1 FENCE & GATE DETAIL

SCALE : N.T.S.



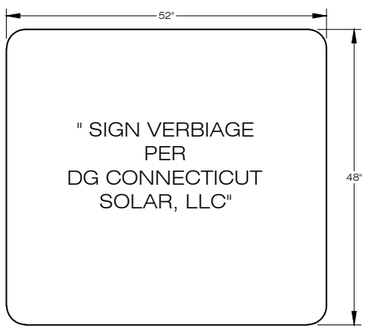
6 DN-1 CONCRETE EQUIPMENT PAD

SCALE : ½" = 1'-0"



7 DN-1 BOLLARD DETAIL

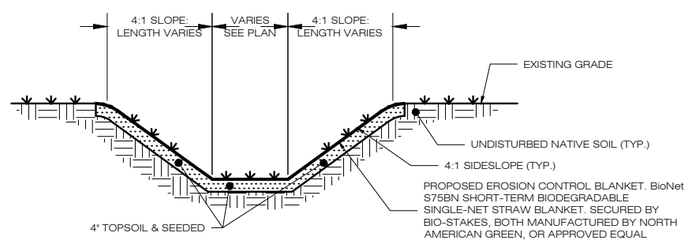
SCALE : NTS



NOTES:
1. SIGNS TO BE MOUNTED ON GATES AT ALL ENTRANCES.
2. SIGNS TO BE RATED FOR OUTDOOR ENVIRONMENTS.

9 DN-1 IDENTIFICATION SIGNAGE

SCALE : NTS



NOTES:
SEED MIX TO BE NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR MOIST SITES ON THE BOTTOM OF THE BASIN AND NEW ENGLAND EROSION/RESTORATION MIX FOR DRY SITES ON THE SIDE SLOPES.

8 DN-1 GRASS LINED INFILTRATION BASIN

SCALE : NTS

NOTES:
1. COVER BOARDS SHALL BE INSTALLED AROUND SP-1 AND SP-3 AS SHOWN ON THE SITE PLANS TO PROVIDE HABITAT FOR SMOOTH GREEN SNAKE DURING THIS SPECIES SEASONAL ACTIVE PERIOD (MAY THROUGH NOVEMBER).
2. COVER BOARDS SHALL CONSIST OF EITHER EXTERIOR-GRADE PLYWOOD (4' X 8' SHEETS) OR CORRUGATED ROOFING/SIDING PANELS OF SIMILAR SIZE.
3. THE LABEL "SNAKE COVER BOARD - DO NOT REMOVE OR DISTURB" SHALL BE PAINTED ON THE TOP SIDE OF EACH BOARD.
4. COVER BOARDS SHALL REMAIN IN PLACE FROM MAY THROUGH OCTOBER, BUT CAN BE LEFT IN PLACE THROUGHOUT THE FALL AND WINTER IF NEEDED.
5. AREAS WHERE COVER BOARDS ARE LOCATED SHALL BE MOWED NO MORE THAN ONCE PER SEASON.
6. IF MOWING OCCURS BETWEEN MAY AND OCTOBER, THE COVER BOARDS SHALL BE REMOVED A MINIMUM OF ONE DAY PRIOR TO MOWING AND RESET ONCE ALL MOWING HAS BEEN COMPLETED.

10 DN-1 SNAKE COVER BOARD

SCALE : NTS

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
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PUREPOWER ENGINEERING
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CSC

NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DR. FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:
DETAIL SHEET

SHEET NUMBER:
DN-1

EROSION CONTROL NOTES

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE TOWN OF NORTH CANAAN. THE CONTRACTOR SHALL KEEP A COPY OF THE CURRENT GUIDELINES ON-SITE FOR REFERENCE DURING CONSTRUCTION. ALL SEDIMENTATION AND EROSION CONTROL MEASURES, INCLUDING THE CONSTRUCTION OF TEMPORARY SEDIMENTATION TRAPS/BASINS, TEMPORARY DIVERSION SWALES AND ANTI-TRACKING PADS, SHALL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING AND DEMOLITION OPERATIONS.

2. THESE DRAWINGS ARE ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL MEASURES FOR THIS SITE. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN IN A GENERAL SIZE AND LOCATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO STORM DRAINAGE SYSTEMS AND/OR WATERCOURSES. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS WHEN DIRECTED BY THE ENGINEER. SEE SEDIMENT AND EROSION CONTROL DETAILS AND SUGGESTED CONSTRUCTION SEQUENCE FOR MORE INFORMATION. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

3. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE SEDIMENT AND EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE PROPER INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED WITH CONSTRUCTION ON THE SITE OF THE REQUIREMENTS AND OBJECTIVES OF THIS PLAN, INFORMING THE GOVERNING AUTHORITY OR INLAND WETLANDS AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE SEDIMENT & EROSION CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED. COMPLY WITH REQUIREMENTS OF CGS SECTION 22A, 430B FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES AND WITH DEEP RECORD KEEPING AND INSPECTION REQUIREMENTS.

4. A BOND MAY BE REQUIRED TO BE POSTED WITH THE GOVERNING AUTHORITY FOR THE EROSION CONTROL INSTALLATION AND MAINTENANCE.

5. THE CONTRACTOR SHALL APPLY THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN IN CONJUNCTION WITH CONSTRUCTION SEQUENCING, SUCH THAT ALL ACTIVE WORK ZONES ARE PROTECTED. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, SITE ENGINEER, MUNICIPAL OFFICIALS, OR ANY GOVERNING AGENCY. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED BY THE CONTRACTOR.

6. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CONSTRUCTION SO AS NOT TO DISTURB UNPROTECTED WETLAND AREAS OR SEDIMENTATION AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROLS WEEKLY AND WITHIN 24 HOURS OF A STORM WITH A RAINFALL AMOUNT OF 0.2 INCHES OR GREATER TO VERIFY THAT THE CONTROLS ARE OPERATING PROPERLY AND MAKE REPAIRS WHERE NECESSARY.

7. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (HAY BALES, SILT FENCE, JUTE MESH, ETC.) ON-SITE FOR PERIODIC MAINTENANCE AND EMERGENCY REPAIRS.

8. ALL FILL MATERIAL PLACED ADJACENT TO ANY WETLAND AREA SHALL BE GOOD QUALITY, WITH LESS THAN 5% FINES PASSING THROUGH A #200 SIEVE (BANK RUN), SHALL BE PLACED IN MAXIMUM ONE FOOT LIFTS, AND SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.

9. PROTECT EXISTING TREES THAT ARE TO BE SAVED BY FENCING AT THE DRIP LINE, OR AS DETAILED, WITH SNOW FENCE, ORANGE SAFETY FENCE, OR EQUIVALENT FENCING. ANY LIMB TRIMMING SHOULD BE DONE AFTER CONSULTATION WITH AN ARBORIST AND BEFORE CONSTRUCTION BEGINS IN THAT AREA; FENCING SHALL BE MAINTAINED AND REPAIRED DURING CONSTRUCTION.

10. ANTI-TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF ALL CONSTRUCTION. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED.

11. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SEDIMENT BARRIER UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE BARRIER. STAKED HAY BALES OR SILT FENCES SHALL ALSO BE INSTALLED AT THE DOWNHILL SIDES OF BUILDING EXCAVATIONS, DEWATERING PUMP DISCHARGES, AND MATERIAL STOCKPILES.

12. WASHOUT OF APPLICATORS, CONTAINERS, VEHICLES AND EQUIPMENT FOR CONCRETE SHALL BE CONDUCTED IN A DESIGNATED WASHOUT AREA. NO SURFACE DISCHARGE OF WASHOUT WASTEWATERS FROM THE AREA WILL BE ALLOWED. ALL CONCRETE WASHWATER WILL BE DIRECTED INTO A CONTAINER OR PIT SUCH THAT NO OVERFLOWS CAN OCCUR. WASHOUT SHALL BE CONDUCTED IN AN ENTIRELY SELF-CONTAINED SYSTEM AND WILL BE CLEARLY DESIGNED AND FLAGGED OR SIGNED WHERE NECESSARY. THE WASHOUT AREA SHALL BE LOCATED OUTSIDE OF ANY BUFFERS AND AT LEAST 50 FEET FROM ANY STREAM, WETLAND OR OTHER SENSITIVE WATER OR NATURAL RESOURCES AS DETERMINED OR DESIGNATED BY THE ENGINEER.

13. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING. ALL EARTH STOCKPILES SHALL HAVE HAY BALES OR SILT FENCE AROUND THE LIMIT OF PILE. PILES SHALL BE TEMPORARILY SEEDED IF PILE IS TO REMAIN IN PLACE AND UNDISTURBED FOR MORE THAN 30 DAYS.

14. NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS, JUTE MESH AND VEGETATION. ALL SLOPES SHALL BE SEEDED, AND THE ROAD SHOULDER AND BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.

15. DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE SUCH AS TEMPORARY SEDIMENT TRAPS OR GRASS FILTERS WITHIN THE APPROVED LIMIT OF DISTURBANCE. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE ENGINEER.

16. BLOCK THE OPEN UPSTREAM ENDS OF DETENTION BASIN/SEDIMENT TRAP OUTLET CONTROL ORIFICES UNTIL SITE IS STABILIZED AND BLOCK END OF STORM DRAINS IN EXPOSED TRENCHES WITH BOARDS AND SANDBAGS AT THE END OF EACH WORKING DAY WHEN RAIN IS EXPECTED.

17. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. PROPER SANITARY DEVICES SHALL BE MAINTAINED ON-SITE AT ALL TIMES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE/CONTAINMENT.

18. MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE. MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE HAY AT A RATE OF 2 TONS PER ACRE. IF NECESSARY, REPLACE LOOSE HAY ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, ISLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.

19. SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAYS DAMP. CALCIUM CHLORIDE MAY ALSO BE APPLIED TO ACCESS ROADS. DUMP TRUCK LOADS EXITING THE SITE SHALL BE COVERED.

20. TURF ESTABLISHMENT SHALL BE PERFORMED OVER ALL DISTURBED SOIL, UNLESS THE AREA IS UNDER ACTIVE CONSTRUCTION, IT IS COVERED IN STONE OR SCHEDULED FOR PAVING WITHIN 30 DAYS. TEMPORARY SEEDING OR NON-LIVING SOIL PROTECTION OF ALL EXPOSED SOILS AND SLOPES SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.

21. IF CONSTRUCTION ACTIVITIES ARE COMPLETE OR HAVE BEEN TEMPORARILY HALTED FOR 7 DAYS, STABILIZATION ACTIVITIES WILL BE IMPLEMENTED WITHIN 3 DAYS.

22. TWO WEEKS BEFORE THE FALL SEEDING SEASON BEGINS (AUGUST 15 TO OCTOBER 15), THE CONTRACTOR SHALL SCHEDULE A MEETING WITH NORTH CANAAN STAFF TO DISCUSS STABILIZING THE SITE FOR WINTER MONTHS. MEASURES SUCH AS MULCHING AND/OR SEEDING MAY BE REQUIRED.

23. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP PARKING LOTS, CLEAN THE STORM DRAINAGE SYSTEMS AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS ONCE THE SITE IS FULLY STABILIZED AND APPROVAL HAS BEEN RECEIVED FROM TOWN OF NORTH CANAAN AND/OR ENGINEER.

24. SEEDING MIXTURES:
    A. NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR MOIST SITES SPREAD AT A RATE OF 35 LBS PER ACRE:VIRGINIA WILD RYE, (ELYMUS VIRGINICUS), CREEPING RED FESCUE, (FESTUCA RUBRA), LITTLE BLUESTEM,(SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM, (ANDROPOGON GERARDII), FOX SEDGE, (CAREX VULPINOIDEA), SWITCH GRASS, (PANICUM VIRGATUM), ROUGH BENTGRASS, (AGROSTIS SCABRA), NEW ENGLAND ASTER, (ASTER NOVAE-ANGLIAE), BONESET, (EUPATORIUM PERFOLIATUM), GRASS LEAVED GOLDENROD, (EUTHAMIA GRAMINIFOLIA), GREEN BULRUSH, (SCIRPUS ATROVIRENS), BLUE VERVAIN, (VERBENA HASTATA), SOFT RUSH, (JUNCUS EFFUSUS), WOOL GRASS, (SCIRPUS CYPERINUS).
    B. NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES SPREAD AT A RATE OF 35 LBS PER ACRE: CREEPING RED FESCUE, (FESTUCA RUBRA), CANADA WILD RYE, (ELYMUS CANADENSIS), ANNUAL RYEGRASS, (LOLIUM MULTIFLORUM), PERENNIAL RYEGRASS, (LOLIUM PERENNE), BLUE GRAMA, (BOUTELOUA GRACILIS), LITTLE BLUESTEM, (SCHIZACHYRIUM SCOPARIUM), INDIAN GRASS, (SORGHASTRUM NUTANS), ROUGH BENTGRASS, (AGROSTIS SCABRA), UPLAND BENTGRASS, (AGROSTIS PERENNANS).

SEDIMENT & EROSION CONTROL NARRATIVE

1. THE PROJECT INCLUDES THE CLEARING OF APPROXIMATELY 9.92± ACRES OF EXISTING WOODLAND AREA FOR THE INSTALLATION OF A GROUND MOUNTED SOLAR PANEL FACILITY WITH ASSOCIATED EQUIPMENT. ALL CLEARED AREAS ARE TO BE SEEDED AND STABILIZED PRIOR TO THE INSTALLATION OF THE PROPOSED PANELS. ALL RUNOFF FROM THE CLEARED AREAS WILL BE COLLECTED WITHIN SHALLOW INFILTRATION BASINS WHICH WILL INFILTRATE THE RUNOFF INTO THE GROUND. WETLANDS ARE LOCATED TO THE WEST OF THE PROPOSED PROJECT AREA AND A SMALL POND IS LOCATED OFFSITE BETWEEN THE TWO SOLAR PANEL ARRAY SITES.

   THE PROPOSED PROJECT INVOLVES THE FOLLOWING CONSTRUCTION:
   A. CONSTRUCTION OF 4,680 GROUND MOUNTED SOLAR PANELS AND ASSOCIATED EQUIPMENT.
   B. CONSTRUCTION OF GRAVEL ACCESS DRIVES.
   C. CONSTRUCTION OF SHALLOW INFILTRATION BASINS TO COLLECT STORMWATER RUNOFF.
   D. CONSTRUCTION OF A CHAIN LINK FENCE SURROUNDING THE SOLAR PANEL FACILITY.
   E. THE STABILIZATION OF PERVIOUS DISTURBED AREAS WITH PERMANENT GRASS AND LANDSCAPING TREATMENTS.

2. FOR THIS PROJECT, THERE ARE APPROXIMATELY 9.92± ACRES OF THE SITE BEING DISTURBED AND THE IMPERVIOUS AREA OF THE SITE HAS BEEN INCREASED BY A TOTAL OF 0.014 ACRES.

3. THE PROJECT SITE, AS MAPPED IN THE SOIL SURVEY OF LITCHFIELD COUNTY (SCS, 1966), CONTAINS TYPE A AND TYPE D SOILS. A GEOTECHNICAL ENGINEERING REPORT HAS BEEN COMPLETED BY WELTI GEOTECHNICAL, P.C DATED OCTOBER 12, 2017.

4. THE PROJECT AREA WAS FOUND TO CONTAIN A BROAD COMPLEX OF WETLANDS THAT INCLUDES THE NORTHERLY EXTENT OF A LARGE WETLAND SYSTEM LOCALLY KNOWN AS ROBBINS SWAMP. ROBBINS SWAMP SURROUNDS SWAMP BROOK WHICH DRAINS TO THE HOLLENBECK RIVER (THE ON-SITE PORTION OF THIS AREA IS IDENTIFIED AS WETLAND 1). ROBBINS SWAMP REPRESENTS A REGIONALLY IMPORTANT WETLAND SYSTEM WHICH SUPPORTS A NUMBER OF RARE WETLAND-DEPENDENT SPECIES. TWO OTHER WETLAND AREAS WERE IDENTIFIED DURING THE SURVEY (IDENTIFIED AS WETLANDS 2 AND 3). WETLAND 2 IS A SMALL ISOLATED FORESTED WETLAND POCKET LOCATED EAST OF WETLAND 1, JUST SOUTH OF AN EXISTING RAIL LINE ON THE SITE. WETLAND 3 IS LOCATED IN THE SOUTHEAST CORNER OF THE SITE AND CONSISTS OF TWO DEPRESSIONAL WETLAND POCKETS THAT GENERALLY DRAIN EAST AND SOUTH AND ARE CONFINED BY AN EXISTING PAVED ACCESS ROAD AND ROUTE 7.

5. IT WILL BE IMPORTANT THAT THE EXISTING WETLAND RESOURCE AREAS BE PROTECTED DURING AND AFTER CONSTRUCTION FROM SEDIMENTATION AND POLLUTANTS TO THE EXTENT POSSIBLE. CUT AND FILL SLOPES WILL NEED TO BE STABILIZED BY VEGETATION, RIPRAP OR EROSION CONTROL GEOTEXTILES AS SOON AS POSSIBLE TO MINIMIZE SLOPE EROSION. ALL CUT AND FILL SLOPES 3:1 OR LESS WILL BE SEEDED, FERTILIZED AND MULCHED FOR TEMPORARY AND PERMANENT STABILIZATION. TOPSOIL AND EXCAVATED MATERIAL STOCKPILE AREAS MUST BE CONTAINED BY SILT FENCE AND HAY BALES AND STABILIZED BY VEGETATION IF LEFT UNDISTURBED FOR MORE THAN 30 DAYS. DEWATERING WASTEWATER FROM TRENCHING OPERATIONS SHALL BE ADDRESSED DURING CONSTRUCTION. ALL WATER FROM DEWATERING OPERATIONS SHALL BE DIRECTED TO DEWATERING PUMP SETTLING BASINS. CONSTRUCTION NEAR WETLANDS SHALL BE ISOLATED BY USE OF CONSTRUCTION FENCING OR A COFFERDAM AND THE TEMPORARY DISTURBED AREA SHALL BE KEPT TO A MINIMUM. WORK IN HIGH GROUNDWATER AREAS SHALL BE SCHEDULED, WHEN POSSIBLE, SO IT CAN BE COMPLETED IN A DRY PERIOD AND IN THE SHORTEST TIME POSSIBLE.

6. IT IS ANTICIPATED THAT CONSTRUCTION WILL BE COMPLETED IN APPROXIMATELY 8 MONTHS.

7. REFER TO THE CONSTRUCTION SEQUENCING AND EROSION AND SEDIMENTATION NOTES FOR INFORMATION REGARDING SEQUENCING OF MAJOR OPERATIONS IN THE ON-SITE CONSTRUCTION PHASES.

8. STORMWATER MANAGEMENT DESIGN CRITERIA UTILIZES THE APPLICABLE SECTIONS OF THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL TO THE EXTENT POSSIBLE AND PRACTICABLE FOR THIS PROJECT ON THIS SITE. EROSION AND SEDIMENTATION MEASURES ARE BASED UPON ENGINEERING PRACTICE, JUDGEMENT AND THE APPLICABLE SECTIONS OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

9. DETAILS FOR THE TYPICAL STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION MEASURES ARE SHOWN ON PLAN SHEET DN-1 AND DN-2, OR PROVIDED AS SEPARATE SUPPORT DOCUMENTATION FOR REVIEW IN THIS PLAN.

10. CONSERVATION PRACTICES TO BE USED DURING CONSTRUCTION AREA:
    A. STAGED CONSTRUCTION;
    B. MINIMIZE THE DISTURBED AREAS DURING CONSTRUCTION;
    C. STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE WITH TEMPORARY OR PERMANENT MEASURES;
    D. MINIMIZE IMPERVIOUS AREAS;
    E. UTILIZE APPROPRIATE CONSTRUCTION EROSION AND SEDIMENTATION MEASURES.

11. THE FOLLOWING SEPARATE DOCUMENTS ARE TO BE CONSIDERED A PART OF THE EROSION AND SEDIMENTATION PLAN:
    A. STORMWATER MANAGEMENT REPORT FOR EXISTING AND PROPOSED PEAK FLOWS.
    B. DESIGN CALCULATIONS FOR TEMPORARY SEDIMENT TRAPS DURING PHASED CONSTRUCTION.
    C. DESIGN CALCULATIONS FOR STORMWATER QUALITY.

SUGGESTED CONSTRUCTION SEQUENCE

THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION ACTIVITIES IS PROJECTED BASED UPON ENGINEERING JUDGEMENT AND BEST MANAGEMENT PRACTICES. THE CONTRACTOR MAY ELECT TO ALTER THE SEQUENCING TO BEST MEET THE CONSTRUCTION SCHEDULE, THE EXISTING SITE ACTIVITIES AND WEATHER CONDITIONS.

1. CONTACT THE OWNER TO SCHEDULE A PRE-CONSTRUCTION MEETING. PHYSICALLY FLAG THE LIMITS OF CLEARING IN THE FIELD AS NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.

2. CONDUCT A PRE-CONSTRUCTION MEETING TO DISCUSS THE PROPOSED WORK AND EROSION AND SEDIMENTATION CONTROL MEASURES. THE MEETING SHOULD BE ATTENDED BY THE OWNER, THE OWNER REPRESENTATIVE(S), THE GENERAL CONTRACTOR, DESIGNATED SUB-CONTRACTORS AND THE PERSON, OR PERSONS, RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF THE EROSION AND SEDIMENTATION MEASURES. THE CONSTRUCTION PROCEDURES FOR THE ENTIRE PROJECT SHALL BE REVIEWED AT THIS MEETING.

3. NOTIFY THE OWNER AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT. NOTIFY CALL BEFORE YOU DIG AT 1-800-922-4455.

PHASE 1

4. REMOVE EXISTING IMPROVEMENTS AS NECESSARY AND PROVIDE MINIMAL CLEARING AND GRUBBING TO INSTALL THE REQUIRED CONSTRUCTION ENTRANCES.

5. CLEAR AND GRUB PHASE 1 LIMITS AS REQUIRED, TO INSTALL THE PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AND, IF APPLICABLE, TREE PROTECTION. ALL WETLAND AREAS SHALL BE PROTECTED BEFORE MAJOR CONSTRUCTION BEGINS.

6. INSTALL PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLANS.

PHASE 2

7. PERFORM THE REMAINING CLEARING AND GRUBBING AS NECESSARY. REMOVE CUT WOOD AND STUMPS. CHIP BRUSH AND SLASH AND STOCKPILE FOR FUTURE USE. REMOVE AND DISPOSE OF DEMOLITION DEBRIS OFF-SITE.

PHASE 3

8. TEMPORARILY SEED AND PROVIDE TEMPORARY SOIL PROTECTION FOR ALL DISTURBED AREAS NOT UNDER CONSTRUCTION FOR THIRTY (30) DAYS OR MORE.

9. INSTALL ELECTRICAL CONDUIT.

10. EXCAVATE AND ROUGH GRADE SITE, GRAVEL ACCESS DRIVES, AND CONCRETE EQUIPMENT PADS.

11. INSTALL GROUND MOUNTED SOLAR PANELS.

12. INSTALL INFILTRATION BASINS AS SHOWN ON THE GRADING AND DRAINAGE PLAN.

13. INSTALL FINAL GRAVEL COURSE ON ALL GRAVEL ACCESS DRIVES.

14. FINE GRADE, RAKE, SEED AND MULCH ALL REMAINING DISTURBED AREAS.

15. REMOVE AND STOCKPILE TOPSOIL TO ITS DESIGNATED AREA AS REQUIRED FOR INSTALLATION OF COMPOST FILTER SOCKS. PROVIDE EROSION AND SEDIMENTATION CONTROL MEASURES AROUND THE STOCKPILE. TEMPORARILY SEED THE STOCKPILE WHEN STOCKPILING IS COMPLETED OR IF IT WILL NOT BE DISTURBED FOR THIRTY (30) DAYS OR MORE.

PHASE 4

16. AFTER THE SITE IS STABILIZED AND WITH THE APPROVAL OF THE OWNER, REMOVE PERIMETER EROSION AND SEDIMENTATION CONTROLS.

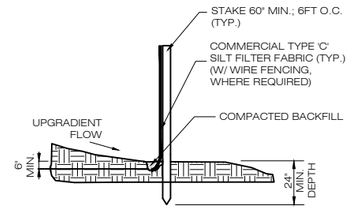
17. INSTALL PERIMETER CHAIN LINK FENCE AND INFILTRATION BASINS AS SHOWN ON THE PLANS.

18. ALL POST-CONSTRUCTION STORMWATER STRUCTURES SHALL BE CLEANED OF CONSTRUCTION SEDIMENT AND ANY REMAINING SILT FENCES SHALL BE REMOVED PRIOR TO THE FILING OF THE "NOTICE OF TERMINATION FORM".

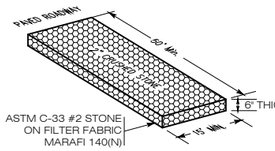
19. PERFORM PROJECT CLEANUP

CONSTRUCTION OPERATION AND MAINTENANCE PLAN - BY CONTRACTOR

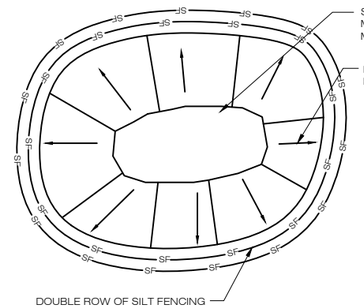
E&S MEASURE	INSPECTION SCHEDULE	MAINTENANCE REQUIRED
CONSTRUCTION ENTRANCE	DAILY	PLACE ADDITIONAL STONE, EXTEND THE LENGTH OR REMOVE AND REPLACE THE STONE. CLEAN PAVED SURFACES OF TRACKED SEDIMENT.
STONE CHECK (NON ENGINEERED)	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE BALE.
COMPOST FILTER SOCK	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
SILT FENCE	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
TOPSOIL/BORROW STOCKPILES	DAILY	REPAIR/REPLACE SEDIMENT BARRIERS AS NECESSARY.
TEMPORARY SOIL PROTECTION	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR ERODED OR BARE AREAS IMMEDIATELY. RESEED AND MULCH.



1 DN-2 SILT FENCE DETAIL SCALE : NTS



2 DN-2 CONSTRUCTION ENTRANCE DETAIL SCALE : NTS



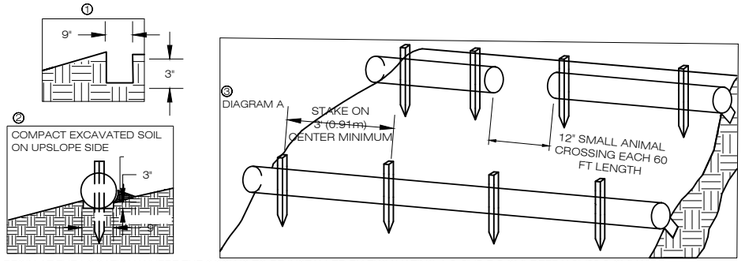
NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

3 DN-2 MATERIALS STOCKPILE DETAIL SCALE :NTS



1. BEGIN AT THE LOCATION WHERE THE SOCK IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE SOCK IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE SOCK ON THE UPHILL SIDE. SOCKS SHALL BE INSTALLED IN 60 FT CONTINUOUS LENGTHS WITH ADJACENT SOCKS TIGHTLY ABUT. EVERY 60 FT THE SOCK ROW SHALL BE SPACED 12 INCHES CLEAR, END TO END, FOR AMPHIBIAN AND REPTILE TRAVEL. THE OPEN SPACES SHALL BE STAGGERED MID LENGTH OF THE NEXT DOWN GRADIENT SOCK.
3. SECURE THE SOCK WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 -1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE SOCK LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE SOCK. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

4 DN-2 COMPOST FILTER SOCK SEDIMENTATION CONTROL BARRIER SCALE : NTS

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NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
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DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
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OWNER: BECTON, DICKINSON & CO.
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APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:
SEDIMENTATION & EROSION CONTROL NOTES & DETAIL SHEET

SHEET NUMBER:
DN-2

SITE PLAN NOTES

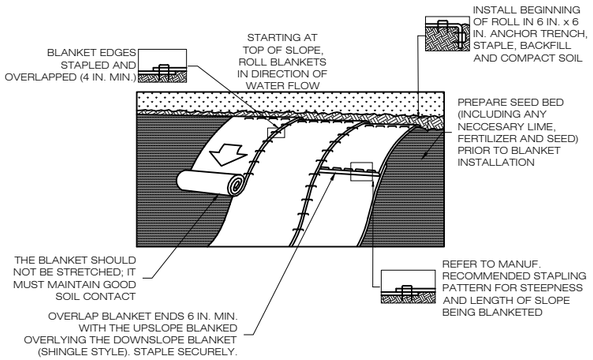
1. ALL CONSTRUCTION SHALL COMPLY WITH OWNER STANDARDS, TOWN OF NORTH CANAAN STANDARDS, CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS IN THE ABOVE REFERENCED INCREASING HIERARCHY. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.
2. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL TOWN OF NORTH CANAAN CONSTRUCTION PERMITS, INCLUDING CONNECTICUT DOT PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
3. REFER TO PLANS, DETAILS AND REPORTS PREPARED BY ALL-POINTS TECHNOLOGY CORPORATION FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE ENGINEER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO BIDDING/CONSTRUCTION. ANY CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CONFIRMED WITH THE OWNERS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS PER PLANS AND SPECIFICATIONS TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
5. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDED SEQUENCE OF CONSTRUCTION NOTES PROVIDED ON THE EROSION CONTROL PLAN OR SUBMIT AN ALTERNATE PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.
6. SHOULD ANY UNKNOWN OR INCORRECTLY LOCATED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
7. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS, EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND THE LOCAL MUNICIPALITY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
8. THE CONTRACT LIMIT IS THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE CONTRACT DRAWINGS.
9. THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID FOR BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE ENGINEER.
11. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.
12. THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OF PERSONNEL OR TO SUPERVISE SAFETY AND DO NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
13. THE CONTRACTOR SHALL COMPLY WITH OSHA CFR 29 PART 1926 FOR EXCAVATION TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
14. EXISTING TOPOGRAPHY IS BASED ON THE DRAWING TITLED **"EXISTING CONDITIONS PLAN"** SCALE: 1"=40', DATED 02-15-16 BY "GOLDEN AERIAL SURVEYS, INC"
15. ALTERNATIVE METHODS AND PRODUCTS, OTHER THAN THOSE SPECIFIED, MAY BE USED IF REVIEWED AND APPROVED BY THE OWNER, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION DURING THE BIDDING/CONSTRUCTION PROCESS.
16. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" 72 HOURS BEFORE COMMENCEMENT OF WORK AT "1-800-922-4455" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
17. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF SECTION 22a-174-18(b)(3)(c) OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES THAT LIMIT IDLING OF MOBILE SOURCES TO THREE MINUTES.
18. THE CONTRACTOR SHALL USE OFF-ROAD CONSTRUCTION EQUIPMENT THAT MEETS THE LATEST EPA OR CALIFORNIA AIR RESOURCES BOARD OF STANDARDS. IF NOT ABLE TO MEET THESE, THE CONTRACTORS EQUIPMENT SHALL HAVE THE BEST AVAILABLE CONTROLS ON DIESEL EMISSIONS INCLUDING BUT NOT LIMITED TO RETRO-FITTING WITH DIESEL OXIDATION CATALYSTS PARTICULATE FILTERS AND USE OF ULTRA LOW SULFUR FUEL.
19. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
20. A SOUTHWESTERN PORTION OF THE EXISTING PROPERTY IS LOCATED WITHIN A FEMA DESIGNATED FLOOD HAZARD AREA HOWEVER THE PROJECT AREA IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD HAZARD AREA.
21. THERE ARE WETLANDS LOCATED ON THE SITE AS INDICATED ON THE PLANS. WELTAND BOUNDARIES WERE FLAGGED AND LOCATED BY ALL-POINTS TECHNOLOGY LICENSED SENIOR WETLANDS SCIENTIST.

GRADING AND DRAINAGE NOTES

1. THIS GRADING AND DRAINAGE DRAWINGS ARE INTENDED TO DESCRIBE GRADING AND DRAINAGE ONLY. REFER TO SITE PLAN FOR GENERAL INFORMATION, AND DETAIL SHEETS FOR DETAILS.
2. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON THE DRAWINGS. REFER TO EROSION CONTROL PLAN FOR LIMIT OF DISTURBANCE AND EROSION CONTROL NOTES.
3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR USE IN FINAL LANDSCAPING.
4. VERTICAL DATUM IS NGV DATUM 88.
5. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD AND APPROVED BY THE TOWN OF CANAAN AGENT PRIOR TO THE START OF WORK ON THE SITE.
6. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLANDS IN ACCORDANCE WITH THE REGULATIONS 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT POLLUTION CONTROL MANUAL. IN ADDITION, THE CONTRACTOR SHALL STRICTLY ADHERE TO THE "EROSION CONTROL PLAN" CONTAINED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE TO POST ALL BONDS AS REQUIRED BY THE LOCAL MUNICIPALITIES WHICH WOULD GUARANTEE THE PROPER IMPLEMENTATION OF THE PLAN.
7. ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS FOR EARTHWORK AND STORM DRAINAGE WORK, SHALL CONFORM TO THE SPECIFICATIONS AND DETAILS AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS MANUAL. OTHERWISE THIS WORK SHALL CONFORM TO THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION AND PROJECT GEOTECHNICAL REPORT IF THERE IS NO PROJECT SPECIFICATIONS MANUAL. ALL FILL MATERIAL UNDER STRUCTURES AND PAVED AREAS SHALL BE PER THE ABOVE STATED APPLICABLE SPECIFICATIONS, AND/OR PROJECT GEOTECHNICAL REPORT, AND SHALL BE PLACED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. MATERIAL SHALL BE COMPACTED IN 6" LIFTS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557 AT 95% PERCENT OF OPTIMUM MOISTURE CONTENT.
8. ALL DISTURBANCE INCURRED TO PUBLIC, MUNICIPAL, COUNTY, STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF NORTH CANAAN AND STATE OF CONNECTICUT.
9. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.

UTILITIES NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE TOWN OF NORTH CANAAN TO SECURE CONSTRUCTION PERMITS AND FOR PAYMENT OF FEES FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES.
2. THIS PLAN DETAILS SITE INSTALLED PIPES UP TO THE PROPOSED FENCE LINE. REFER TO DRAWINGS BY OWNER FOR INTERCONNECTION TO EXISTING ELECTRICAL GRID. SITE CONTRACTOR SHALL SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY AT BUILDING CONNECTION POINT OR AT EXISTING UTILITY OR PIPE CONNECTION POINT. THESE DETAILS ARE NOT INCLUDED IN THE THIS DEVELOPMENT AND MANAGEMENT PLANS.
3. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE PROPOSED SANITARY SEWERS AND WHERE PROPOSED STORM PIPING WILL CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT OF ANY DISCOVERED OR UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED SANITARY SEWERS, STORM PIPING AND UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
4. UTILITY CONNECTION DESIGN AS REFLECTED ON THE PLAN MAY CHANGE SUBJECT TO UTILITY PROVIDER AND GOVERNING AUTHORITY STAFF REVIEW.
5. THE CONTRACTOR SHALL ENSURE THAT ALL UTILITY PROVIDERS AND GOVERNING AUTHORITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL PERFORM PROPER COORDINATION WITH THE RESPECTIVE UTILITY PROVIDER.
6. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY PROVIDERS FOR SERVICE INSTALLATIONS AND CONNECTIONS. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY PROVIDERS AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATIONS MANUAL AND/OR GENERAL CONDITIONS OF THE CONTRACT.
7. ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT. AFTER UTILITY INSTALLATION IS COMPLETED, THE CONTRACTOR SHALL INSTALL TEMPORARY AND/OR PERMANENT PAVEMENT REPAIR AS DETAILED ON THE DRAWINGS OR AS REQUIRED BY THE OWNER HAVING JURISDICTION.
8. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
9. RELOCATION OF UTILITY PROVIDER FACILITIES, SUCH AS POLES, SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY PROVIDER.
10. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN 8" LIFTS ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED PER THE TRENCH DETAILS AND IN AREAS OF ROCK EXCAVATION.
11. CONTRACTOR TO PROVIDE STEEL SLEEVES AND ANNULAR SPACE SAND FILL FOR UTILITY PIPE AND CONDUIT CONNECTIONS UNDER FOOTINGS.
12. BUILDING UTILITY PENETRATIONS AND LOCATIONS ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND SHALL BE VERIFIED WITH THE BUILDING MEP DRAWINGS AND WITH THE OWNER'S CONSTRUCTION MANAGER.
13. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION FOR APPROVAL PRIOR TO BACKFILLING, IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROVIDER REQUIREMENTS.
14. A ONE-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN WATER, GAS, ELECTRICAL, AND TELEPHONE LINES AND STORM PIPING SHALL BE PROVIDED. A SIX-INCH MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN STORM PIPING AND SANITARY SEWER. A 6-INCH TO 18-INCH VERTICAL CLEARANCE BETWEEN SANITARY SEWER PIPING AND STORM PIPING SHALL REQUIRE CONCRETE ENCASEMENT OF THE PROPOSED SANITARY PIPING.
15. SITE CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC., AS REQUIRED FOR PIPE CONNECTIONS TO BUILDING STUB OUTS, INCLUDING ROOF/FOOTING DRAIN CONNECTIONS TO ROOF LEADERS AND TO STORM DRAINAGE SYSTEM.
16. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION, TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE OWNER AND TOWN OF NORTH CANAAN.
17. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY, AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE INCLUDING SERVICES. CONTACT "CALL BEFORE YOU DIG" AT (800) 922-4455 72 HOURS PRIOR TO CONSTRUCTION AND VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY AND STORM DRAINAGE LOCATIONS. THE CONTRACTOR SHALL EMPLOY THE USE OF A UTILITY LOCATING COMPANY TO PROVIDE SUBSURFACE UTILITY ENGINEERING CONSISTING OF DESIGNATING UTILITIES AND STORM PIPING ON PRIVATE PROPERTY WITHIN THE CONTRACT LIMIT AND CONSISTING OF DESIGNATING AND LOCATING WHERE PROPOSED UTILITIES AND STORM PIPING CROSS EXISTING UTILITIES AND STORM PIPING WITHIN THE CONTRACT LIMITS.
18. THE CONTRACTOR SHALL ARRANGE AND COORDINATE WITH UTILITY PROVIDERS FOR WORK TO BE PERFORMED BY UTILITY PROVIDERS. THE CONTRACTOR SHALL PAY ALL UTILITY FEES UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATION MANUAL AND GENERAL CONDITIONS, AND REPAIR PAVEMENTS AS NECESSARY.
19. ELECTRIC SERVICES SHALL BE INSTALLED UNDERGROUND. THE CONTRACTOR SHALL PROVIDE AND INSTALL AND BACKFILL PVC CONDUITS FOR ELECTRIC SERVICE. REFER TO ELECTRICAL PLANS AND WIRE SCHEDULE FOR ACTUAL NUMBER AND LOCATION OF CONDUITS. SERVICES MAY BE INSTALLED IN A COMMON TRENCH WITH 12" CLEAR SPACE BETWEEN. MINIMUM COVER IS 36" ON ELECTRIC CONDUITS. SERVICES SHALL BE MARKED WITH MAGNETIC LOCATOR TAPE AND SHALL BE BEDDED, INSTALLED, AND BACKFILLED IN ACCORDANCE WITH ELECTRIC UTILITY PROVIDER COMPANY STANDARDS. GALVANIZED STEEL ELECTRICAL CONDUIT SHALL BE USED AT POLE AND TRANSFORMER LOCATIONS. INSTALL HANDHOLES AS REQUIRED TO FACILITATE INSTALLATION AND AS REQUIRED BY UTILITY PROVIDER. INSTALL CONCRETE ENCASEMENT ON PRIMARY ELECTRIC CONDUITS IF REQUIRED BY ELECTRIC PROVIDER.
20. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE OWNER, ENGINEER, AND APPROPRIATE REGULATORY AGENCIES PRIOR TO INSTALLATION.
21. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE OWNERS, THE CIVIL ENGINEER, UTILITY PROVIDERS AND GOVERNING AUTHORITIES.



SEQUENCE OF CONSTRUCTION

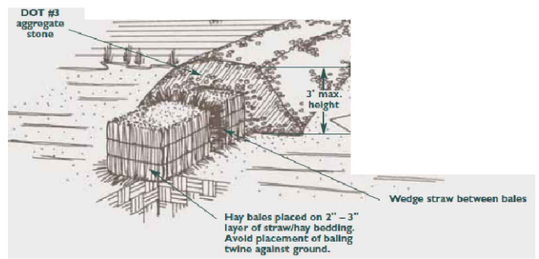
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPS), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPS IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPS EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPS BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPS.
3. ROLL THE RECPS DOWN HORIZONTALLY ACROSS THE SLOPE. RECPS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL RECPS MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON THE RECPS TYPE.
5. CONSECUTIVE RECPS SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPS WIDTH.

NOTES:

1. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
3. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
4. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

1 DN-3 EROSION CONTROL BLANKET STEEP SLOPES

SCALE : N.T.S.



2 DN-3 TYPICAL STONE CHECK (NON-ENGINEERED)

SCALE : NTS

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NO	DATE	REVISION
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DESIGN PROFESSIONAL OF RECORD

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APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:

NOTES & SPECIFICATIONS

SHEET NUMBER:

DN-3

ENVIRONMENTAL NOTES

RARE SPECIES PROTECTION PROGRAM

BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE, ALL STATE SPECIAL CONCERN SPECIES AFFORDED PROTECTION UNDER THE CONNECTICUT ENDANGERED SPECIES ACT, ARE KNOWN TO OCCUR WITHIN THE VICINITY OF THE SITE. THE FOLLOWING PROTECTIVE MEASURES SATISFY REQUIREMENTS FROM THE CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION ("CTDEEP") WILDLIFE DIVISION AND FOLLOW PROTOCOLS DEVELOPED FROM PREVIOUS RARE SPECIES CONSULTATIONS AND STATE-APPROVED PROTECTION PLANS. THIS PROTECTION PLAN IS VALID FOR ONE YEAR FROM THE DATE OF CTDEEP'S LETTER, AT WHICH POINT IF CONSTRUCTION HAS NOT BEEN INITIATED A NEW NATURAL DIVERSITY DATA BASE REVIEW REQUEST FROM CTDEEP IS REQUIRED.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENT FOR IMPLEMENTATION OF THESE PROTECTIVE MEASURES AND THE EDUCATION OF ITS EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE. THE RARE SPECIES PROTECTION PLAN SHALL BE IMPLEMENTED IF WORK WILL OCCUR DURING THE SALAMANDERS AND TURTLES' ACTIVE PERIODS (MARCH 1 TO NOVEMBER 15). ALL-POINTS TECHNOLOGY CORPORATION, P.C. ("APT") WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT THESE PROTECTION MEASURES ARE IMPLEMENTED PROPERLY AND WILL PROVIDE AN EDUCATION SESSION ON RARE SPECIES THAT MAY BE ENCOUNTERED AND THE PROJECT'S PROXIMITY TO SENSITIVE WILDLIFE HABITAT RESOURCES PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR ENVIRONMENTAL SCIENTIST AT APT, AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED BY PHONE AT (860) 663-1697 EXT. 201 OR VIA EMAIL AT DGUSTAFSON@ALLPOINTSTECH.COM.

THE PROPOSED PROTECTION PROGRAM CONSISTS OF SEVERAL COMPONENTS: EDUCATION OF ALL CONTRACTORS AND SUB-CONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; PROTECTIVE MEASURES; PERIODIC INSPECTION OF THE CONSTRUCTION PROJECT; AND, REPORTING.

1. SALAMANDER TREE CLEARING RESTRICTION

a. IN ORDER TO MINIMIZE IMPACTS ON SALAMANDERS, TREE CLEARING SHALL OCCUR BETWEEN NOVEMBER 15TH THROUGH FEBRUARY 1ST.

b. IF TREE CLEARING IS NOT PERFORMED DURING THE NOVEMBER 15TH THROUGH FEBRUARY 1ST PERIOD, SWEEPS OF THE ENTIRE CONSTRUCTION AREA SHALL BE PERFORMED BY THE ENVIRONMENTAL MONITOR DURING THE MORNING PRIOR TO EACH DAY'S TREE CLEARING ACTIVITIES. SALAMANDER SWEEPS SHALL BE PERFORMED ON A DAILY BASIS UNTIL TREE CLEARING ACTIVITIES HAVE BEEN COMPLETED.

2. ISOLATION MEASURES & SEDIMENTATION AND EROSION CONTROLS

a. PLASTIC NETTING USED IN A VARIETY OF EROSION CONTROL PRODUCTS (I.E., EROSION CONTROL BLANKETS, FIBER ROLLS [SOCKS], REINFORCED SILT FENCE) HAS BEEN FOUND TO ENTANGLE WILDLIFE, INCLUDING REPTILES, AMPHIBIANS, BIRDS AND SMALL MAMMALS, BUT PARTICULARLY SNAKES. NO PERMANENT EROSION CONTROL PRODUCTS OR REINFORCED SILT FENCE WILL BE USED ON THE SOLARCITY CORPORATION PROJECT. TEMPORARY EROSION CONTROL PRODUCTS WILL USE EITHER EROSION CONTROL BLANKETS AND FIBER ROLLS COMPOSED OF PROCESSED FIBERS MECHANICALLY BOUND TOGETHER TO FORM A CONTINUOUS MATRIX (NETLESS) OR NETTING COMPOSED OF PLANAR WOVEN NATURAL BIODEGRADABLE FIBER TO AVOID/MINIMIZE WILDLIFE ENTANGLEMENT.

b. INSTALLATION OF SEDIMENTATION AND EROSION CONTROLS, REQUIRED FOR EROSION CONTROL COMPLIANCE AND CREATION OF A BARRIER TO POSSIBLE MIGRATING/DISPERSING SALAMANDERS AND TURTLES, SHALL BE PERFORMED BY THE CONTRACTOR FOLLOWING CLEARING ACTIVITIES AND PRIOR TO ANY EARTHWORK. THE ENVIRONMENTAL MONITOR WILL INSPECT THE WORK ZONE AREA PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION TO ENSURE THE AREA IS FREE OF SALAMANDERS AND TURTLES AND DOCUMENT BARRIERS HAVE BEEN SATISFACTORILY INSTALLED. THE INTENT OF THE BARRIER IS TO SEGREGATE THE MAJORITY OF THE WORK ZONE AND ISOLATE IT FROM FORAGING/MIGRATING/DISPERSING SALAMANDERS, TURTLES, SNAKES AND OTHER HERPETOFAUNA. OFTENTIMES COMPLETE ISOLATION OF A WORK ZONE IS NOT FEASIBLE DUE TO ACCESSIBILITY NEEDS AND LOCATIONS OF STAGING/MATERIAL STORAGE AREAS, ETC. IF COMPLETE ISOLATION OF THE WORK ZONE IS NOT PRACTICAL, THEY WILL BE POSITIONED TO DEFLECT MIGRATING/DISPERSAL ROUTES AWAY FROM THE WORK ZONE TO MINIMIZE POTENTIAL ENCOUNTERS WITH SALAMANDERS, TURTLES, SNAKES AND OTHER HERPETOFAUNA.

c. THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS FOR TEARS OR BREECHES AND ACCUMULATION LEVELS OF SEDIMENT, PARTICULARLY FOLLOWING STORM EVENTS THAT GENERATE A DISCHARGE. APT WILL PROVIDE PERIODIC INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES ONLY AS IT PERTAINS TO PROTECTION OF RARE SPECIES. THIRD PARTY MONITORING OF SEDIMENTATION AND EROSION CONTROLS WILL BE PERFORMED BY OTHER PARTIES, AS NECESSARY, UNDER APPLICABLE LOCAL, STATE AND/OR FEDERAL REGULATIONS.

d. THE EXTENT OF THE SEDIMENTATION AND EROSION CONTROLS WILL BE AS SHOWN ON THE SITE PLANS. THE CONTRACTOR SHALL HAVE ADDITIONAL SEDIMENTATION AND EROSION CONTROLS STOCKPILED ON SITE SHOULD FIELD OR CONSTRUCTION CONDITIONS WARRANT EXTENDING THE CONTROLS AS DIRECTED BY APT.

e. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED OUTSIDE OF THE SEDIMENTATION AND EROSION CONTROLS WITHIN 100 FEET OF WETLANDS OR WATERCOURSES.

f. ALL SEDIMENTATION AND EROSION CONTROLS SHALL BE REMOVED WITHIN 30 DAYS OF COMPLETION OF WORK AND PERMANENT STABILIZATION OF SITE SOILS SO THAT REPTILE AND AMPHIBIAN MOVEMENT BETWEEN UPLANDS AND WETLANDS IS NOT RESTRICTED.

3. CONTRACTOR EDUCATION

a. PRIOR TO WORK ON SITE, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRE-CONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF AN INTRODUCTORY MEETING WITH APT PROVIDING PHOTOS OF BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE EMPHASIZING THE NON-AGGRESSIVE NATURE OF THESE SPECIES, THE ABSENCE OF NEED TO DESTROY ANIMALS THAT MIGHT BE ENCOUNTERED AND THE NEED TO FOLLOW PROTECTIVE MEASURES AS DESCRIBED IN SECTION 5 BELOW. WORKERS WILL ALSO BE PROVIDED INFORMATION REGARDING THE IDENTIFICATION OF OTHER SALAMANDERS, TURTLES, SNAKES AND COMMON HERPETOFAUNA SPECIES THAT COULD BE ENCOUNTERED.

b. THE EDUCATION SESSION WILL ALSO FOCUS ON MEANS TO DISCRIMINATE BETWEEN THE SPECIES OF CONCERN AND OTHER NATIVE SPECIES TO AVOID UNNECESSARY "FALSE ALARMS". ENCOUNTERS WITH ANY SPECIES OF SALAMANDERS, TURTLES OR SNAKES WILL BE DOCUMENTED.

c. THE CONTRACTOR WILL BE PROVIDED WITH CELL PHONE AND EMAIL CONTACTS FOR THE APT ENVIRONMENTAL MONITOR TO IMMEDIATELY REPORT ANY ENCOUNTERS WITH BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE. EDUCATIONAL POSTER MATERIALS WILL BE PROVIDED BY APT AND DISPLAYED ON THE JOB SITE TO MAINTAIN WORKER AWARENESS AS THE PROJECT PROGRESSES.

4. PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION

a. CERTAIN PRECAUTIONS ARE NECESSARY TO STORE PETROLEUM MATERIALS, REFUEL AND CONTAIN AND PROPERLY CLEAN UP ANY INADVERTENT FUEL OR PETROLEUM (I.E., OIL, HYDRAULIC FLUID, ETC.) SPILL TO AVOID POSSIBLE IMPACT TO NEARBY HABITATS.

b. A SPILL CONTAINMENT KIT CONSISTING OF A SUFFICIENT SUPPLY OF ABSORBENT PADS AND ABSORBENT MATERIAL WILL BE MAINTAINED BY THE CONTRACTOR AT THE CONSTRUCTION SITE THROUGHOUT THE DURATION OF THE PROJECT. IN ADDITION, A WASTE DRUM WILL BE KEPT ON SITE TO CONTAIN ANY USED ABSORBENT PADS/MATERIAL FOR PROPER AND TIMELY DISPOSAL OFF SITE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

c. THE FOLLOWING PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING RESTRICTIONS AND SPILL RESPONSE PROCEDURES WILL BE ADHERED TO BY THE CONTRACTOR.

i. PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING

1. REFUELING OF VEHICLES OR MACHINERY SHALL OCCUR A MINIMUM OF 100 FEET FROM WETLANDS OR WATERCOURSES AND SHALL TAKE PLACE ON AN IMPERVIOUS PAD WITH SECONDARY CONTAINMENT DESIGNED TO CONTAIN FUELS.
2. ANY FUEL OR HAZARDOUS MATERIALS THAT MUST BE KEPT ON SITE SHALL BE STORED ON AN IMPERVIOUS SURFACE UTILIZING SECONDARY CONTAINMENT A MINIMUM OF 100 FEET FROM WETLANDS OR WATERCOURSES.

ii. INITIAL SPILL RESPONSE PROCEDURES

1. STOP OPERATIONS AND SHUT OFF EQUIPMENT.
2. REMOVE ANY SOURCES OF SPARK OR FLAME.
3. CONTAIN THE SOURCE OF THE SPILL.
4. DETERMINE THE APPROXIMATE VOLUME OF THE SPILL.
5. IDENTIFY THE LOCATION OF NATURAL FLOW PATHS TO PREVENT THE RELEASE OF THE SPILL TO SENSITIVE NEARBY WATERWAYS OR WETLANDS.
6. ENSURE THAT FELLOW WORKERS ARE NOTIFIED OF THE SPILL.

iii. SPILL CLEAN UP & CONTAINMENT

1. OBTAIN SPILL RESPONSE MATERIALS FROM THE ON-SITE SPILL RESPONSE KIT. PLACE ABSORBENT MATERIALS DIRECTLY ON THE RELEASE AREA.
2. LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.
3. ISOLATE AND ELIMINATE THE SPILL SOURCE.
4. CONTACT THE APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
5. CONTACT A DISPOSAL COMPANY TO PROPERLY DISPOSE OF CONTAMINATED MATERIALS.

iv. REPORTING

1. COMPLETE AN INCIDENT REPORT.
2. SUBMIT A COMPLETED INCIDENT REPORT TO THE TOWN OF CHESHIRE.

5. RARE SPECIES PROTECTIVE MEASURES

a. PRIOR TO THE START OF CONSTRUCTION EACH DAY, THE CONTRACTOR SHALL SEARCH THE ENTIRE WORK AREA FOR SALAMANDERS AND TURTLES.

b. IF A SALAMANDER OR TURTLE IS FOUND, IT SHALL BE IMMEDIATELY MOVED, UNHARMED, AND PLACED JUST OUTSIDE OF THE ISOLATION BARRIER IN THE SAME APPROXIMATE DIRECTION IT WAS HEADING. TURTLES SHOULD BE HANDLED BY CAREFULLY GRASPED IN BOTH HANDS, ONE ON EACH SIDE OF THE SHELL, BETWEEN THE TURTLE'S FORELIMBS AND THE HIND LIMBS. SALAMANDERS HAVE SOFT, DELICATE SKIN AND SHOULD BE HANDLED GENTLY WITH A CLEAN DAMP PLASTIC BAG OR CLEAN WET HANDS.

c. SPECIAL CARE SHALL BE TAKEN BY THE CONTRACTOR DURING EARLY MORNING AND EVENING HOURS SO THAT POSSIBLE BASKING OR FORAGING TURTLES ARE NOT HARMED BY CONSTRUCTION ACTIVITIES.

6. HERBICIDE AND PESTICIDE RESTRICTIONS

a. THE USE OF HERBICIDES AND PESTICIDES AT THE PROPOSED SOLAR FACILITY SHALL BE AVOIDED WHEN POSSIBLE. IN THE EVENT HERBICIDES AND/OR PESTICIDES ARE REQUIRED AT THE PROPOSED FACILITY, THEIR USE WILL BE USED IN ACCORDANCE WITH INTEGRATED PEST MANAGEMENT ("IPM") PRINCIPLES WITH PARTICULAR ATTENTION TO MINIMIZE APPLICATIONS WITHIN 100 FEET OF WETLAND OR WATERCOURSE RESOURCES. NO APPLICATIONS OF HERBICIDES OR PESTICIDES ARE ALLOWED WITHIN ACTUAL WETLAND OR WATERCOURSE RESOURCES.

7. REPORTING

a. DAILY COMPLIANCE MONITORING REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) DOCUMENTING EACH APT INSPECTION WILL BE SUBMITTED BY APT TO SOLARCITY CORPORATION FOR COMPLIANCE VERIFICATION. ANY OBSERVATIONS OF SALAMANDERS OR TURTLES WILL BE INCLUDED IN THE REPORTS.

b. FOLLOWING COMPLETION OF THE CONSTRUCTION PROJECT, APT WILL PROVIDE A COMPLIANCE MONITORING SUMMARY REPORT TO SOLARCITY CORPORATION DOCUMENTING IMPLEMENTATION OF THE RARE SPECIES PROTECTION PROGRAM, MONITORING AND ANY SPECIES OBSERVATIONS. SOLARCITY CORPORATION WILL PROVIDE A COPY OF THE COMPLIANCE MONITORING SUMMARY REPORT TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION.

c. ANY OBSERVATIONS OF BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE WILL BE REPORTED TO CTDEEP BY APT, WITH PHOTO-DOCUMENTATION (IF POSSIBLE) AND WITH SPECIFIC INFORMATION ON THE LOCATION AND DISPOSITION OF THE ANIMAL.

SMOOTH GREEN SNAKE HABITAT ENHANCEMENT: COVER BOARD GUIDELINES

1. COVER BOARDS SHALL BE INSTALLED AROUND SP-1 AND SP-3 AS SHOWN ON THE SITE PLANS TO PROVIDE HABITAT FOR SMOOTH GREEN SNAKE DURING THIS SPECIES SEASONAL ACTIVE PERIOD (MAY THROUGH NOVEMBER).
2. COVER BOARDS SHALL CONSIST OF EITHER EXTERIOR-GRADE PLYWOOD (4' X 8' SHEETS) OR CORRUGATED ROOFING/SIDING PANELS OF SIMILAR SIZE.
3. THE LABEL "SNAKE COVER BOARD - DO NOT REMOVE OR DISTURB" SHALL BE PAINTED ON THE TOP SIDE OF EACH BOARD.
4. COVER BOARDS SHALL REMAIN IN PLACE FROM MAY THROUGH OCTOBER, BUT CAN BE LEFT IN PLACE THROUGHOUT THE FALL AND WINTER IF NEEDED.
5. AREAS WHERE COVER BOARDS ARE LOCATED SHALL BE MOWED NO MORE THAN ONCE PER SEASON.
6. IF MOWING OCCURS BETWEEN MAY AND OCTOBER, THE COVER BOARDS SHALL BE REMOVED A MINIMUM OF ONE DAY PRIOR TO MOWING AND RESET ONCE ALL MOWING HAS BEEN COMPLETED.

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PURE POWER ENGINEERING
5 MARINE VIEW PLAZA, SUITE 301
HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC		
NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DR. FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:

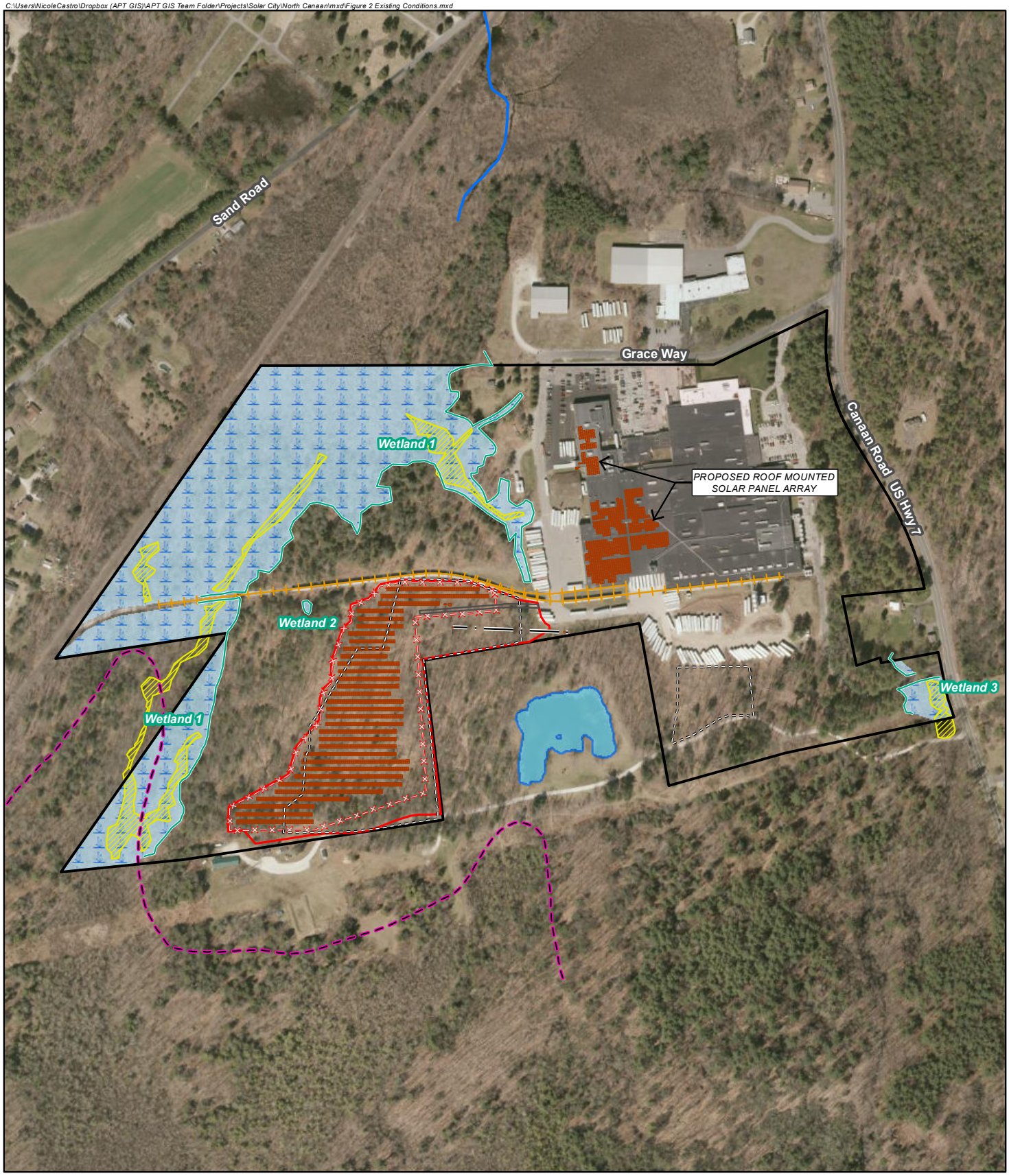
ENVIRONMENTAL NOTES & SPECIFICATIONS

SHEET NUMBER:

DN-4

Attachment 2
Proposed Conditions Map

C:\Users\NicoleCastro\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Solar City\North Canaan\mxd\Figure 2 Existing Conditions.mxd



Legend

- Site Boundary
- Original Approved Project Area/limit of disturbance (±9 acres)
- Revised Project Area /limit of disturbance (±9.9 acres)
- Revised Ground-mounted Fenced Facility (+/- 7.4 acres)
- Proposed Solar Module Equipment
- Proposed Overhead Wire
- Proposed Gravel Access Road
- Wetland Boundary
- Wetland Area (within Site Boundary)
- Railroad
- FEMA 100-Year Flood Line
- Vernal Pool
- CTDEEP Watercourse

Proposed Conditions Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

N
W E
S

450 225 0 450 Feet

Map Notes:
Base Map Source: 2016 Aerial Photograph (CTECO)
Map Scale: 1 inch = 450 feet *Map Date: November 2017*

ALL-POINTS TECHNOLOGY CORPORATION

Attachment 3
DEEP NDDB Determination Letter

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

August 22, 2016

Mr. Dean Gustafson
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06419
dgustafson@allpointstech.com

Project: Installation of a Solar Array at Becton Dickinson and Company Located at 7 Grace Way in North Canaan, Connecticut, Connecticut
NDDB Determination No.: 201601990

Dear Dean,

I have re-reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the proposed Installation of a Solar Array at Becton Dickinson and Company Located at 7 Grace Way in North Canaan, Connecticut, Connecticut. Thank you for including a site survey report and assessing the potential impacts to from this project on the state listed species we provided as part of Preliminary Assessment NDDB # 2015000171. Our NDDB Program plant ecologist, Mr. Nelson DeBarros has determined there will be no adverse impacts of this project on any state-listed plant species. Thank you for including the protection strategies and best management protocols that will be in place to protect the blue spotted salamander "complex", smooth green snake, wood and spotted turtles from project impacts. I concur with your findings that the proposed solar project will not result in adverse effect to State-listed species if the rare species protection program and the reduction in the project footprint are implemented as outlined in your August 10, 2016 correspondence and attached to this letter. This determination is good for two years. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by August 22, 2018.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay

Dawn M. McKay
Environmental Analyst 3

Attachment 5
Rare Species Protection Program

ENVIRONMENTAL NOTES

Rare Species Protection Program

Blue-spotted Salamander Complex, Spotted Turtle and Wood Turtle, all State Special Concern species afforded protection under the Connecticut Endangered Species Act, are known to occur within the vicinity of the site. The following protective measures satisfy requirements from the Connecticut Department of Energy & Environmental Protection ("CTDEEP") Wildlife Division and follow protocols developed from previous rare species consultations and state-approved protection plans. This protection plan is valid for one year from the date of CTDEEP's letter, at which point if construction has not been initiated a new Natural Diversity Data Base review request from CTDEEP is required.

It is of the utmost importance that the Contractor complies with the requirement for implementation of these protective measures and the education of its employees and subcontractors performing work on the project site. The rare species protection plan shall be implemented if work will occur during the salamander's and turtles' active periods (March 1 to November 15). All-Points Technology Corporation, P.C. ("APT") will serve as the Environmental Monitor for this project to ensure that these protection measures are implemented properly and will provide an education session on rare species that may be encountered and the project's proximity to sensitive wildlife habitat resources prior to the start of construction activities. The Contractor shall contact Dean Gustafson, Senior Environmental Scientist at APT, at least 5 business days prior to the pre-construction meeting. Mr. Gustafson can be reached by phone at (860) 663-1697 ext. 201 or via email at dgustafson@allpointstech.com.

The proposed protection program consists of several components: education of all contractors and sub-contractors prior to initiation of work on the site; protective measures; periodic inspection of the construction project; and, reporting.

1. **Salamander Tree Clearing Restriction**

    a. In order to minimize impacts on salamanders, tree clearing shall occur between November 15th through February 1st.

    b. If tree clearing is not performed during the November 15th through February 1st period, sweeps of the entire construction area shall be performed by the Environmental Monitor during the morning prior to each day's tree clearing activities. Salamander sweeps shall be performed on a daily basis until tree clearing activities have been completed.

2. **Isolation Measures & Sedimentation and Erosion Controls**

    a. Plastic netting used in a variety of erosion control products (i.e., erosion control blankets, fiber rolls [wattles], reinforced silt fence) has been found to entangle wildlife, including reptiles, amphibians, birds and small mammals, but particularly snakes. No permanent erosion control products or reinforced silt fence will be used on the SolarCity Corporation project. Temporary erosion control products will use either erosion control blankets and fiber rolls composed of processed fibers mechanically bound together to form a continuous matrix (netless) or netting composed of planar woven natural biodegradable fiber to avoid/minimize wildlife entanglement.

    b. Installation of sedimentation and erosion controls, required for erosion control compliance and creation of a barrier to possible migrating/dispersing salamanders and turtles, shall be performed by the Contractor following clearing activities and prior to any earthwork. The Environmental Monitor will inspect the work zone area prior to and following erosion control barrier installation to ensure the area is free of salamanders and turtles and document barriers have been satisfactorily installed.

The intent of the barrier is to segregate the majority of the work zone and isolate it from foraging/migrating/dispersing salamanders, turtles, snakes and other herpetofauna. Oftentimes complete isolation of a work zone is not feasible due to accessibility needs and locations of staging/material storage areas, etc. If complete isolation of the work zone is not practical, they will be positioned to deflect migrating/dispersal routes away from the work zone to minimize potential encounters with salamanders, turtles, snakes and other herpetofauna.

c. The Contractor is responsible for daily inspections of the sedimentation and erosion controls for tears or breeches and accumulation levels of sediment, particularly following storm events that generate a discharge. APT will provide periodic inspections of the sedimentation and erosion controls throughout the duration of construction activities only as it pertains to protection of rare species. Third party monitoring of sedimentation and erosion controls will be performed by other parties, as necessary, under applicable local, state and/or federal regulations.

d. The extent of the sedimentation and erosion controls will be as shown on the site plans. The Contractor shall have additional sedimentation and erosion controls stockpiled on site should field or construction conditions warrant extending the controls as directed by APT.

e. No equipment, vehicles or construction materials shall be stored outside of the sedimentation and erosion controls within 100 feet of wetlands or watercourses.

f. All sedimentation and erosion controls shall be removed within 30 days of completion of work and permanent stabilization of site soils so that reptile and amphibian movement between uplands and wetlands is not restricted.

3. Contractor Education

a. Prior to work on site, the Contractor shall attend an educational session at the pre-construction meeting with APT. This orientation and educational session will consist of an introductory meeting with APT providing photos of Blue-spotted Salamander Complex, Spotted Turtle and Wood Turtle emphasizing the non-aggressive nature of these species, the absence of need to destroy animals that might be encountered and the need to follow Protective Measures as described in Section 5 below. Workers will also be provided information regarding the identification of other salamanders, turtles, snakes and common herpetofauna species that could be encountered.

b. The education session will also focus on means to discriminate between the species of concern and other native species to avoid unnecessary “false alarms”. Encounters with any species of salamanders, turtles or snakes will be documented.

c. The Contractor will be provided with cell phone and email contacts for the APT Environmental Monitor to immediately report any encounters with Blue-spotted Salamander Complex, Spotted Turtle and Wood Turtle. Educational poster materials will be provided by APT and displayed on the job site to maintain worker awareness as the project progresses.

4. Petroleum Materials Storage and Spill Prevention

a. Certain precautions are necessary to store petroleum materials, refuel and contain and properly clean up any inadvertent fuel or petroleum (i.e., oil, hydraulic fluid, etc.) spill to avoid possible impact to nearby habitats.

b. A spill containment kit consisting of a sufficient supply of absorbent pads and absorbent material will be maintained by the Contractor at the construction site throughout the duration of the project. In addition, a waste drum will be kept on site to contain any used absorbent pads/material for proper and timely disposal off site in accordance with applicable local, state and federal laws.

c. The following petroleum and hazardous materials storage and refueling restrictions and spill response procedures will be adhered to by the Contractor.

i. Petroleum and Hazardous Materials Storage and Refueling

1. Refueling of vehicles or machinery shall occur a minimum of 100 feet from wetlands or watercourses and shall take place on an impervious pad with secondary containment designed to contain fuels.

2. Any fuel or hazardous materials that must be kept on site shall be stored on an impervious surface utilizing secondary containment a minimum of 100 feet from wetlands or watercourses.

ii. Initial Spill Response Procedures

1. Stop operations and shut off equipment.

2. Remove any sources of spark or flame.

3. Contain the source of the spill.

4. Determine the approximate volume of the spill.

5. Identify the location of natural flow paths to prevent the release of the spill to sensitive nearby waterways or wetlands.

6. Ensure that fellow workers are notified of the spill.

iii. Spill Clean Up & Containment

1. Obtain spill response materials from the on-site spill response kit. Place absorbent materials directly on the release area.

2. Limit the spread of the spill by placing absorbent materials around the perimeter of the spill.

3. Isolate and eliminate the spill source.

4. Contact the appropriate local, state and/or federal agencies, as necessary.

5. Contact a disposal company to properly dispose of contaminated materials.

iv. Reporting

1. Complete an incident report.

2. Submit a completed incident report to the Town of Cheshire.

5. Rare Species Protective Measures

a. Prior to the start of construction each day, the Contractor shall search the entire work area for salamanders and turtles.

b. If a salamander or turtle is found, it shall be immediately moved, unharmed, and placed just outside of the isolation barrier in the same approximate direction it was

heading. Turtles should be handled by carefully grasped in both hands, one on each side of the shell, between the turtle's forelimbs and the hind limbs. Salamanders have soft, delicate skin and should be handled gently with a clean damp plastic bag or clean wet hands.

c. Special care shall be taken by the Contractor during early morning and evening hours so that possible basking or foraging turtles are not harmed by construction activities.

6. Herbicide and Pesticide Restrictions

a. The use of herbicides and pesticides at the proposed solar facility shall be avoided when possible. In the event herbicides and/or pesticides are required at the proposed facility, their use will be used in accordance with Integrated Pest Management ("IPM") principles with particular attention to minimize applications within 100 feet of wetland or watercourse resources. No applications of herbicides or pesticides are allowed within actual wetland or watercourse resources.

7. Reporting

a. Daily Compliance Monitoring Reports (brief narrative and applicable photos) documenting each APT inspection will be submitted by APT to SolarCity Corporation for compliance verification. Any observations of salamanders or turtles will be included in the reports.

b. Following completion of the construction project, APT will provide a Compliance Monitoring Summary Report to SolarCity Corporation documenting implementation of the rare species protection program, monitoring and any species observations. SolarCity Corporation will provide a copy of the Compliance Monitoring Summary Report to the Connecticut Siting Council for compliance verification.

c. Any observations of Blue-spotted Salamander Complex, Spotted Turtle and Wood Turtle will be reported to CTDEEP by APT, with photo-documentation (if possible) and with specific information on the location and disposition of the animal.

Smooth Green Snake Habitat Enhancement: Cover Board Guidelines

1. Cover boards shall be installed around SP-1 and SP-3 as shown on the site plans to provide habitat for smooth green snake during this species seasonal active period (May through November).

2. Cover boards shall consist of either exterior-grade plywood (4' x 8' sheets) or corrugated roofing/siding panels of similar size.

3. The label "snake cover board – do not remove or disturb" shall be painted on the top side of each board.

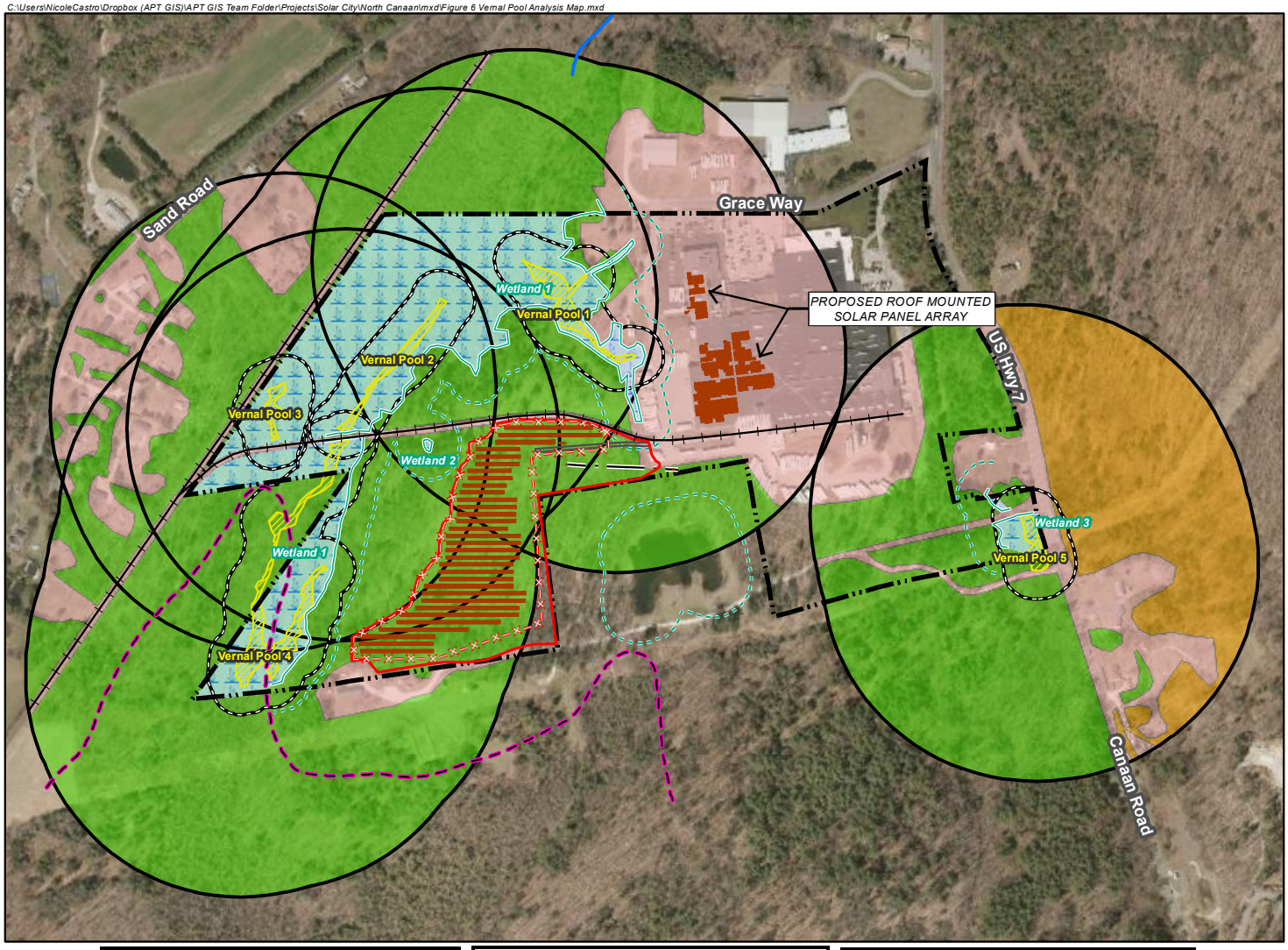
4. Cover boards shall remain in place from May through October, but can be left in place throughout the fall and winter if needed.

5. Areas where cover boards are located shall be mowed no more than once per season.

6. If mowing occurs between May and October, the cover boards shall be removed a minimum of one day prior to mowing and reset once all mowing has been completed.

Attachment 4
Vernal Pool Analysis Map

C:\Users\NicoleCastro\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Solar City\North Canaan\mxd\Figure 6 Vernal Pool Analysis Map.mxd



Vernal Pool 1
100' Vernal Pool Envelope: ±4.24 acres
100'-750' Critical Terrestrial Habitat Area: ±58 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±1.08 acres	25%
Undeveloped	±3.16 acres	75%
Existing Critical Terrestrial Habitat Areas:		
Developed	±21 acres	36%
Undeveloped	±37 acres	64%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±25.6 acres	44%
Undeveloped	±32.4 acres	56%

Vernal Pool 2
100' Vernal Pool Envelope: ±4 acres
100'-750' Critical Terrestrial Habitat Area: ±58 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.2 acres	5%
Undeveloped	± 3.8 acres	95%
Existing Critical Terrestrial Habitat Areas:		
Developed	±8 acres	14%
Undeveloped	±50 acres	86%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±13.7 acres	24%
Undeveloped	±44.3 acres	76%

Vernal Pool 3
100' Vernal Pool Envelope: ±2 acres
100'-750' Critical Terrestrial Habitat Area: ±47 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.2 acres	10%
Undeveloped	±1.8 acres	90%
Existing Critical Terrestrial Habitat Areas:		
Developed	±10.7 acres	23%
Undeveloped	±36.3 acres	77%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±11.7 acres	25%
Undeveloped	±35.3 acres	75%

Vernal Pool 4
100' Vernal Pool Envelope: ±8.2 acres
100'-750' Critical Terrestrial Habitat Area: ±71 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.2 acres	2%
Undeveloped	±8 acres	97%
Existing Critical Terrestrial Habitat Areas:		
Developed	±8 acres	11%
Undeveloped	±63 acres	89%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±15.8 acres	22%
Undeveloped	±55.2 acres	78%

Vernal Pool 5
100' Vernal Pool Envelope: ±2.08 acres
100'-750' Critical Terrestrial Habitat Area: ±47 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.77 acres	37%
Undeveloped	±1.16 acres	56%
Restricted Habitat	±0.15 acres	7%
No Impact to Existing Critical Terrestrial Habitat Areas:		
Developed	±10.2 acres	22%
Undeveloped	±20.5 acres	43%
Restricted Habitat	±16.3 acres	35%

Legend

- Site Boundary
- Project Area /limit of disturbance (±9.9 acres)
- Ground-mounted Fenced Facility (+/- 7.4 acres)
- Proposed Solar Module Equipment
- Proposed Overhead Wire
- Proposed Gravel Access Road
- Railroad
- CTDEEP Watercourse
- FEMA 100-Year Flood Line
- Wetland Boundary
- 100' Wetland Buffer
- Wetland Area (within Site Boundary)
- Vernal Pool
- 100' Vernal Pool Envelope
- 100'-750' Critical Terrestrial Habitat Area

Habitat Type

- Developed
- Undeveloped
- Restricted Habitat

Map Notes:
Base Map Source: 2016 Aerial Photograph (CTECO)
Map Scale: 1 inch = 600 feet
Map Date: November 2017

600 300 0 600 Feet

Vernal Pool Analysis Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

Stormwater Management Report

SOLAR PANEL FACILITY
Becton, Dickinson, & Co.
North Canaan, Connecticut

7 Grace Way
North Canaan, Connecticut

Prepared for Submission to:
The Connecticut Siting Council

Submission Date: February 2016
Revision Date: April 2016
June 2016
November 2017

Prepared by:
All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, Connecticut 06450
Phone: (860) 663-1697 Fax: (860) 663-0935

Commissioned by:
DG Connecticut Solar, LLC
700 Universe Blvd, C1A/JB
West Palm Beach, FL 33408

Table of Contents

Appendices

Existing Site Conditions

General Site Information

DG Connecticut Solar, LLC is proposing to develop a new Solar Panel Facility on property owned by Becton, Dickinson, & CO. at 7 Grace Way in North Canaan, Connecticut (see Appendix A). The existing 77.13± acre site consists of a 361,340± S.F. manufacturing facility with associated parking areas. The remainder of the site consists of wooded and wetland areas. The zoning designation of the lot is I-Zone (Industrial Zone). The existing lot abuts a warehouse facility to the north, South Canaan Street (Route 7) to the east, a CTDOT owned railroad to the west, and a private sportsman club to the south. An electrical transmission line right of way is located to the south of the property. The subject site is located within Zone X and Zone A designated flood rate area (see Appendix B).

The proposed site consists of a development area in the southwest corner of the property. The development area is approximately 9.92± acres, currently woodland. A second Solar Panel Array is proposed on the roof of the existing building; however, this area will have no effect on the stormwater management of the site, and is omitted from this report.

There are multiple existing wetland systems located throughout the site. There is a large wetland system located to the west and north of the southwestern development area, an off-site existing pond located between the two development areas, and a wetland system located to the east the southeastern development area.

Existing Soils

The two site development areas are underlain by two soil types: Deerfield Loamy fine sand, 0-3 percent slopes; and Hinckley loamy sand, 0-3 percent slopes. Both soils are classified as Hydrological Soil Group A (HSG ”A”). See the NRCS Soil Survey located in Appendix C.

Existing Drainage

The site is broken up into 3 drainage areas. The southwestern development area consists of Existing Drainage Area #1 (EDA-1), Existing Drainage Area (EDA-2), and Existing Drainage Area #3 (EDA-3). EDA-1 consists of woodland area and drains overland to the existing wetland area to the west of the site. EDA-2 consists of woodland area which drains to the south. EDA-3 consists of woodland, grass, and dirt and paved parking areas. EDA- 3 drains overland to an existing grass swale and discharges to the north through a 27”x40” elliptical RCP into an existing wetland system.

A small portion of the western edge of the property (1.34± acres) resides within a FEMA Flood Zone A, per Flood Insurance Rate Map, # 0901490014C, Panel 14, however the proposed development area does not reside within a FEMA Flood Zone. (See Appendix B).

The three existing drainage areas drain to three separate points of analysis. These three points of analysis are identified in the computations as AP-1 through AP-3. See Appendix D for the Existing Drainage Area Map (EDA-1) and the existing hydrology computations.

Proposed Site Conditions

General Development Information

The proposed development includes the installation of 4,680 ground mounted solar panels with associated equipment and gravel access drives. The area to be developed is currently woodland areas and are proposed to be cleared to accommodate the solar panel arrays. All cleared areas will be loamed, seeded, and mulched. A proposed chain link fence is proposed around the perimeter of the solar panel array. A 12' wide gravel access drive is proposed to the concrete equipment pad. Access to the solar panel array is from the existing dirt and paved parking area located just south of the existing building.

Proposed Drainage

The proposed development activities have been designed to mimic the existing drainage patterns and to reduce pre-development peak discharge rates. To offset the increase in peak discharge rates associated with clearing of the existing wooded areas, infiltration basins are proposed at each drainage area. The intent of the basins is to capture and infiltrate the runoff. The proposed drainage areas will discharge to the three points of analysis as they do in existing conditions. See Appendix E for the Proposed Drainage Area Map (PDA-1) and hydrologic computations.

The proposed development activity splits EDA-1 into 2 sub-drainage areas, PDA-1A and PDA-1B. PDA-1A is the undeveloped wooded area which will largely remain undisturbed, with approximately 1.31± acres of clearing for the proposed solar panels and associated equipment. PDA-1B consists of the southwestern development area with the proposed solar panels and associated equipment. PDA-1B drains to a 5' wide by 1' deep grass lined infiltration basin which runs along the western perimeter of the proposed development.

The proposed development activity splits EDA-2 into 2 sub-drainage areas, PDA-2A and PDA-2B. PDA-2A includes a portion of the southwestern development area and the undeveloped wooded area which will remain undisturbed. PDA-2B consists of a portion of the proposed southwestern development area and drains to a 5' wide by 1' deep grass lined infiltration basin which runs along the southern perimeter of the proposed southwestern development area.

PDA-3 consists of the northeastern development area. The proposed development area drains overland to a proposed infiltration basin located in the area of an existing grass swale. The basin will primarily discharge via an existing 27"x40" elliptical concrete pipe.

The three proposed drainage areas drain to the same three points of analysis discussed previously (AP-1 – AP-3). See Appendix E for the Proposed Drainage Area Map (PDA-1).

Stormwater Management

With the exception of PDA-3, each of the infiltration basins have been designed to allow for infiltration of runoff as the primary source of discharge. Utilizing the proposed Best Management Practices (BMPs) for infiltration purposes allows for reductions in both peak flow rates and volume at each analysis point for all major storm events analyzed.

Peak runoff rates and runoff volumes have been computed using the HydroCAD computer program by HydroCAD Software Solutions, LLC. This program uses TR-55 and TR-20 methodology to compute stormwater runoff. Rainfall data utilized in the modeling and analysis was taken from the 2004 Connecticut Stormwater Quality Manual. See Appendix E for the Proposed Drainage Area Map (PDA-1) and the proposed hydrology computations.

The NRCS soil survey indicates that the site is underlain soils classified as HSG “A”. An infiltration rate of 3 in/hr was used in the calculations based on prior experience with similar soils to those located within the project area.

The following tables outline the existing and proposed peak flow rates at each analysis point for all major storm events:

Storm Event	AP-1			AP-2			AP-3		
	Peak Rate (CFS)		Change (CFS)	Peak Rate (CFS)		Change (CFS)	Peak Rate (CFS)		Change (CFS)
	Existing	Proposed		Existing	Proposed		Existing	Proposed	
2-Year	0.00	0.00	0.00	0.00	0.00	0.00	1.53	1.05	-0.48
10-Year	0.13	0.11	-0.02	0.06	0.05	-0.01	4.59	4.50	-0.09
25-Year	0.37	0.29	-0.08	0.16	0.13	-0.03	6.54	6.50	-0.04
50-Year	0.74	0.61	-0.13	0.32	0.26	-0.06	8.37	8.33	-0.04
100-Year	1.41	1.17	-0.24	0.62	0.49	-0.13	10.56	10.51	-0.05

As shown above, the proposed stormwater BMPs will match or reduce peak runoff rates at all points of analysis.

Water Quality

The 2004 Connecticut Stormwater Quality Manual recommends treating the Water Quality Volume (WQv) or Water Quality Flow (WQF) associated with the runoff from paved surfaces and other surfaces likely to transport sediment and other materials. The WQv is defined as the volume of runoff generated by the initial inch of rain during storm events, while the WQF is the peak flow associated with the water quality volume.

As noted above, the proposed method of treatment for the WQv is the implementation of infiltration basins to remove the sediments from the runoff while allowing for groundwater infiltration. The proposed infiltration basins have been designed to treat over three times the required WQv for the site and allow the majority of the runoff to infiltrate into the ground and filter out sediments. See Appendix F for the WQv calculations.

Conclusion

As shown herein, the proposed solar field development has been designed per the 2004 Connecticut Water Quality Manual requirements. The proposed infiltration basins will reduce peak runoff flow rates for all major storm events and also treat the runoff. As a result, the proposed development will not have any adverse conditions to the surrounding areas and properties.

APPENDIX A

USGS Quadrangle Map

ALL-POINTS
TECHNOLOGY CORPORATION

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KILLINGWORTH, CT 06419
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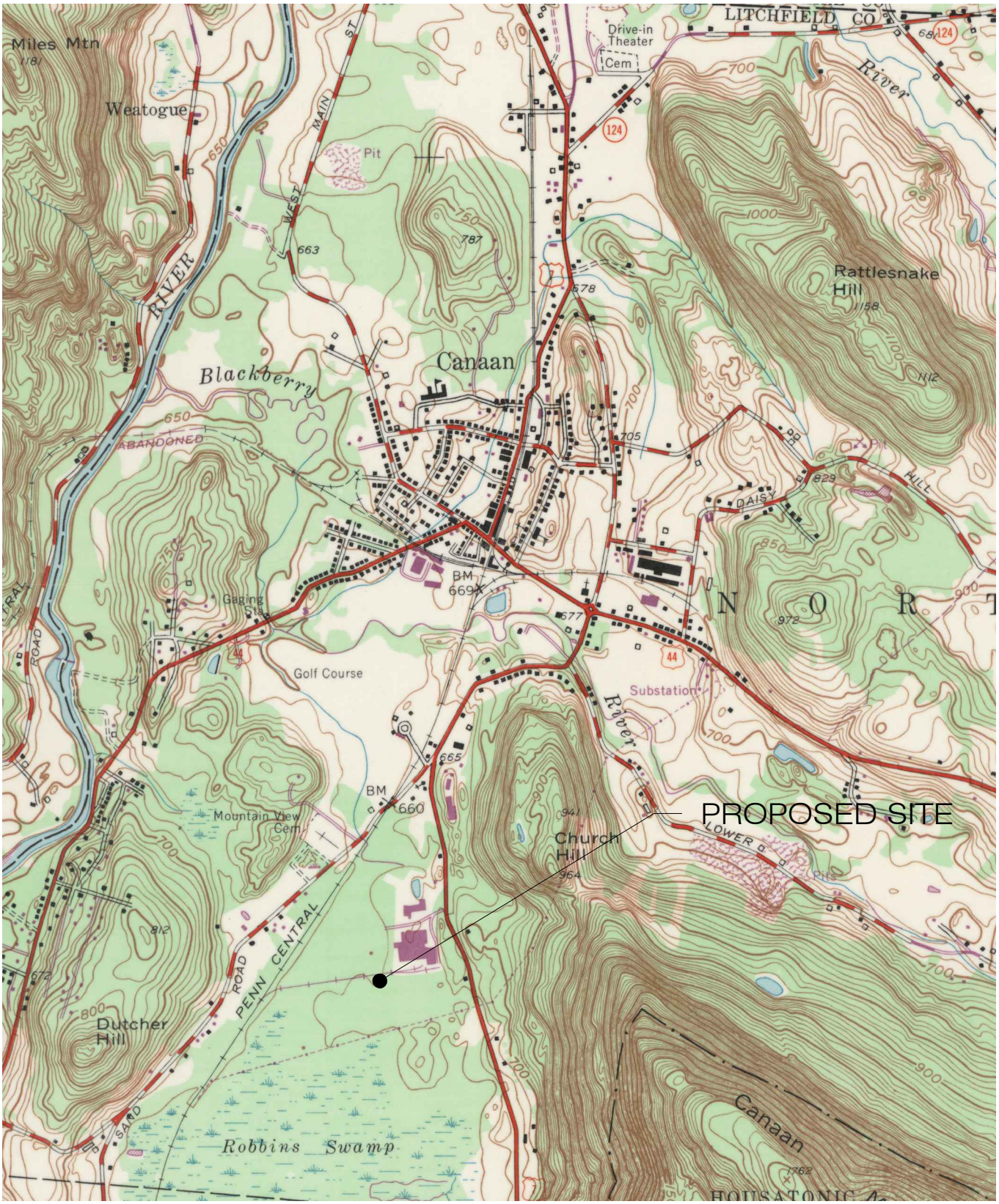
PHONE: (860) 663-1697
FAX: (860) 663-0935

APT FILING NUMBER: CT-530-100		PROPOSED SOLAR PANEL FACILITY
USGS QUADRANGLE MAP		
SCALE: AS NOTED	DRAWN BY: ELZ	7 GRACE WAY NORTH CANAAN, CT 06018
DATE: 11/16/17	CHECKED BY: BJP	

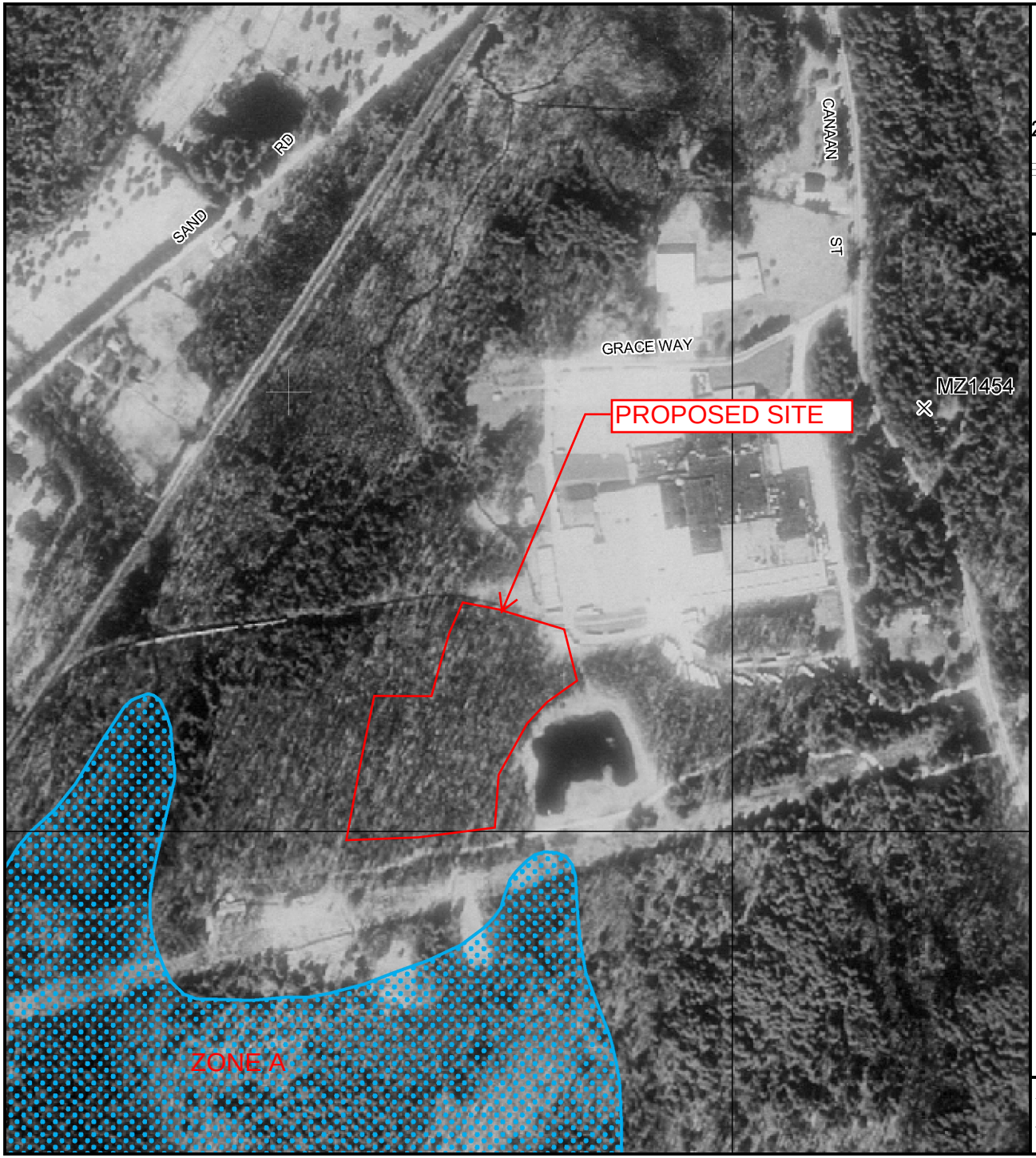


USGS QUADRANGLE MAP

SCALE : 1" = 2000'-0"

APPENDIX B

FEMA FIRM Map



MAP SCALE 1" = 500'

250 0 500 1000 FEET

0 150 200 METE

NFIP

PANEL 0014C

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF

NORTH CANAAN, CONNECTICUT

LITCHFIELD COUNTY

PANEL 14 OF 100

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
NORTH CANAAN, TOWN OF	090149	0014	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
0901490014C

MAP REVISED
JANUARY 2, 2008

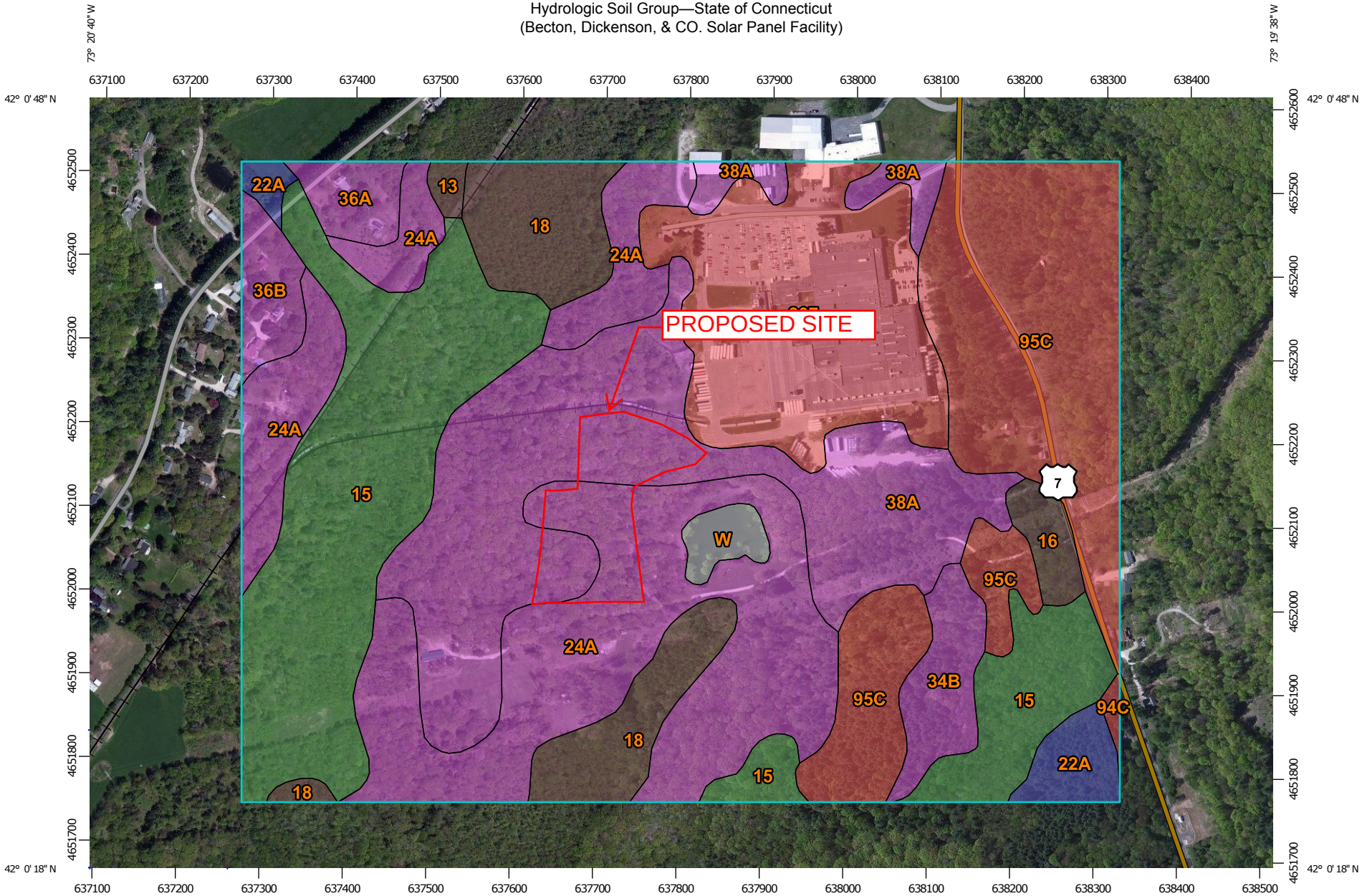
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX C

NRCS Soil Survey

Hydrologic Soil Group—State of Connecticut
(Becton, Dickenson, & CO. Solar Panel Facility)



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: http://websoilsurvey.nrcs.usda.gov
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 14, Sep 22, 2015

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

Date(s) aerial images were photographed: Jun 19, 2010—May 12, 2011

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

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — State of Connecticut (CT600)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
13	Walpole sandy loam, 0 to 3 percent slopes	B/D	0.6	0.3%
15	Scarboro muck, 0 to 3 percent slopes	A/D	36.4	18.2%
16	Halsey silt loam	B/D	2.1	1.0%
18	Catden and Freetown soils, 0 to 2 percent slopes	B/D	12.6	6.3%
22A	Hero gravelly loam, 0 to 3 percent slopes	B	3.3	1.7%
24A	Deerfield loamy fine sand, 0 to 3 percent slopes	A	41.7	20.9%
34B	Merrimac fine sandy loam, 3 to 8 percent slopes	A	4.4	2.2%
36A	Windsor loamy sand, 0 to 3 percent slopes	A	2.6	1.3%
36B	Windsor loamy sand, 3 to 8 percent slopes	A	3.1	1.6%
38A	Hinckley loamy sand, 0 to 3 percent slopes	A	36.7	18.3%
94C	Farmington-Nellis complex, 3 to 15 percent slopes, very rocky	D	0.3	0.2%
95C	Farmington-Rock outcrop complex, 3 to 15 percent slopes	D	31.5	15.7%
307	Urban land	D	22.9	11.5%
W	Water		1.7	0.8%
Totals for Area of Interest			**200.0**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

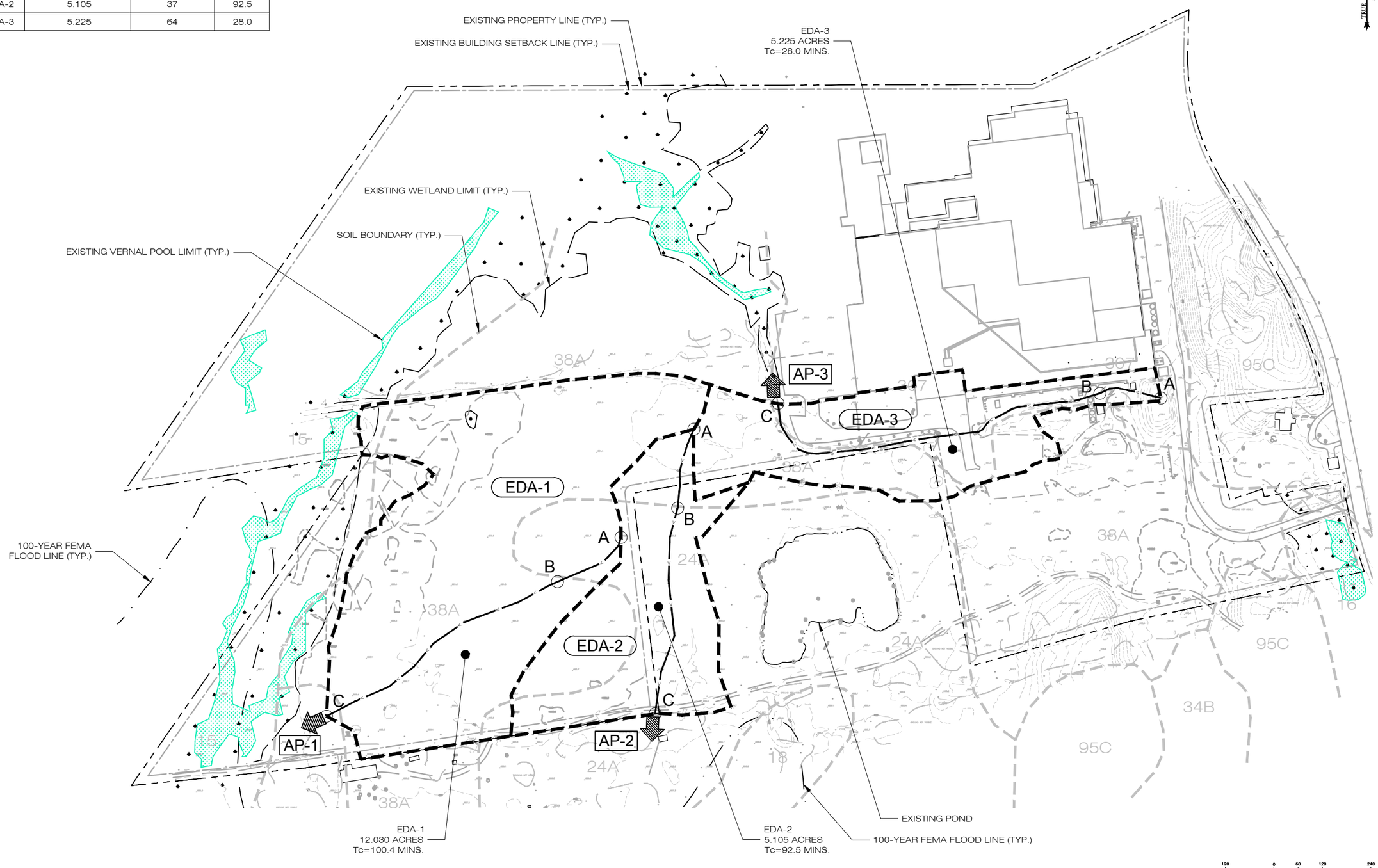
Tie-break Rule: Higher

APPENDIX D

Existing Drainage Area Map (EDA-1) &
Hydrologic Computations (HydroCAD)

EXISTING DRAINAGE AREAS

	TOTAL AREA (ACRES)	COMPOSITE CN	TC (MINS.)
EDA-1	12.030	37	100.4
EDA-2	5.105	37	92.5
EDA-3	5.225	64	28.0



TRUE N

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

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PUREPOWER ENGINEERING

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HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC

NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON &
ADDRESS: COMPANY
1 BECTON DR.
FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

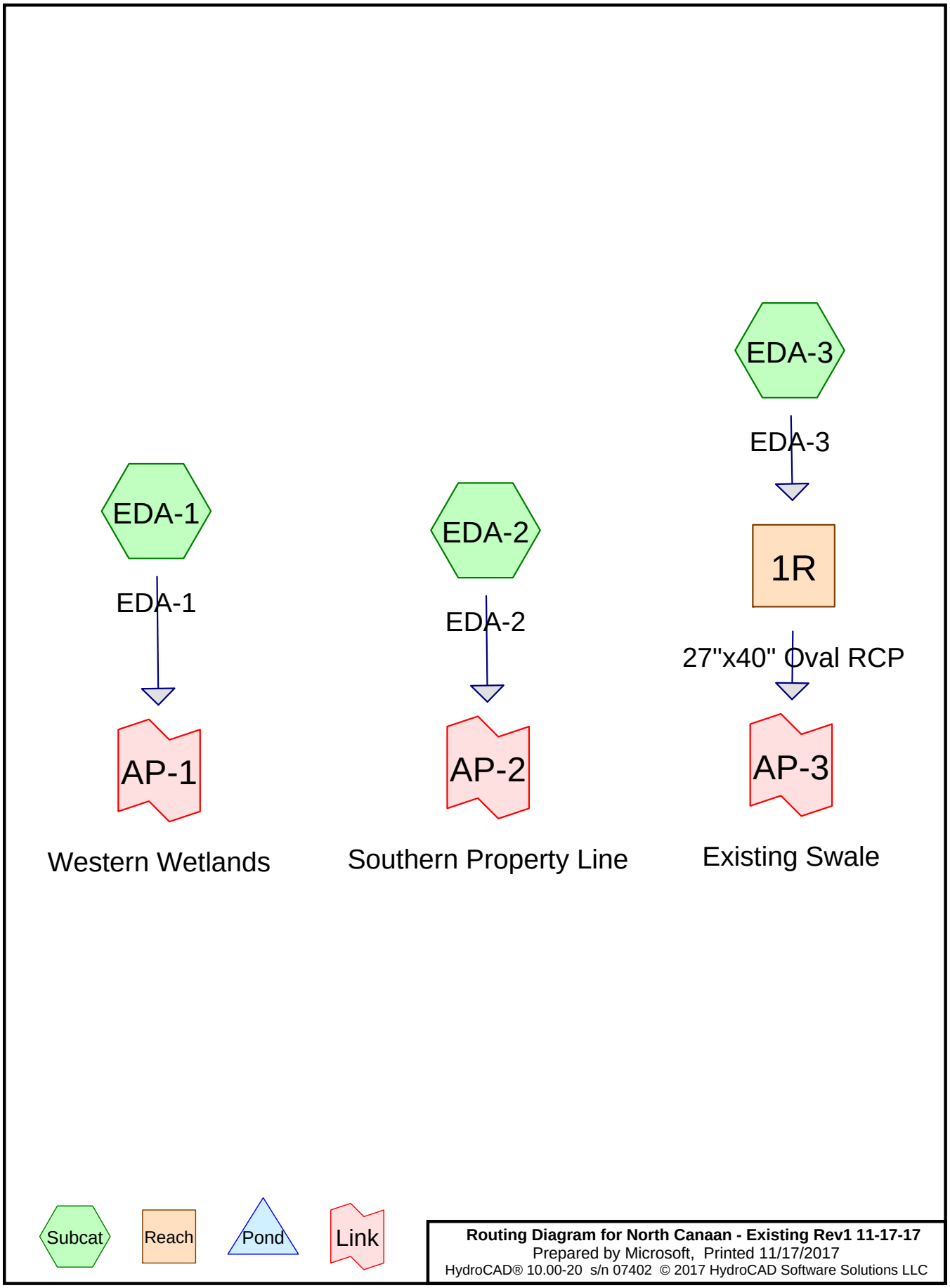
DRAWN BY: ELZ
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:

EXISTING DRAINAGE AREA MAP

SHEET NUMBER:

EDA-1



Routing Diagram for North Canaan - Existing Rev1 11-17-17
Prepared by Microsoft, Printed 11/17/2017

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.425	39	>75% Grass cover, Good, HSG A (EDA-1, EDA-2, EDA-3)
1.486	80	>75% Grass cover, Good, HSG D (EDA-1, EDA-3)
0.419	72	Dirt roads, HSG A (EDA-1, EDA-2, EDA-3)
0.378	89	Dirt roads, HSG D (EDA-3)
0.772	98	Paved parking, HSG D (EDA-3)
17.650	36	Woods, Fair, HSG A (EDA-1, EDA-2, EDA-3)
0.230	79	Woods, Fair, HSG D (EDA-1, EDA-3)
22.360	**43**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1R	660.10	659.70	83.0	0.0048	0.011	40.0	27.0	0.0

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 EDA-1: EDA-1 Runoff Area=12.030 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=870' Tc=100.4 min CN=37 Runoff=0.00 cfs 0.000 af

Subcatchment EDA-2: EDA-2 Runoff Area=5.105 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=719' Tc=92.5 min CN=37 Runoff=0.00 cfs 0.000 af

Subcatchment EDA-3: EDA-3 Runoff Area=5.225 ac 14.78% Impervious Runoff Depth=0.56"
Flow Length=1,059' Tc=28.0 min CN=64 Runoff=1.53 cfs 0.243 af

Reach 1R: 27"x40" Oval RCP Avg. Flow Depth=0.31' Max Vel=3.17 fps Inflow=1.53 cfs 0.243 af
40.0" x 27.0" Ellipse Pipe n=0.011 L=83.0' S=0.0048 '/' Capacity=42.10 cfs Outflow=1.53 cfs 0.243 af

Link AP-1: Western Wetlands Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP-2: Southern Property Line Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP-3: Existing Swale Inflow=1.53 cfs 0.243 af
Primary=1.53 cfs 0.243 af

Total Runoff Area = 22.360 ac Runoff Volume = 0.243 af Average Runoff Depth = 0.13"
96.55% Pervious = 21.588 ac 3.45% Impervious = 0.772 ac

Summary for Subcatchment EDA-1: EDA-1

[45] Hint: Runoff=Zero

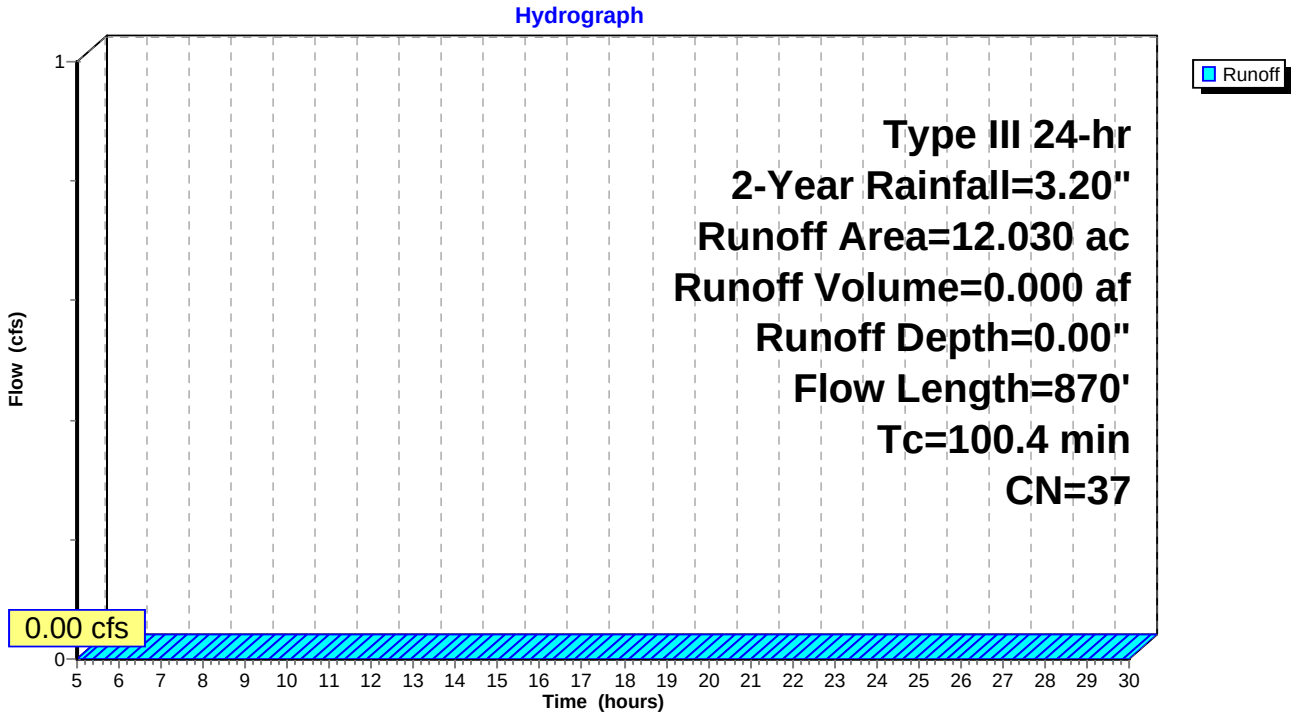
Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
0.775	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
11.000	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
12.030	37	Weighted Average
12.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
35.3	670	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
100.4	870	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

[45] Hint: Runoff=Zero

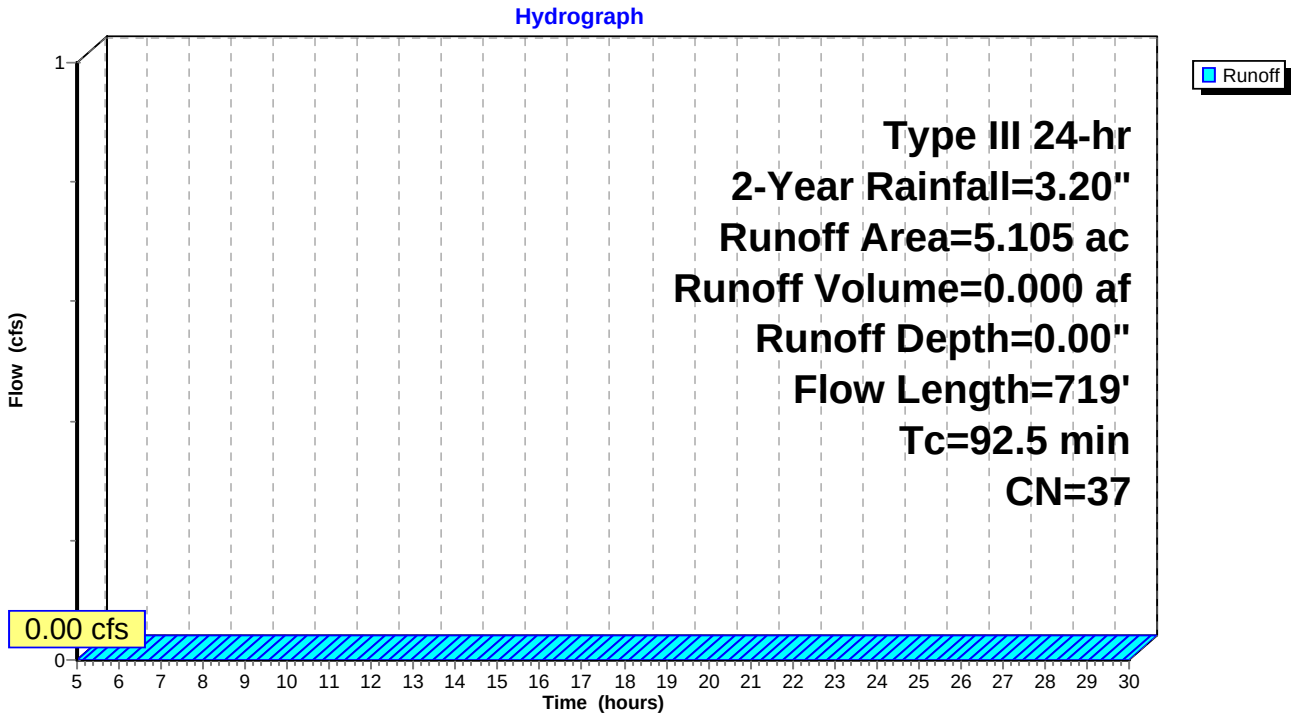
Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
4.900	36	Woods, Fair, HSG A
0.108	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
5.105	37	Weighted Average
5.105		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

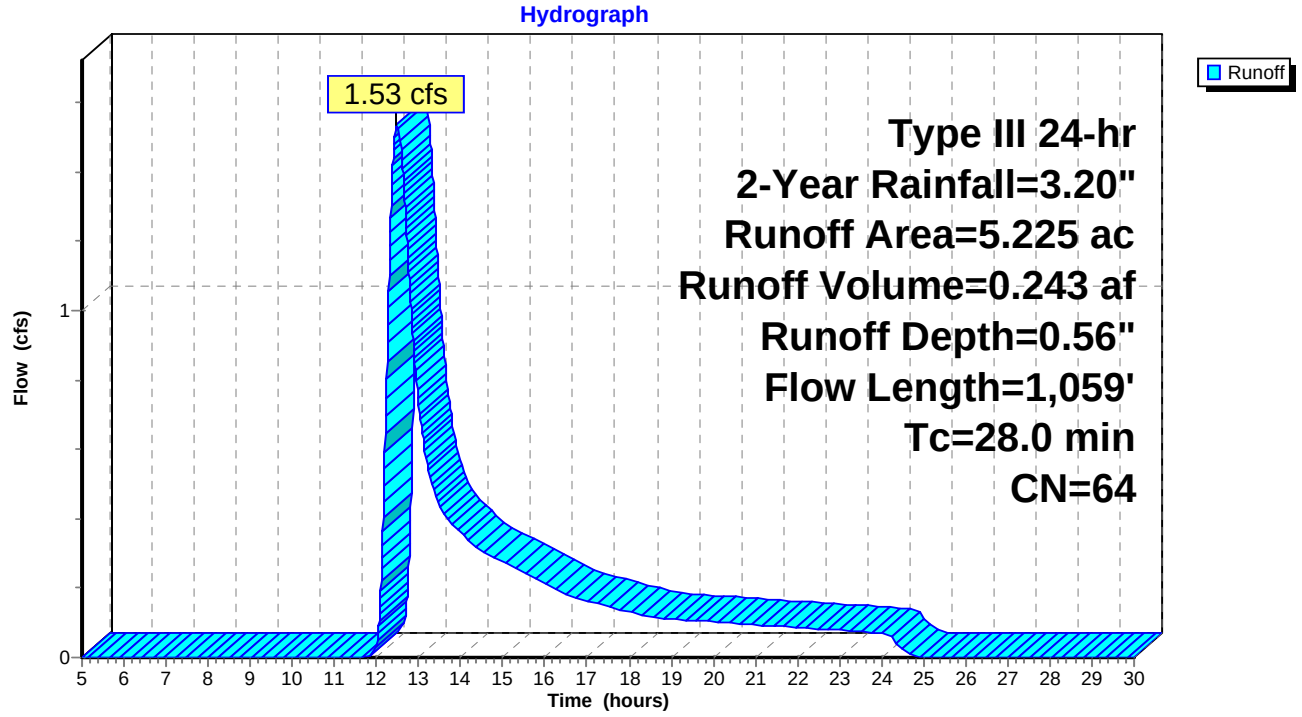
Runoff = 1.53 cfs @ 12.48 hrs, Volume= 0.243 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
0.542	39	>75% Grass cover, Good, HSG A
1.463	80	>75% Grass cover, Good, HSG D
1.750	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.772	98	Paved parking, HSG D
5.225	64	Weighted Average
4.453		85.22% Pervious Area
0.772		14.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment EDA-3: EDA-3



Summary for Reach 1R: 27"x40" Oval RCP

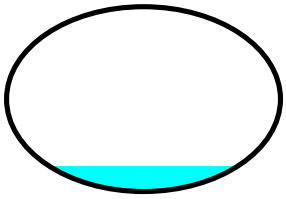
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 0.56" for 2-Year event
Inflow = 1.53 cfs @ 12.48 hrs, Volume= 0.243 af
Outflow = 1.53 cfs @ 12.50 hrs, Volume= 0.243 af, Atten= 0%, Lag= 1.0 min

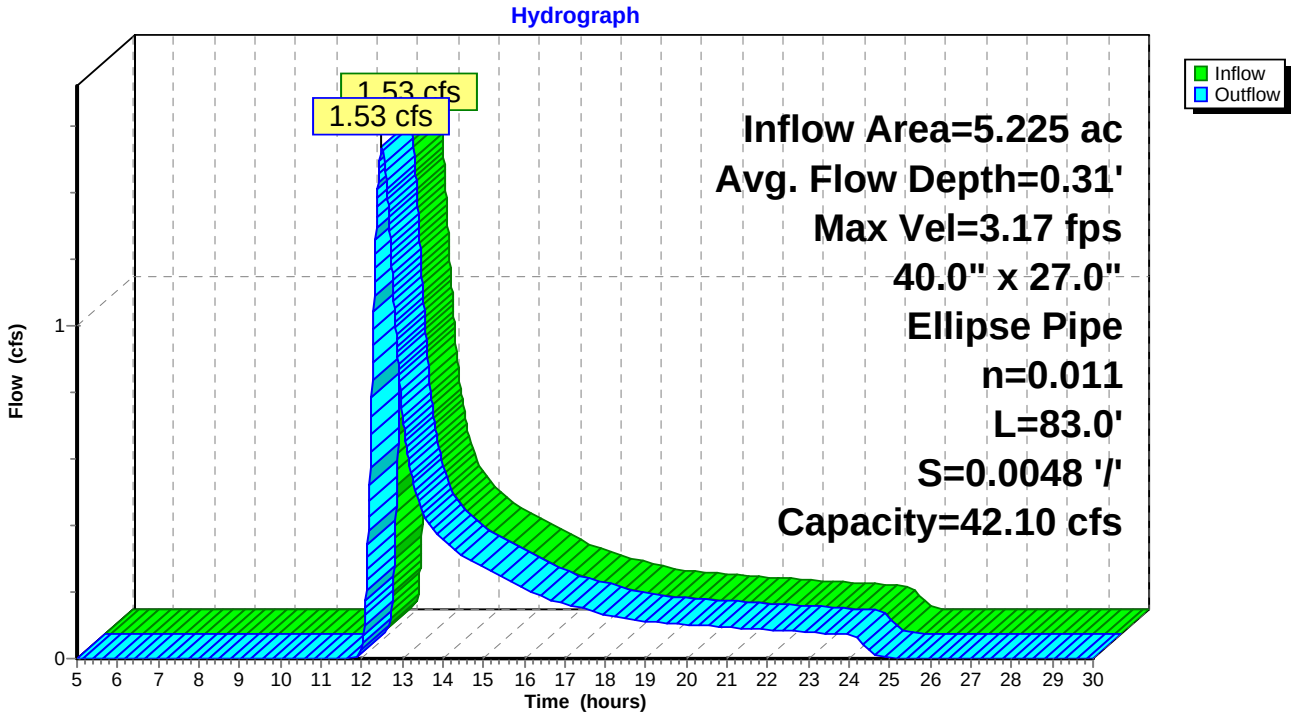
Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.17 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 0.9 min

Peak Storage= 40 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 2.25' Flow Area= 5.9 sf, Capacity= 42.10 cfs

40.0" W x 27.0" H Ellipse Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 83.0' Slope= 0.0048 '/'
Inlet Invert= 660.10', Outlet Invert= 659.70'



Reach 1R: 27"x40" Oval RCP

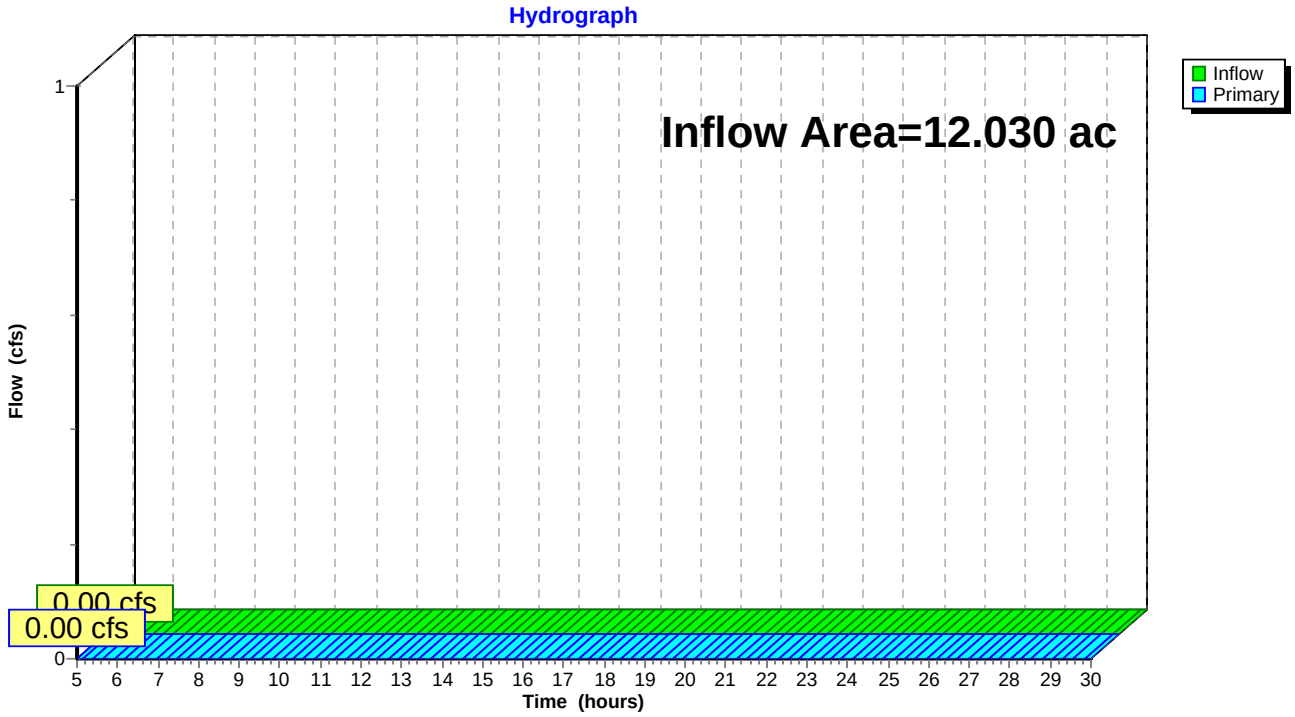


Summary for Link AP-1: Western Wetlands

Inflow Area = 12.030 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

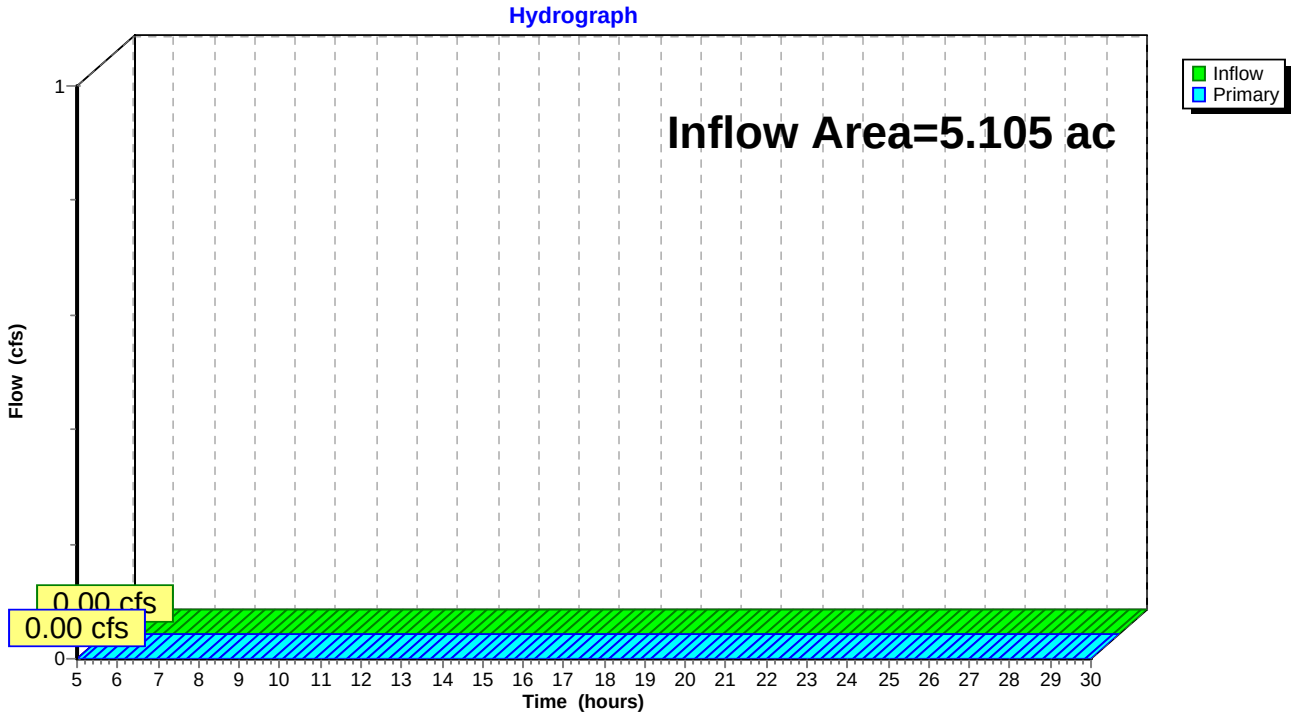


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.105 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

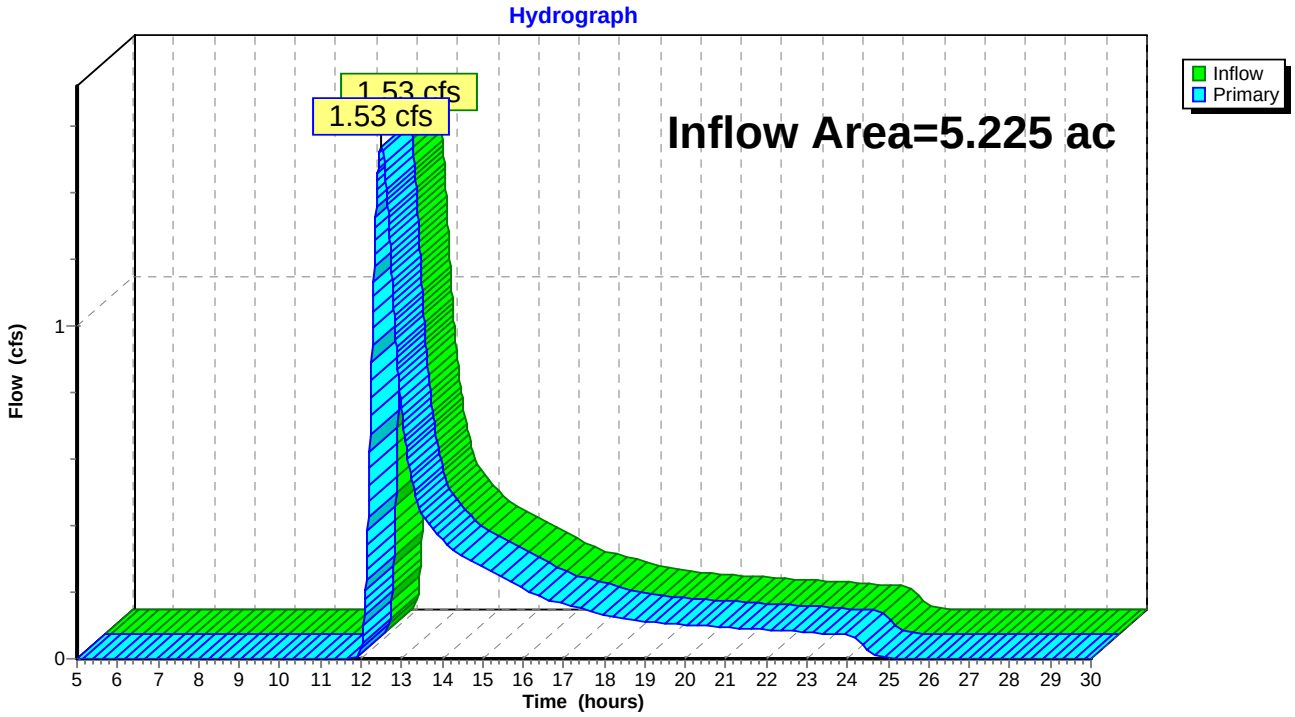


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 0.56" for 2-Year event
Inflow = 1.53 cfs @ 12.50 hrs, Volume= 0.243 af
Primary = 1.53 cfs @ 12.50 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 EDA-1: EDA-1 Runoff Area=12.030 ac 0.00% Impervious Runoff Depth=0.09"
Flow Length=870' Tc=100.4 min CN=37 Runoff=0.13 cfs 0.092 af

Subcatchment EDA-2: EDA-2 Runoff Area=5.105 ac 0.00% Impervious Runoff Depth=0.09"
Flow Length=719' Tc=92.5 min CN=37 Runoff=0.06 cfs 0.039 af

Subcatchment EDA-3: EDA-3 Runoff Area=5.225 ac 14.78% Impervious Runoff Depth=1.39"
Flow Length=1,059' Tc=28.0 min CN=64 Runoff=4.59 cfs 0.605 af

Reach 1R: 27"x40" Oval RCP Avg. Flow Depth=0.52' Max Vel=4.48 fps Inflow=4.59 cfs 0.605 af
40.0" x 27.0" Ellipse Pipe n=0.011 L=83.0' S=0.0048 '/' Capacity=42.10 cfs Outflow=4.59 cfs 0.605 af

Link AP-1: Western Wetlands Inflow=0.13 cfs 0.092 af
Primary=0.13 cfs 0.092 af

Link AP-2: Southern Property Line Inflow=0.06 cfs 0.039 af
Primary=0.06 cfs 0.039 af

Link AP-3: Existing Swale Inflow=4.59 cfs 0.605 af
Primary=4.59 cfs 0.605 af

Total Runoff Area = 22.360 ac Runoff Volume = 0.735 af Average Runoff Depth = 0.39"
96.55% Pervious = 21.588 ac 3.45% Impervious = 0.772 ac

Summary for Subcatchment EDA-1: EDA-1

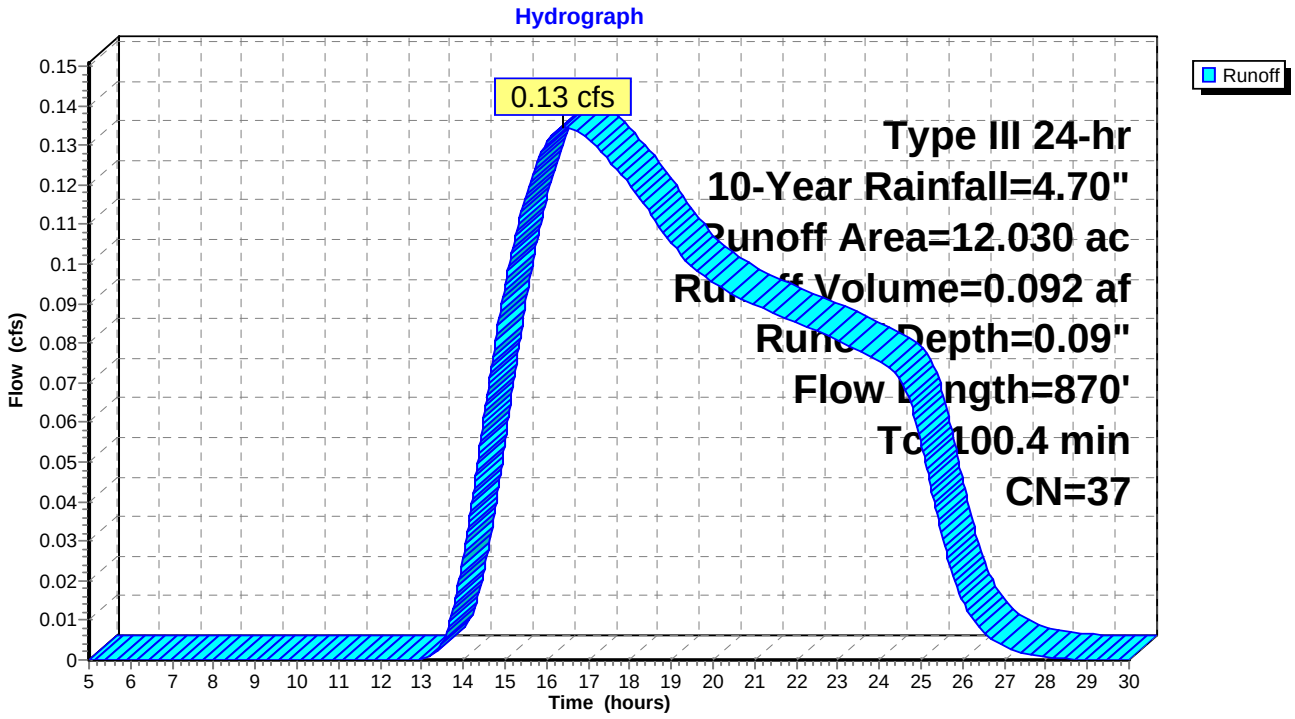
Runoff = 0.13 cfs @ 16.40 hrs, Volume= 0.092 af, Depth= 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.775	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
11.000	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
12.030	37	Weighted Average
12.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
35.3	670	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
100.4	870	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

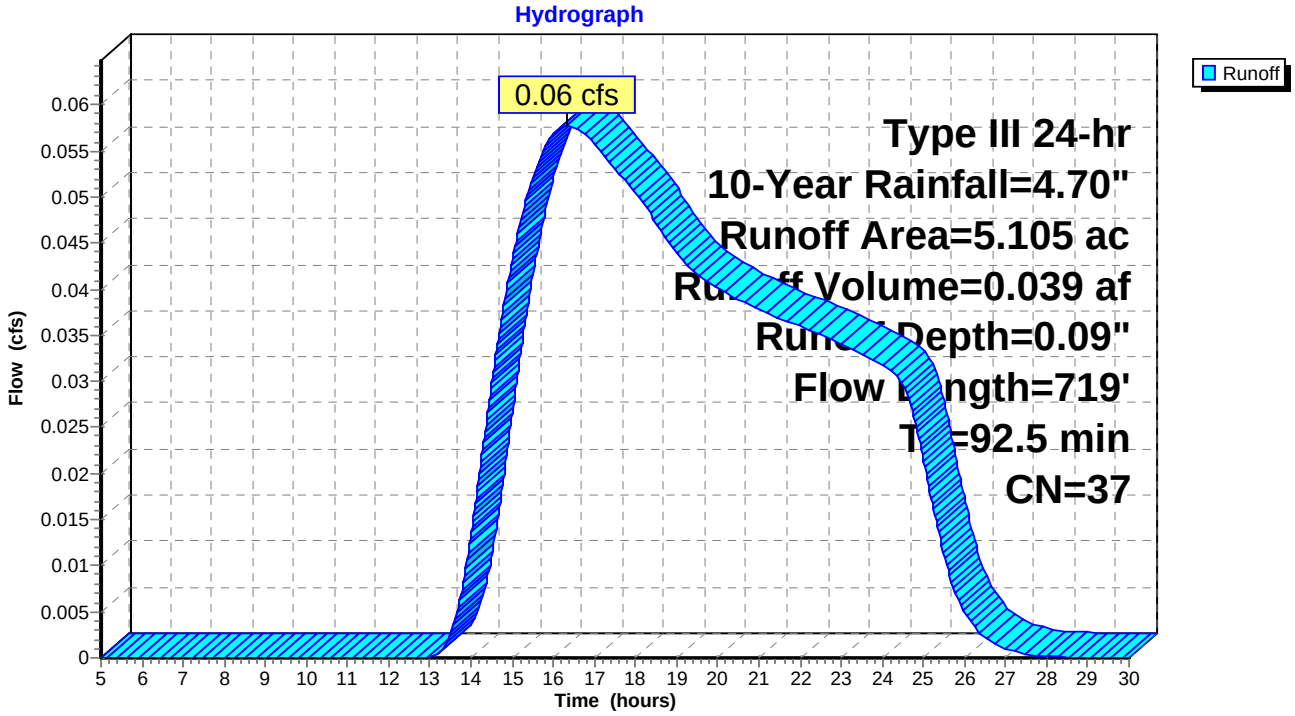
Runoff = 0.06 cfs @ 16.34 hrs, Volume= 0.039 af, Depth= 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
4.900	36	Woods, Fair, HSG A
0.108	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
5.105	37	Weighted Average
5.105		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

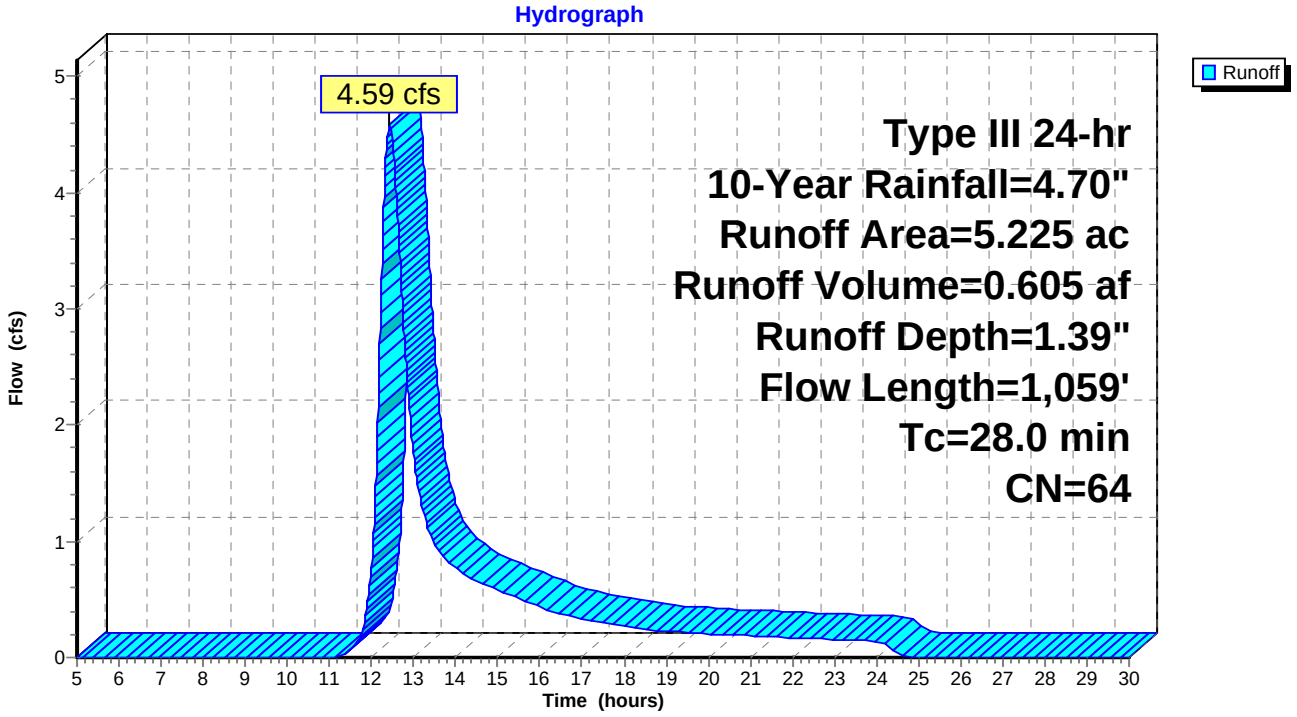
Runoff = 4.59 cfs @ 12.42 hrs, Volume= 0.605 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.542	39	>75% Grass cover, Good, HSG A
1.463	80	>75% Grass cover, Good, HSG D
1.750	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.772	98	Paved parking, HSG D
5.225	64	Weighted Average
4.453		85.22% Pervious Area
0.772		14.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment EDA-3: EDA-3



Summary for Reach 1R: 27"x40" Oval RCP

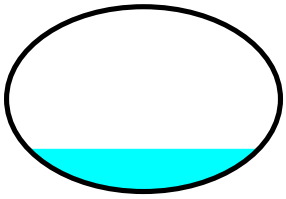
[52] Hint: Inlet/Outlet conditions not evaluated

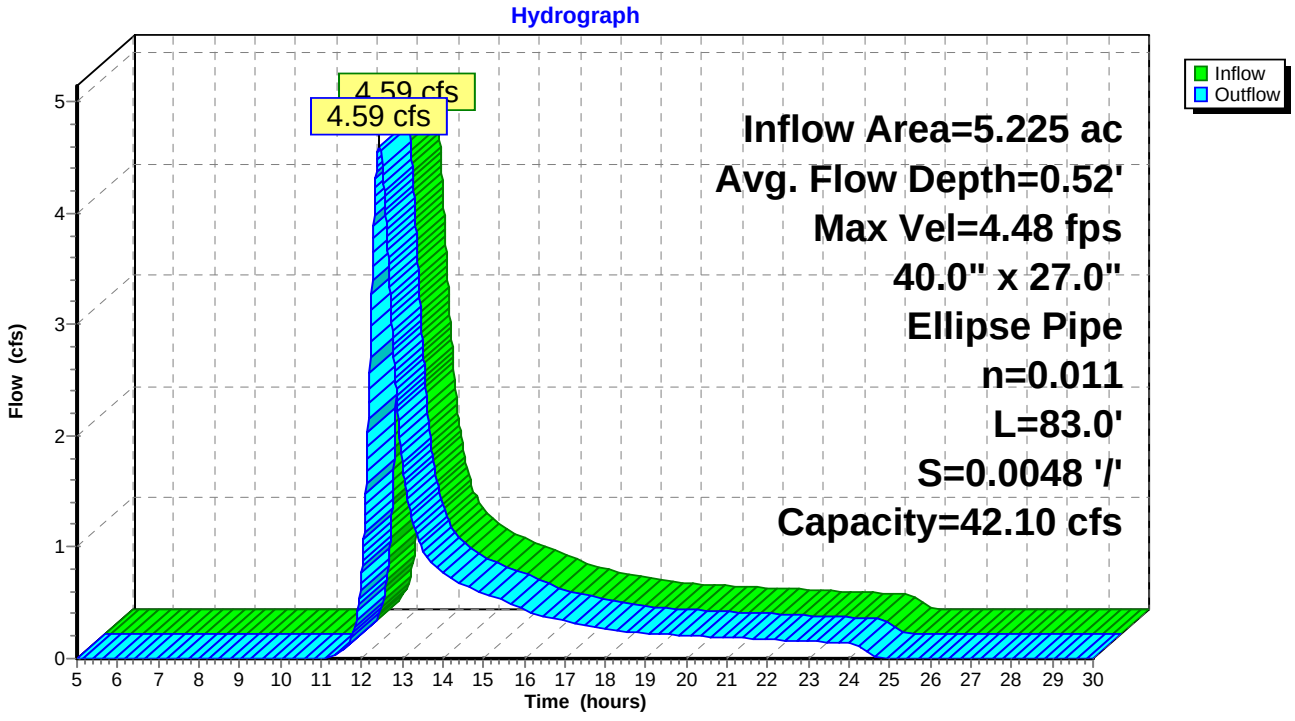
Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 1.39" for 10-Year event
Inflow = 4.59 cfs @ 12.42 hrs, Volume= 0.605 af
Outflow = 4.59 cfs @ 12.43 hrs, Volume= 0.605 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.48 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.91 fps, Avg. Travel Time= 0.7 min

Peak Storage= 85 cf @ 12.43 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 2.25' Flow Area= 5.9 sf, Capacity= 42.10 cfs

40.0" W x 27.0" H Ellipse Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 83.0' Slope= 0.0048 '/'
Inlet Invert= 660.10', Outlet Invert= 659.70'



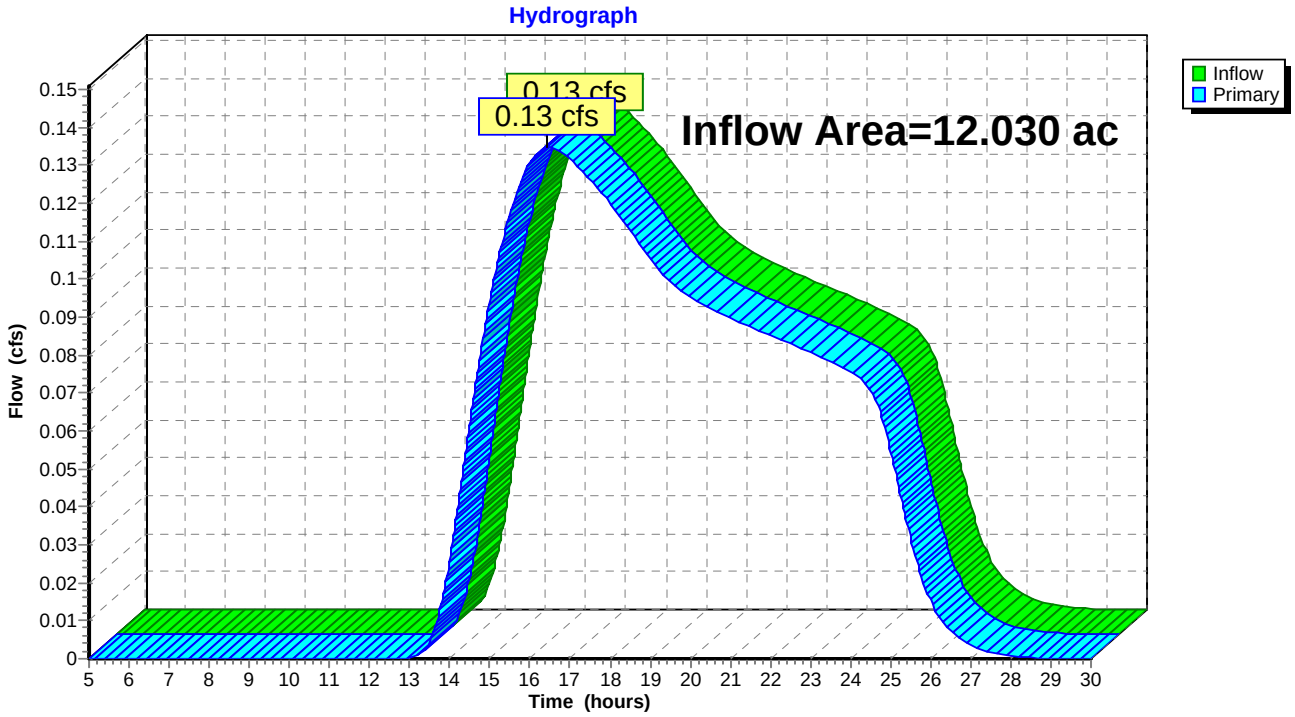


Summary for Link AP-1: Western Wetlands

Inflow Area = 12.030 ac, 0.00% Impervious, Inflow Depth = 0.09" for 10-Year event
Inflow = 0.13 cfs @ 16.40 hrs, Volume= 0.092 af
Primary = 0.13 cfs @ 16.40 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

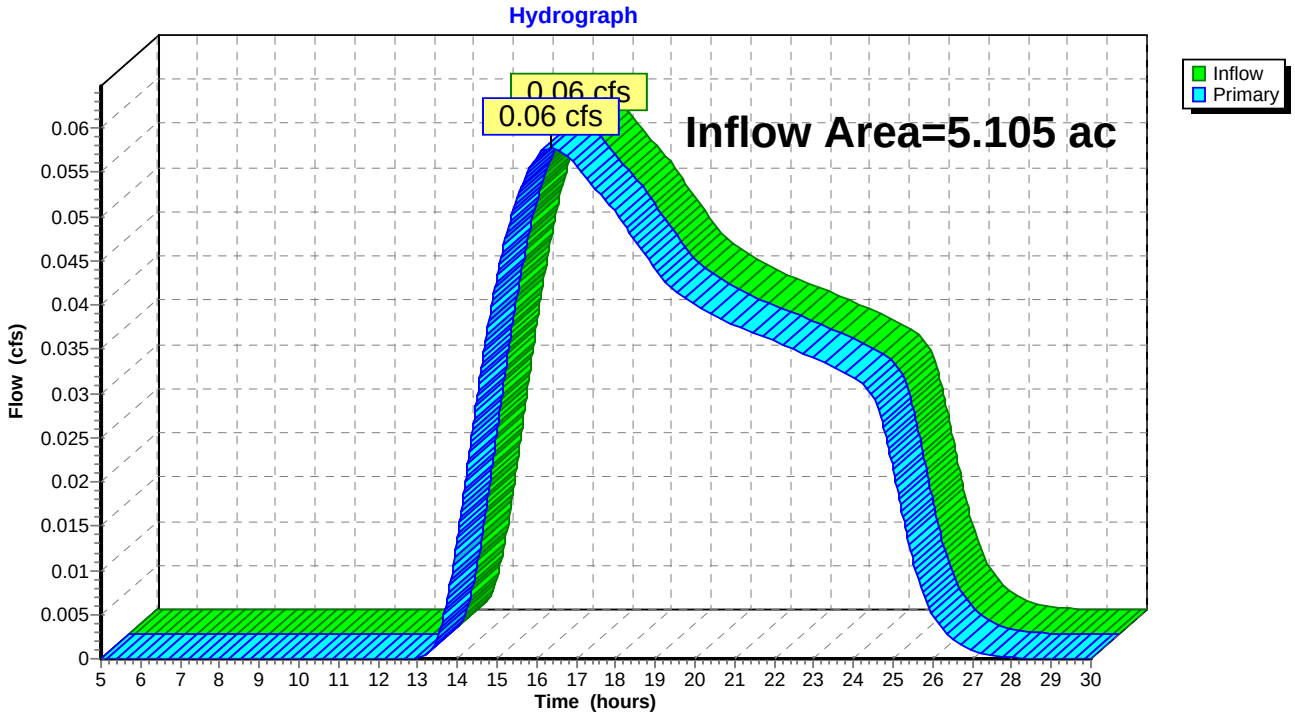


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.105 ac, 0.00% Impervious, Inflow Depth = 0.09" for 10-Year event
Inflow = 0.06 cfs @ 16.34 hrs, Volume= 0.039 af
Primary = 0.06 cfs @ 16.34 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

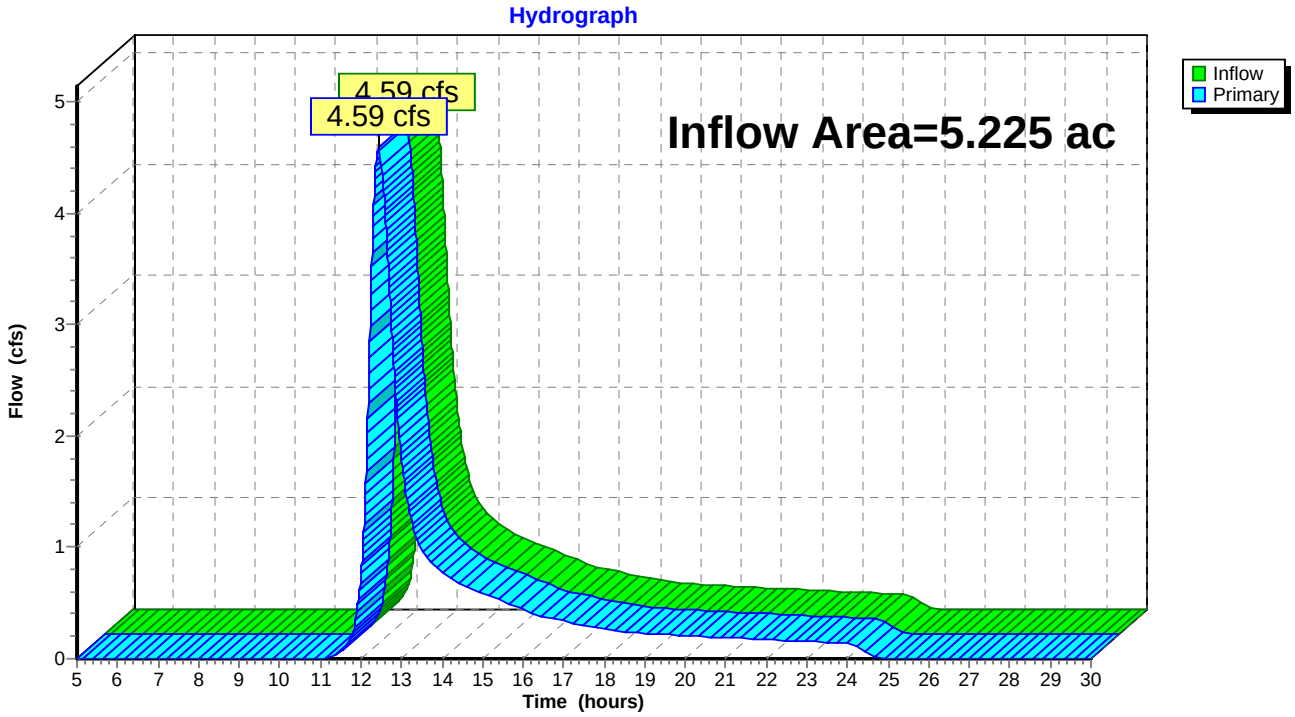


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 1.39" for 10-Year event
Inflow = 4.59 cfs @ 12.43 hrs, Volume= 0.605 af
Primary = 4.59 cfs @ 12.43 hrs, Volume= 0.605 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 EDA-1: EDA-1 Runoff Area=12.030 ac 0.00% Impervious Runoff Depth=0.23"
Flow Length=870' Tc=100.4 min CN=37 Runoff=0.37 cfs 0.230 af

Subcatchment EDA-2: EDA-2 Runoff Area=5.105 ac 0.00% Impervious Runoff Depth=0.23"
Flow Length=719' Tc=92.5 min CN=37 Runoff=0.16 cfs 0.098 af

Subcatchment EDA-3: EDA-3 Runoff Area=5.225 ac 14.78% Impervious Runoff Depth=1.91"
Flow Length=1,059' Tc=28.0 min CN=64 Runoff=6.55 cfs 0.833 af

Reach 1R: 27"x40" Oval RCP Avg. Flow Depth=0.62' Max Vel=5.01 fps Inflow=6.55 cfs 0.833 af
40.0" x 27.0" Ellipse Pipe n=0.011 L=83.0' S=0.0048 '/' Capacity=42.10 cfs Outflow=6.54 cfs 0.833 af

Link AP-1: Western Wetlands Inflow=0.37 cfs 0.230 af
Primary=0.37 cfs 0.230 af

Link AP-2: Southern Property Line Inflow=0.16 cfs 0.098 af
Primary=0.16 cfs 0.098 af

Link AP-3: Existing Swale Inflow=6.54 cfs 0.833 af
Primary=6.54 cfs 0.833 af

Total Runoff Area = 22.360 ac Runoff Volume = 1.161 af Average Runoff Depth = 0.62"
96.55% Pervious = 21.588 ac 3.45% Impervious = 0.772 ac

Summary for Subcatchment EDA-1: EDA-1

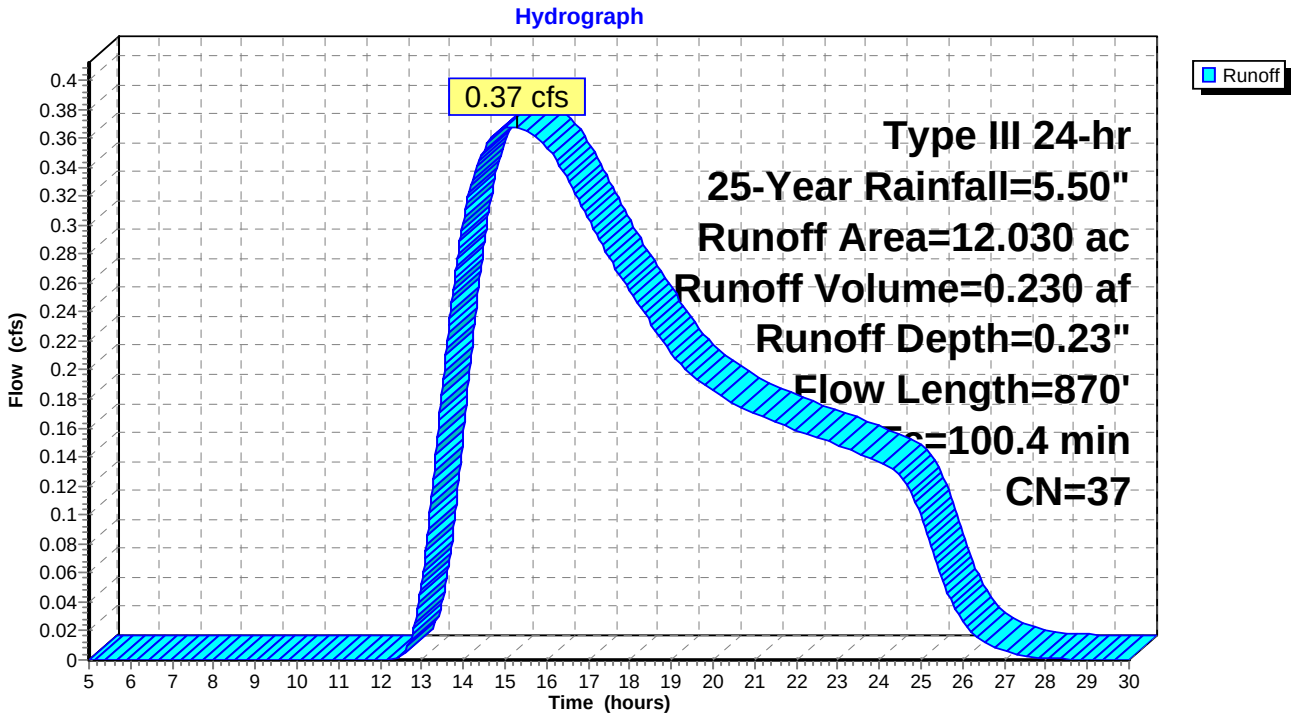
Runoff = 0.37 cfs @ 15.28 hrs, Volume= 0.230 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
0.775	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
11.000	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
12.030	37	Weighted Average
12.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
35.3	670	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
100.4	870	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

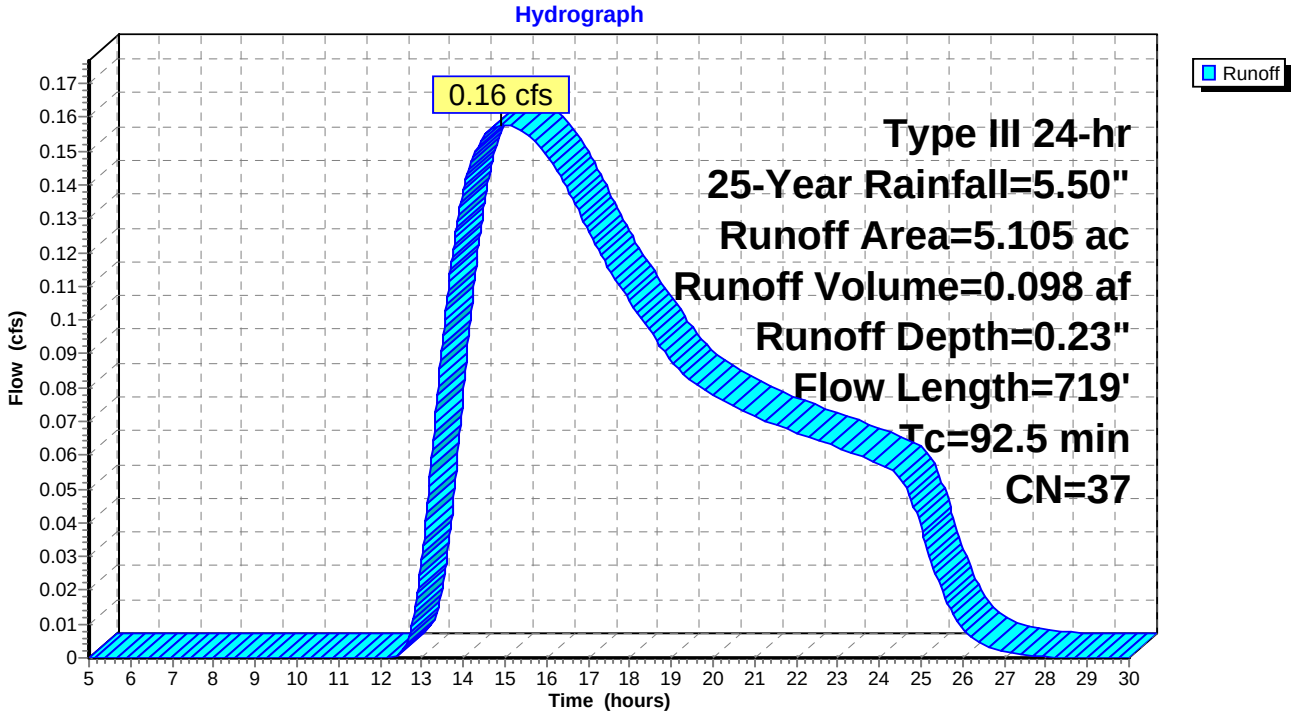
Runoff = 0.16 cfs @ 14.91 hrs, Volume= 0.098 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
4.900	36	Woods, Fair, HSG A
0.108	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
5.105	37	Weighted Average
5.105		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

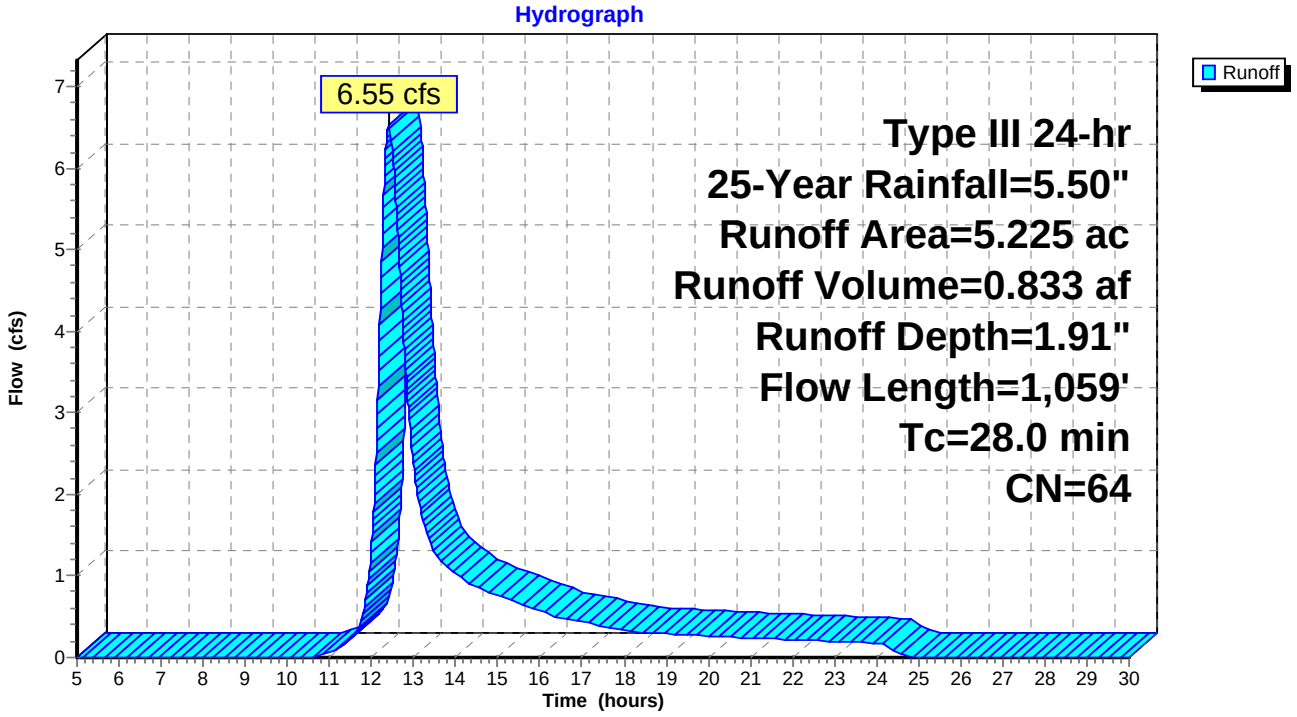
Runoff = 6.55 cfs @ 12.41 hrs, Volume= 0.833 af, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
0.542	39	>75% Grass cover, Good, HSG A
1.463	80	>75% Grass cover, Good, HSG D
1.750	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.772	98	Paved parking, HSG D
5.225	64	Weighted Average
4.453		85.22% Pervious Area
0.772		14.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment EDA-3: EDA-3



Summary for Reach 1R: 27"x40" Oval RCP

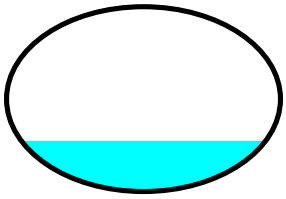
[52] Hint: Inlet/Outlet conditions not evaluated

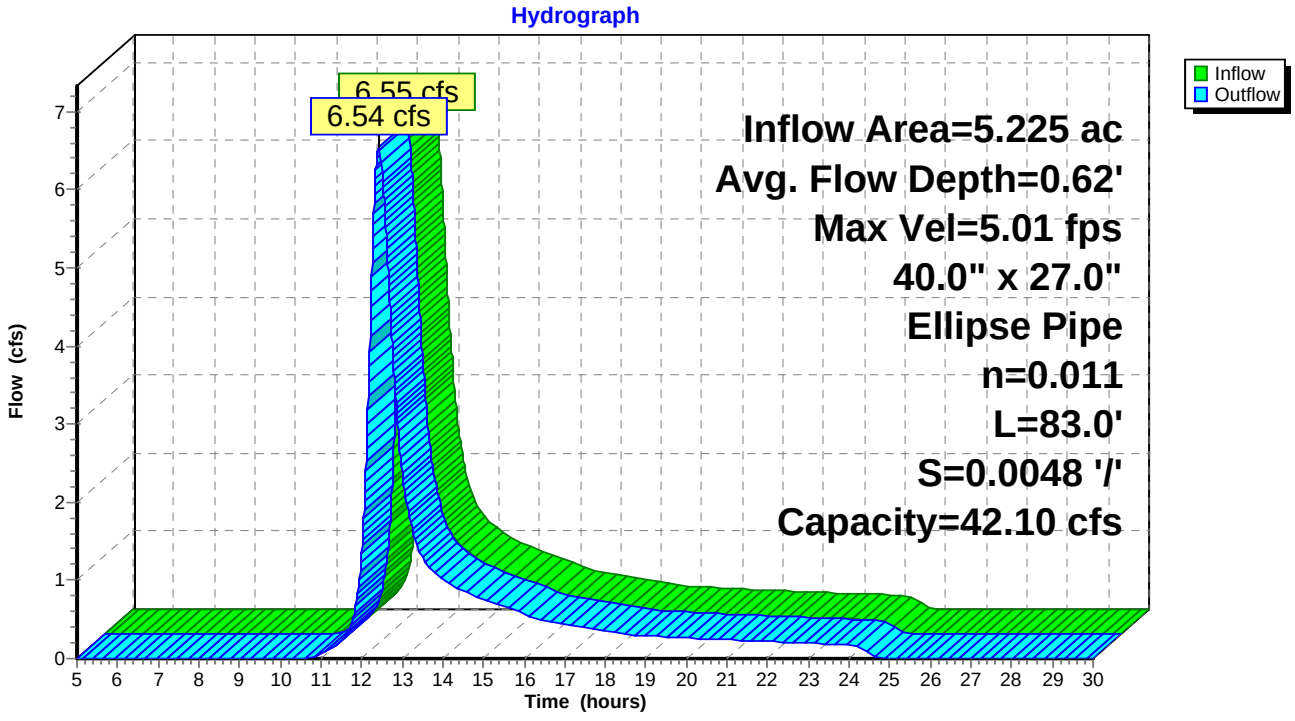
Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 1.91" for 25-Year event
Inflow = 6.55 cfs @ 12.41 hrs, Volume= 0.833 af
Outflow = 6.54 cfs @ 12.42 hrs, Volume= 0.833 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.01 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.06 fps, Avg. Travel Time= 0.7 min

Peak Storage= 109 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 2.25' Flow Area= 5.9 sf, Capacity= 42.10 cfs

40.0" W x 27.0" H Ellipse Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 83.0' Slope= 0.0048 '/'
Inlet Invert= 660.10', Outlet Invert= 659.70'



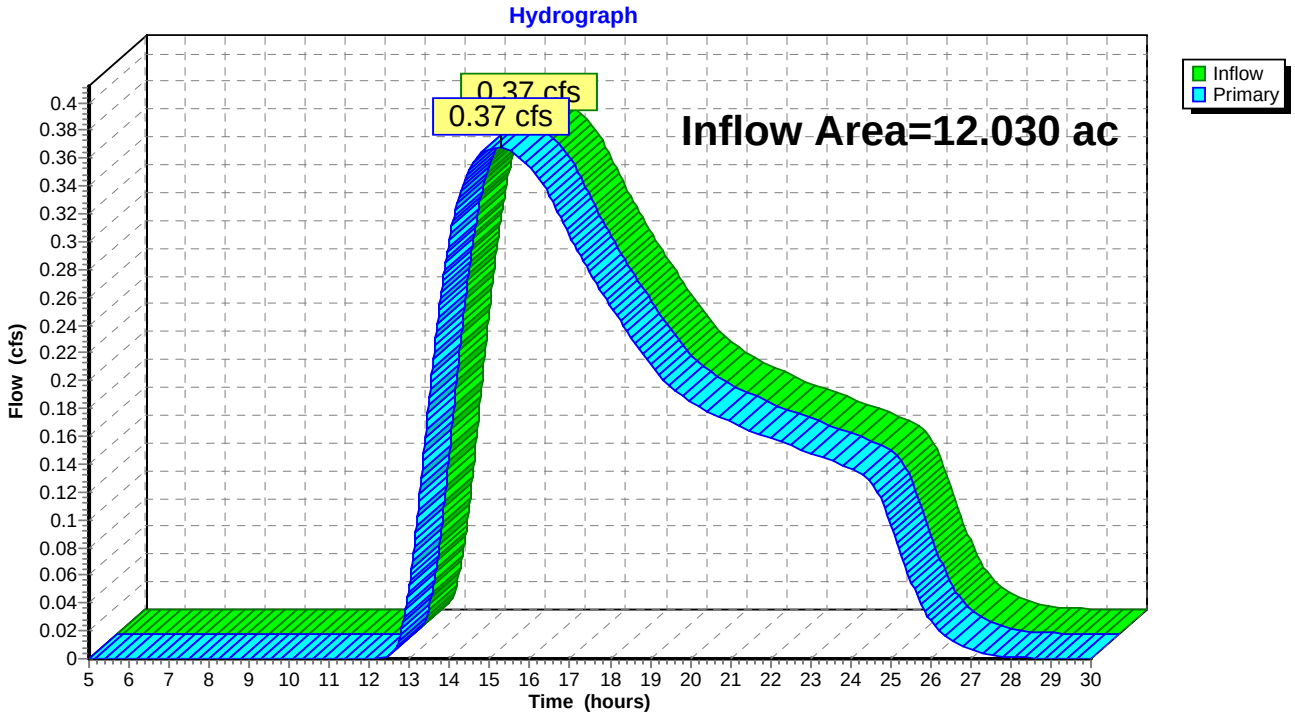


Summary for Link AP-1: Western Wetlands

Inflow Area = 12.030 ac, 0.00% Impervious, Inflow Depth = 0.23" for 25-Year event
Inflow = 0.37 cfs @ 15.28 hrs, Volume= 0.230 af
Primary = 0.37 cfs @ 15.28 hrs, Volume= 0.230 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

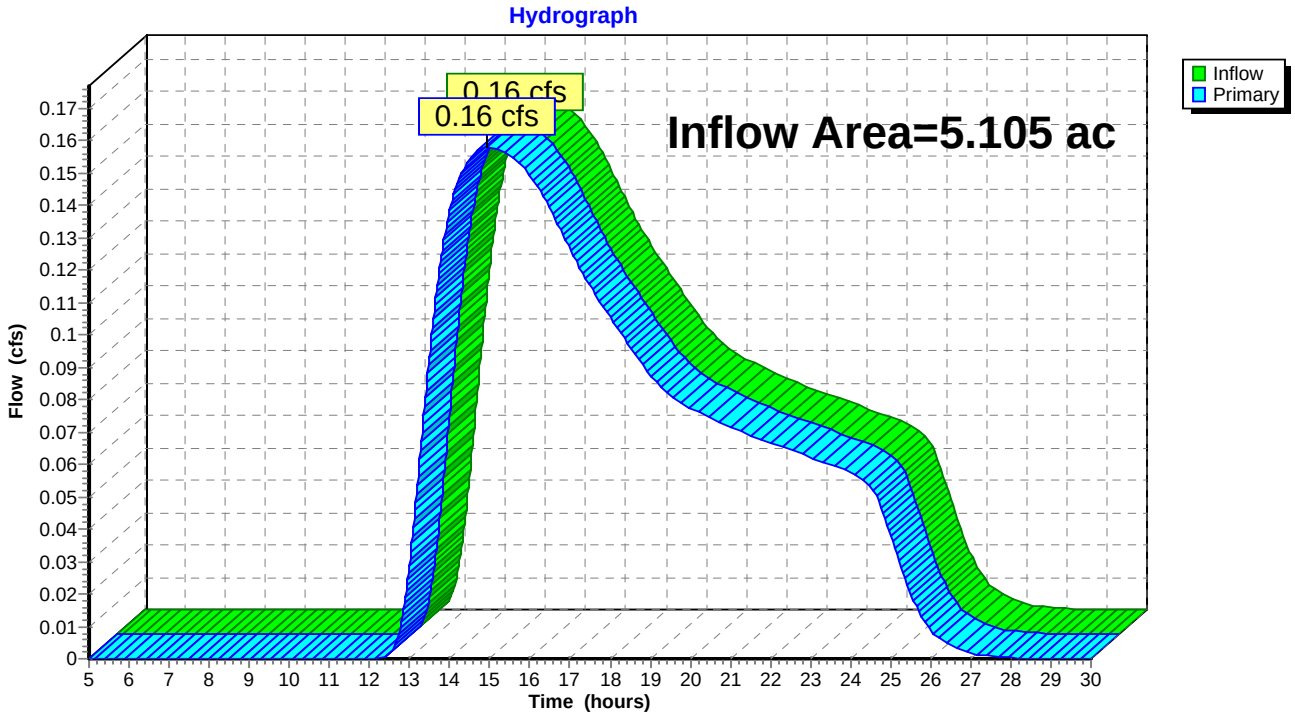


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.105 ac, 0.00% Impervious, Inflow Depth = 0.23" for 25-Year event
Inflow = 0.16 cfs @ 14.91 hrs, Volume= 0.098 af
Primary = 0.16 cfs @ 14.91 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

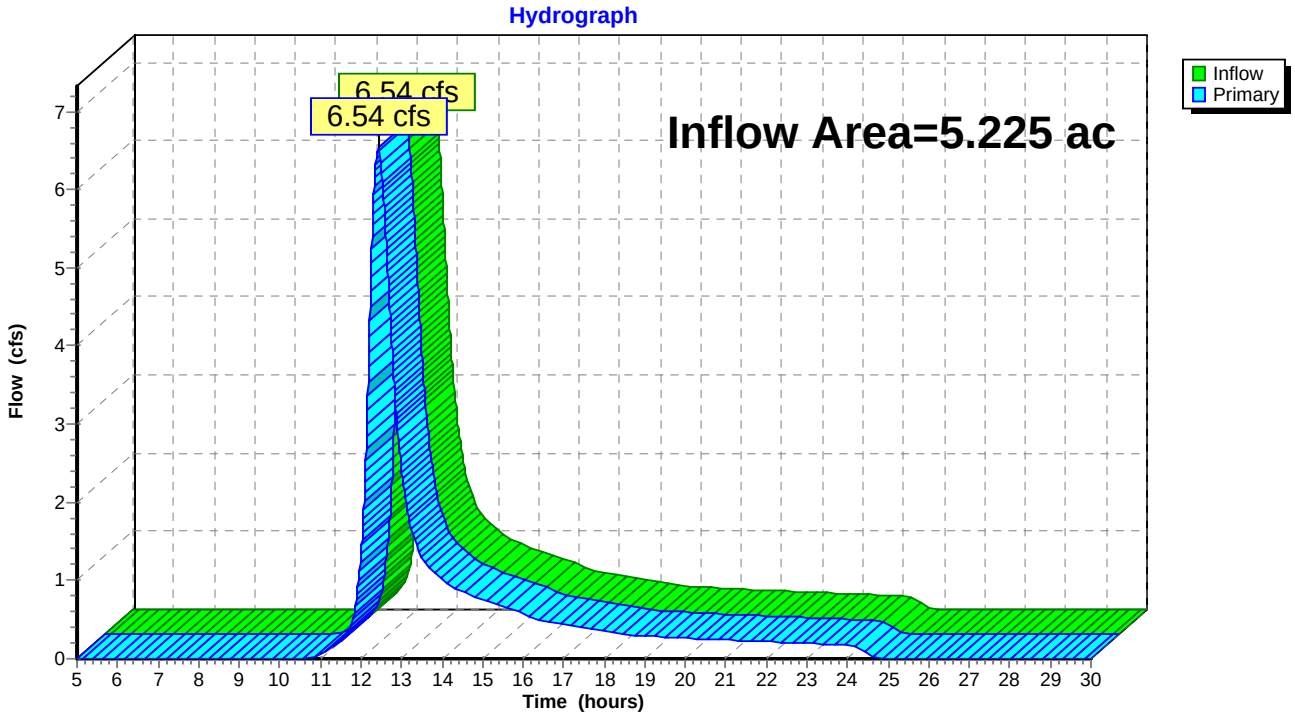


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 1.91" for 25-Year event
Inflow = 6.54 cfs @ 12.42 hrs, Volume= 0.833 af
Primary = 6.54 cfs @ 12.42 hrs, Volume= 0.833 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 EDA-1: EDA-1 Runoff Area=12.030 ac 0.00% Impervious Runoff Depth=0.39"
Flow Length=870' Tc=100.4 min CN=37 Runoff=0.74 cfs 0.395 af

Subcatchment EDA-2: EDA-2 Runoff Area=5.105 ac 0.00% Impervious Runoff Depth=0.39"
Flow Length=719' Tc=92.5 min CN=37 Runoff=0.32 cfs 0.168 af

Subcatchment EDA-3: EDA-3 Runoff Area=5.225 ac 14.78% Impervious Runoff Depth=2.41"
Flow Length=1,059' Tc=28.0 min CN=64 Runoff=8.37 cfs 1.048 af

Reach 1R: 27"x40" Oval RCP Avg. Flow Depth=0.70' Max Vel=5.41 fps Inflow=8.37 cfs 1.048 af
40.0" x 27.0" Ellipse Pipe n=0.011 L=83.0' S=0.0048 '/' Capacity=42.10 cfs Outflow=8.37 cfs 1.048 af

Link AP-1: Western Wetlands Inflow=0.74 cfs 0.395 af
Primary=0.74 cfs 0.395 af

Link AP-2: Southern Property Line Inflow=0.32 cfs 0.168 af
Primary=0.32 cfs 0.168 af

Link AP-3: Existing Swale Inflow=8.37 cfs 1.048 af
Primary=8.37 cfs 1.048 af

Total Runoff Area = 22.360 ac Runoff Volume = 1.611 af Average Runoff Depth = 0.86"
96.55% Pervious = 21.588 ac 3.45% Impervious = 0.772 ac

Summary for Subcatchment EDA-1: EDA-1

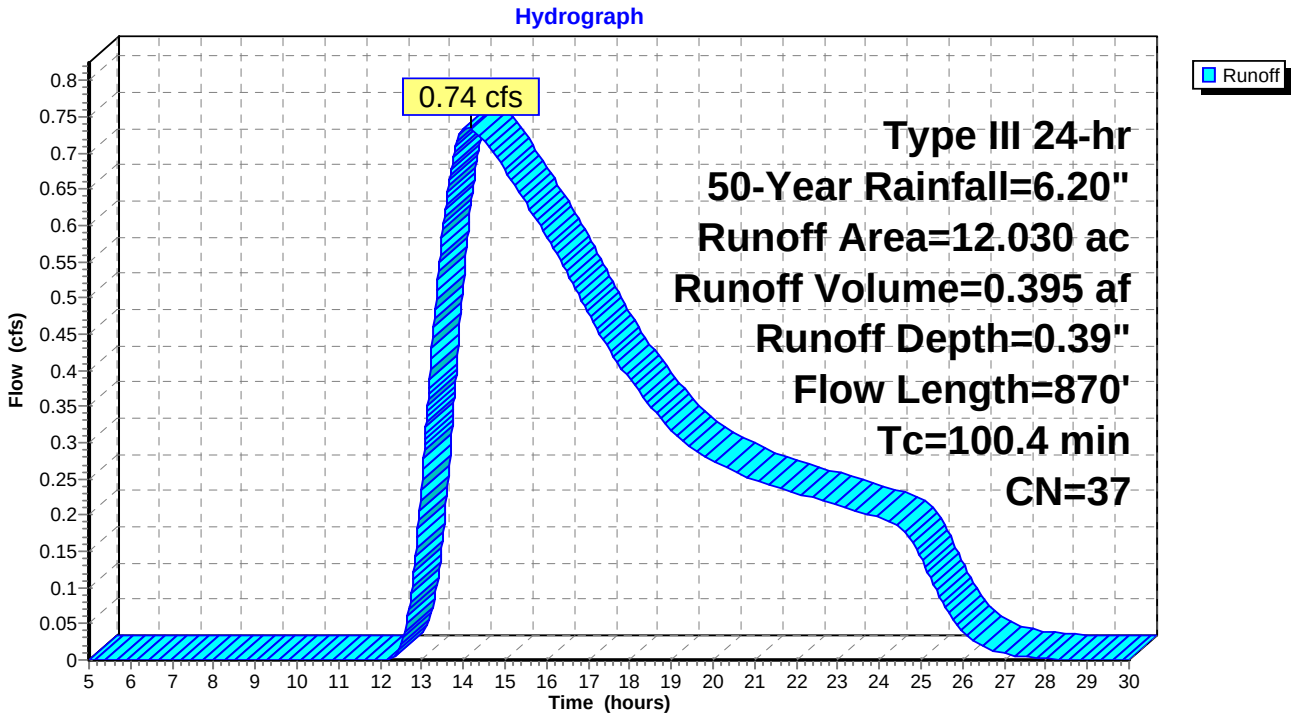
Runoff = 0.74 cfs @ 14.16 hrs, Volume= 0.395 af, Depth= 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
0.775	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
11.000	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
12.030	37	Weighted Average
12.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
35.3	670	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
100.4	870	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

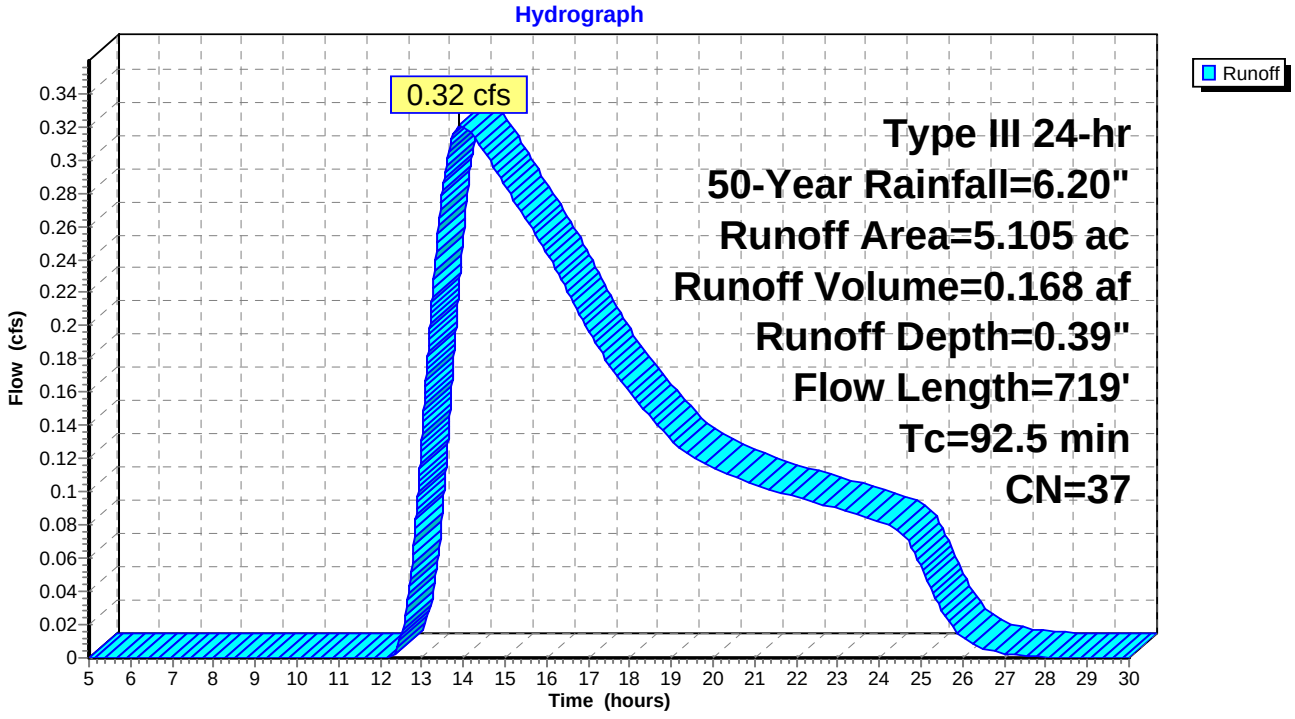
Runoff = 0.32 cfs @ 13.88 hrs, Volume= 0.168 af, Depth= 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
4.900	36	Woods, Fair, HSG A
0.108	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
5.105	37	Weighted Average
5.105		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

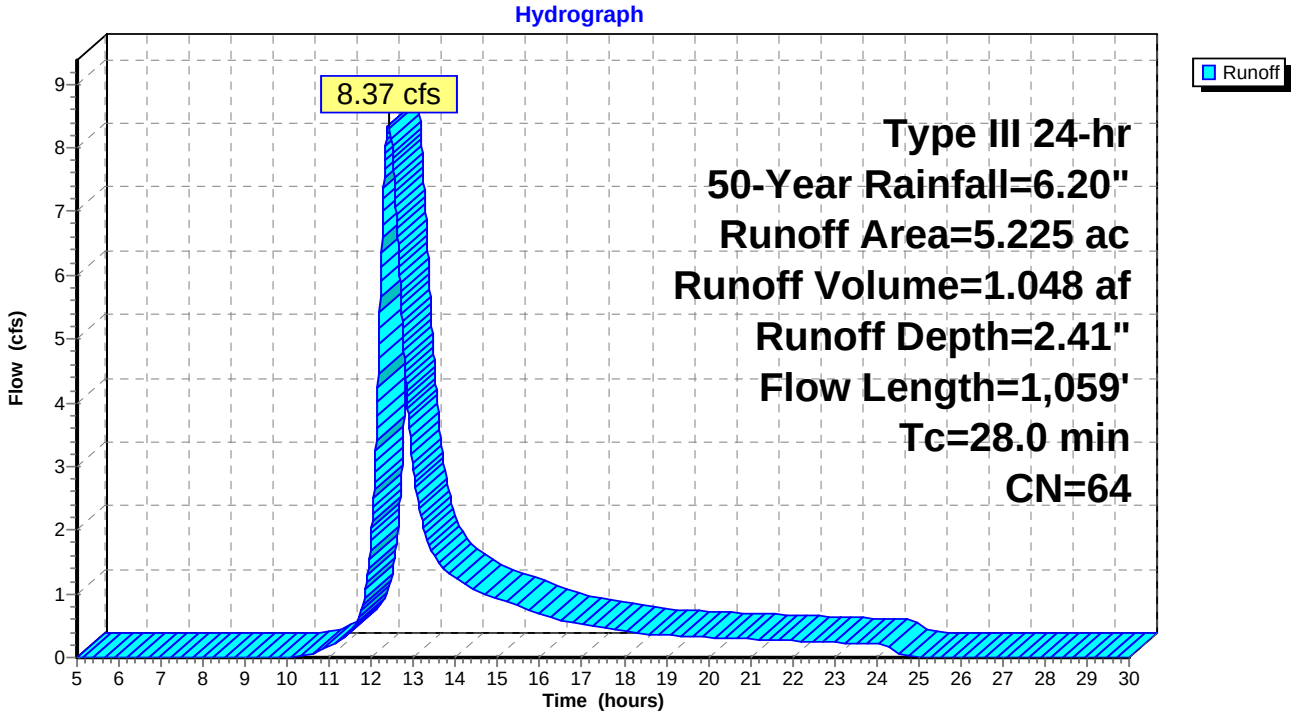
Runoff = 8.37 cfs @ 12.41 hrs, Volume= 1.048 af, Depth= 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
0.542	39	>75% Grass cover, Good, HSG A
1.463	80	>75% Grass cover, Good, HSG D
1.750	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.772	98	Paved parking, HSG D
5.225	64	Weighted Average
4.453		85.22% Pervious Area
0.772		14.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment EDA-3: EDA-3



Summary for Reach 1R: 27"x40" Oval RCP

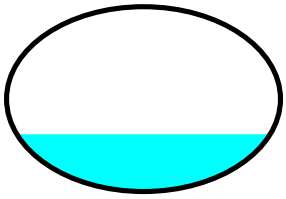
[52] Hint: Inlet/Outlet conditions not evaluated

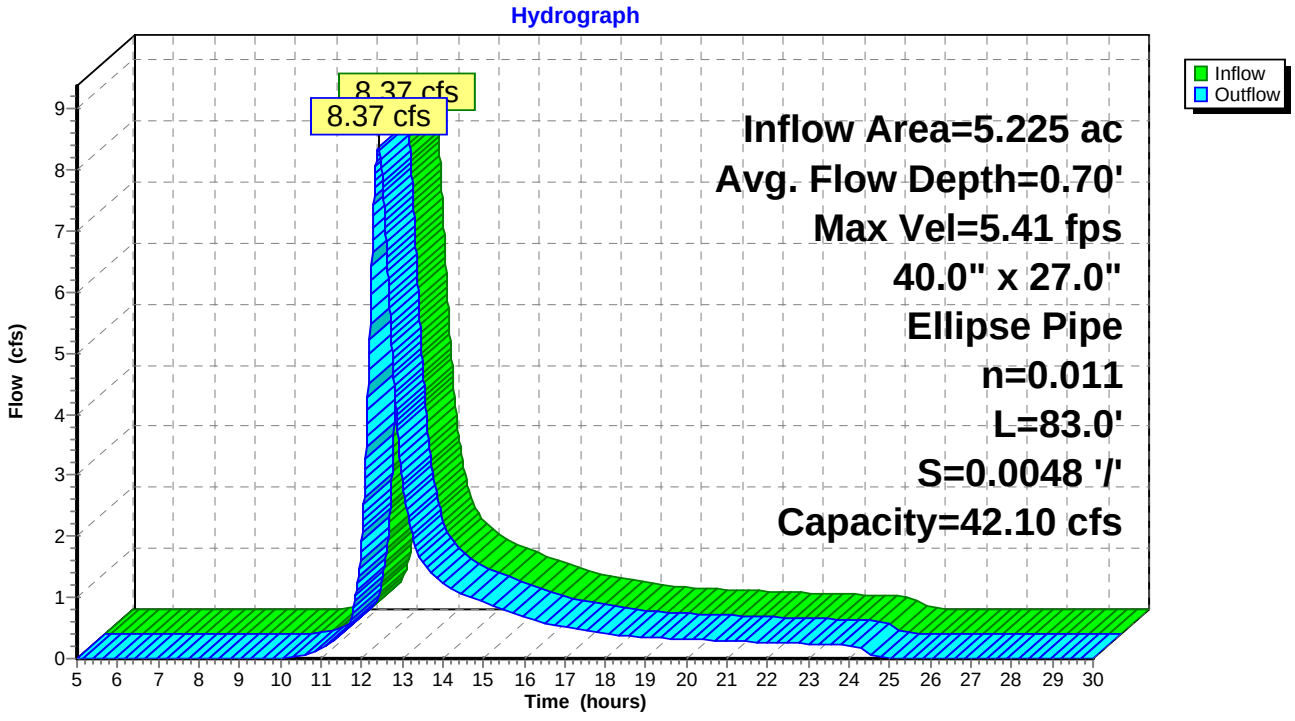
Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 2.41" for 50-Year event
Inflow = 8.37 cfs @ 12.41 hrs, Volume= 1.048 af
Outflow = 8.37 cfs @ 12.42 hrs, Volume= 1.048 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.41 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 0.6 min

Peak Storage= 128 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 2.25' Flow Area= 5.9 sf, Capacity= 42.10 cfs

40.0" W x 27.0" H Ellipse Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 83.0' Slope= 0.0048 '/'
Inlet Invert= 660.10', Outlet Invert= 659.70'



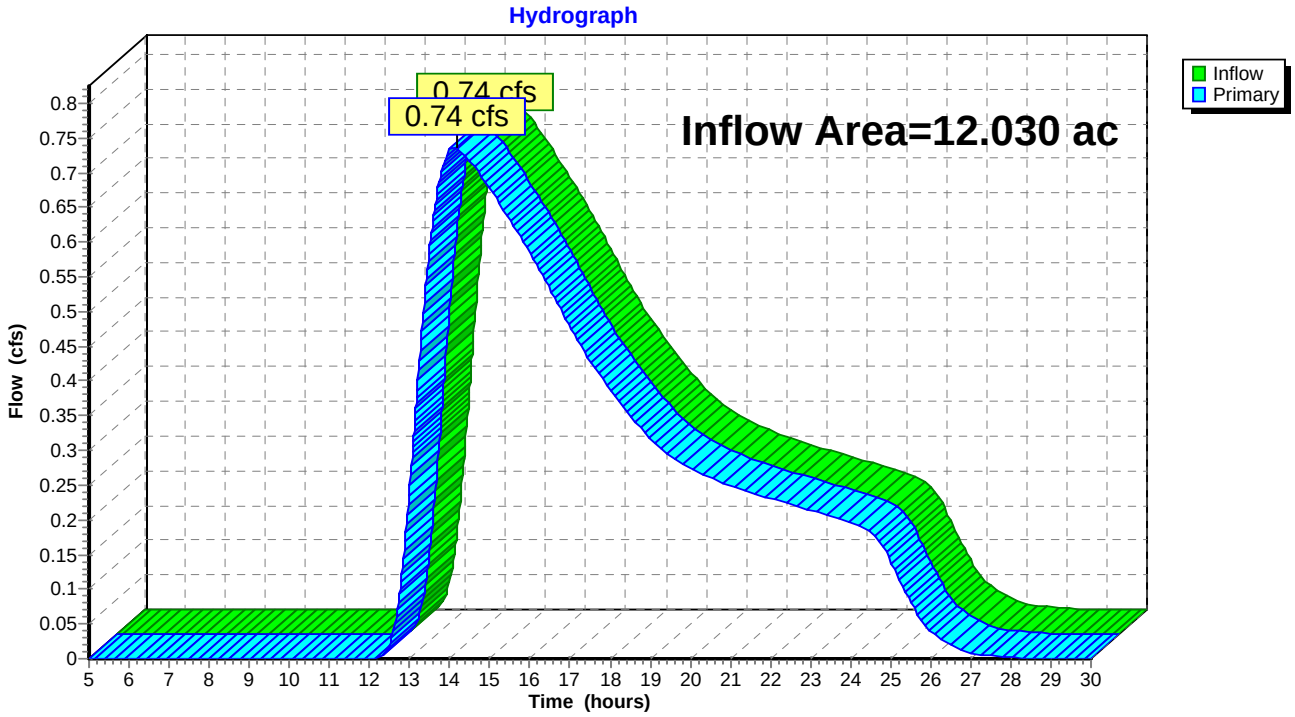


Summary for Link AP-1: Western Wetlands

Inflow Area = 12.030 ac, 0.00% Impervious, Inflow Depth = 0.39" for 50-Year event
Inflow = 0.74 cfs @ 14.16 hrs, Volume= 0.395 af
Primary = 0.74 cfs @ 14.16 hrs, Volume= 0.395 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

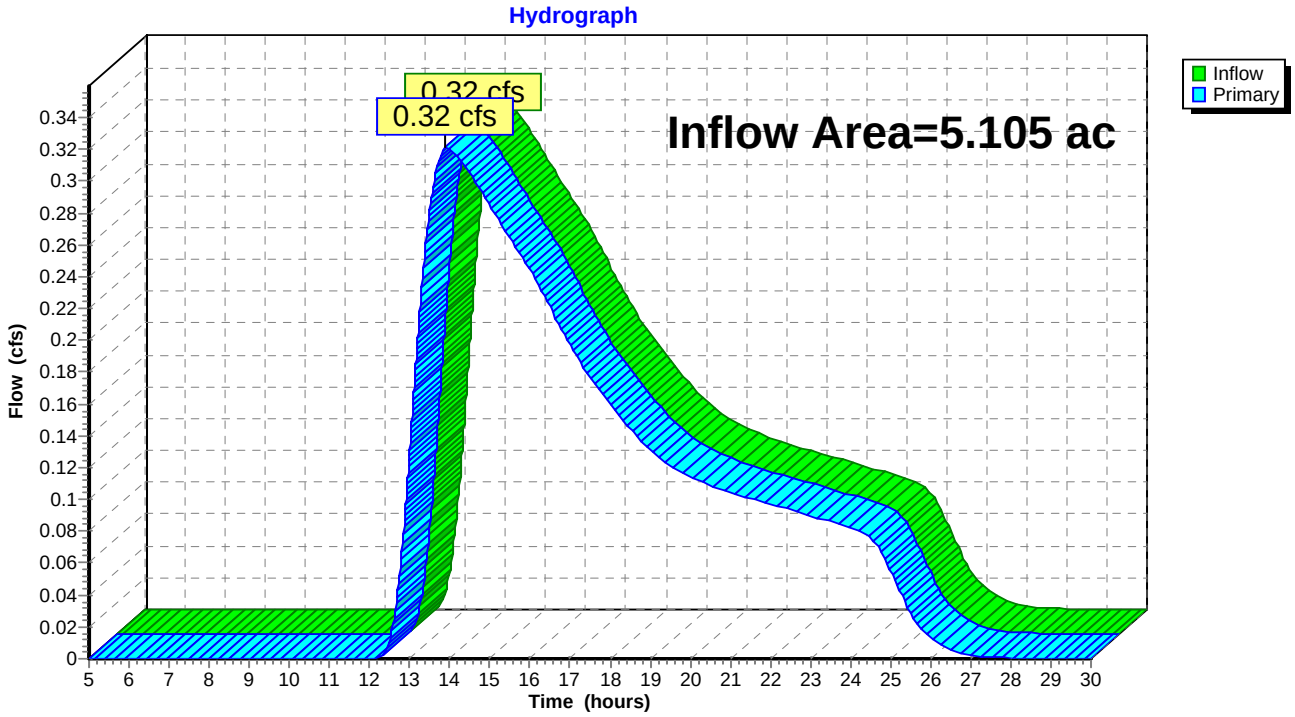


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.105 ac, 0.00% Impervious, Inflow Depth = 0.39" for 50-Year event
Inflow = 0.32 cfs @ 13.88 hrs, Volume= 0.168 af
Primary = 0.32 cfs @ 13.88 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

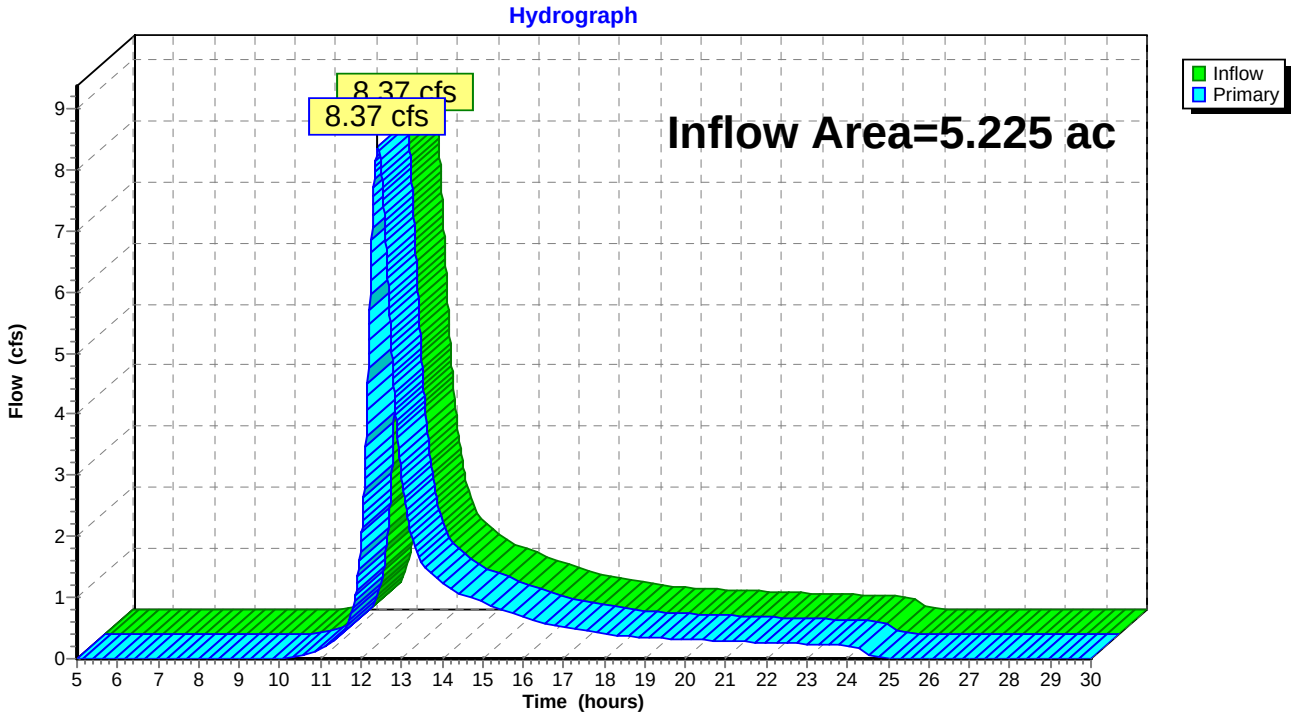


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 2.41" for 50-Year event
Inflow = 8.37 cfs @ 12.42 hrs, Volume= 1.048 af
Primary = 8.37 cfs @ 12.42 hrs, Volume= 1.048 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 EDA-1: EDA-1 Runoff Area=12.030 ac 0.00% Impervious Runoff Depth=0.63"
Flow Length=870' Tc=100.4 min CN=37 Runoff=1.41 cfs 0.628 af

Subcatchment EDA-2: EDA-2 Runoff Area=5.105 ac 0.00% Impervious Runoff Depth=0.63"
Flow Length=719' Tc=92.5 min CN=37 Runoff=0.62 cfs 0.267 af

Subcatchment EDA-3: EDA-3 Runoff Area=5.225 ac 14.78% Impervious Runoff Depth=3.00"
Flow Length=1,059' Tc=28.0 min CN=64 Runoff=10.56 cfs 1.307 af

Reach 1R: 27"x40" Oval RCP Avg. Flow Depth=0.78' Max Vel=5.81 fps Inflow=10.56 cfs 1.307 af
40.0" x 27.0" Ellipse Pipe n=0.011 L=83.0' S=0.0048 '/' Capacity=42.10 cfs Outflow=10.56 cfs 1.307 af

Link AP-1: Western Wetlands Inflow=1.41 cfs 0.628 af
Primary=1.41 cfs 0.628 af

Link AP-2: Southern Property Line Inflow=0.62 cfs 0.267 af
Primary=0.62 cfs 0.267 af

Link AP-3: Existing Swale Inflow=10.56 cfs 1.307 af
Primary=10.56 cfs 1.307 af

Total Runoff Area = 22.360 ac Runoff Volume = 2.202 af Average Runoff Depth = 1.18"
96.55% Pervious = 21.588 ac 3.45% Impervious = 0.772 ac

Summary for Subcatchment EDA-1: EDA-1

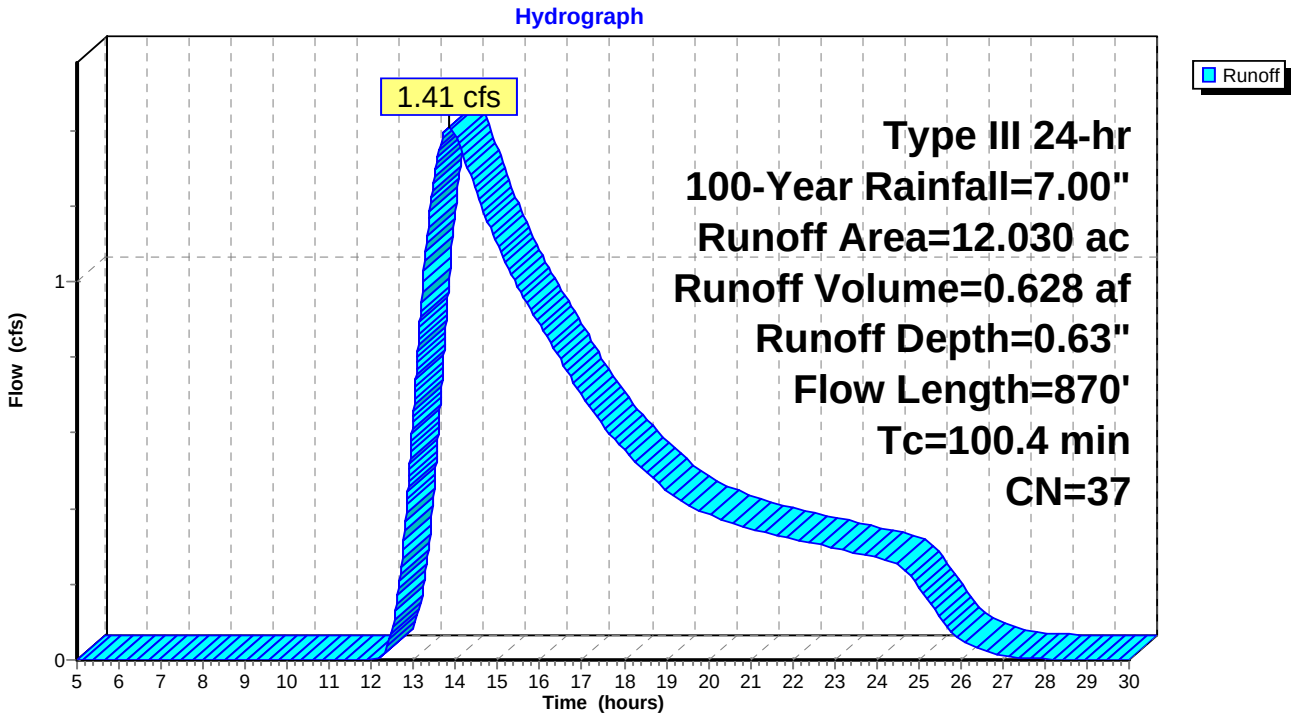
Runoff = 1.41 cfs @ 13.84 hrs, Volume= 0.628 af, Depth= 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
0.775	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
11.000	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
12.030	37	Weighted Average
12.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
35.3	670	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
100.4	870	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

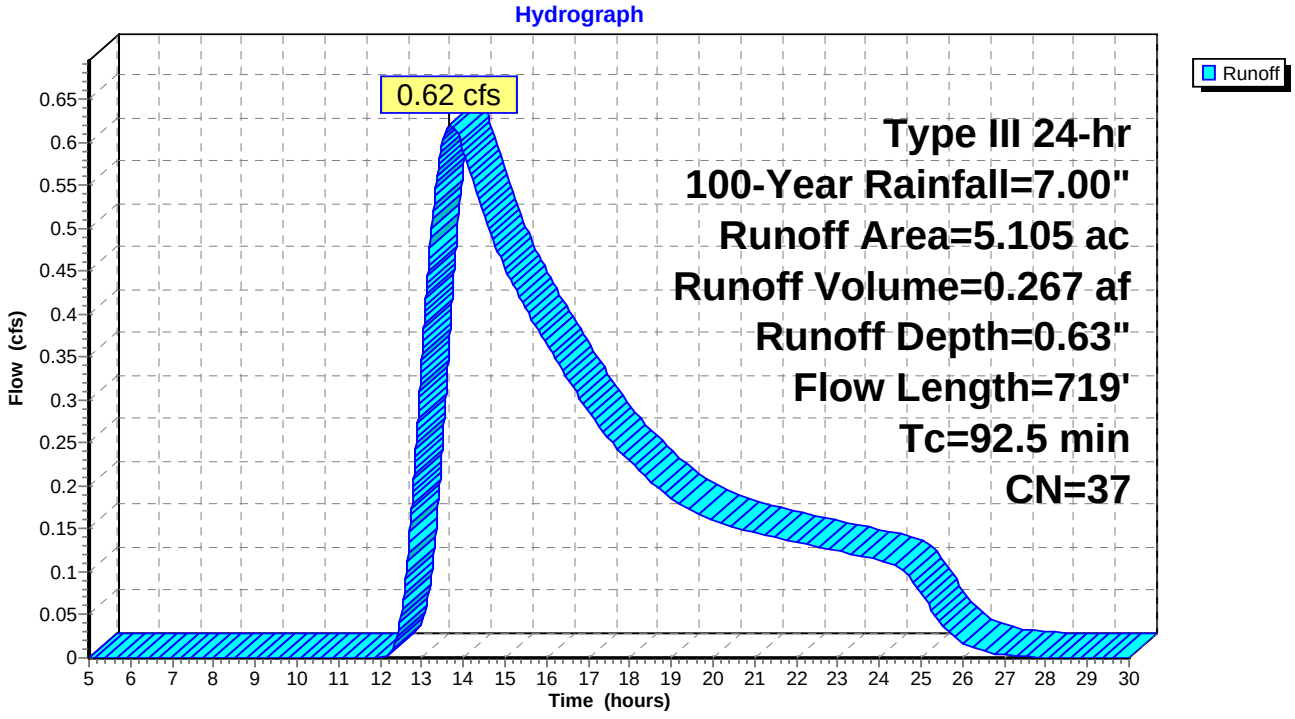
Runoff = 0.62 cfs @ 13.67 hrs, Volume= 0.267 af, Depth= 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
4.900	36	Woods, Fair, HSG A
0.108	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
5.105	37	Weighted Average
5.105		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment EDA-2: EDA-2



Summary for Subcatchment EDA-3: EDA-3

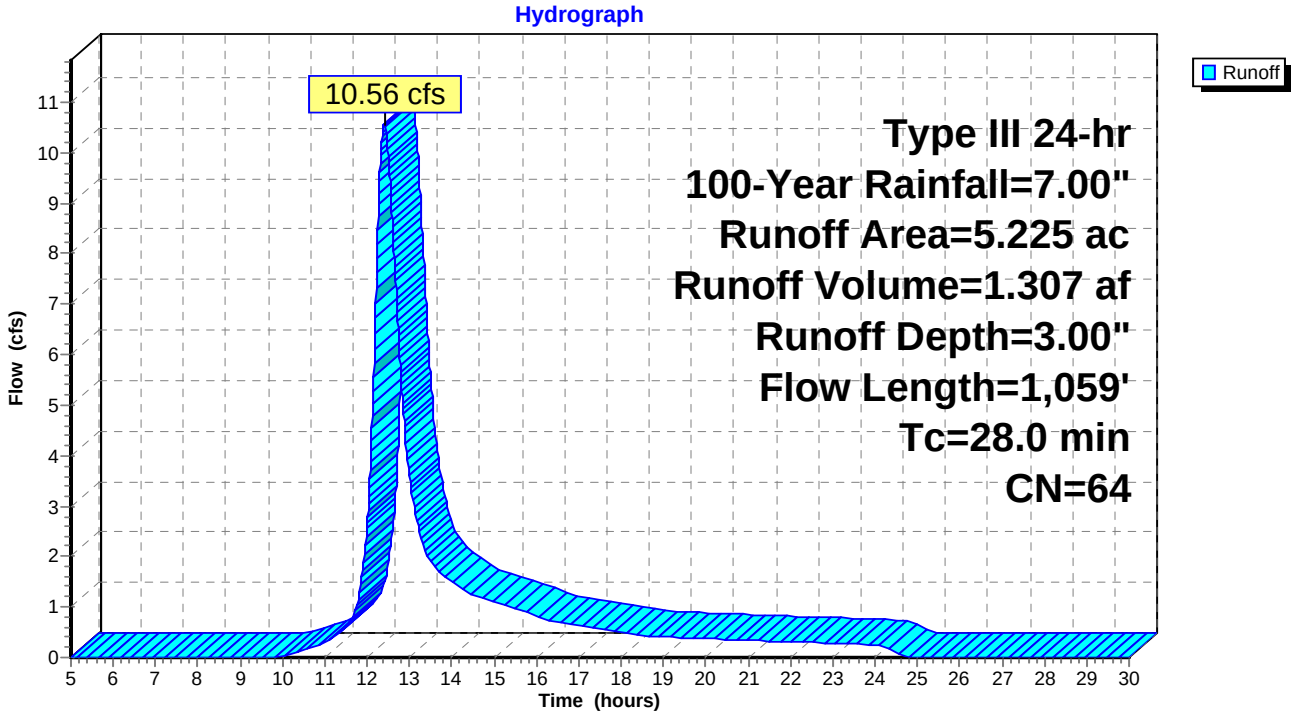
Runoff = 10.56 cfs @ 12.41 hrs, Volume= 1.307 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
0.542	39	>75% Grass cover, Good, HSG A
1.463	80	>75% Grass cover, Good, HSG D
1.750	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.772	98	Paved parking, HSG D
5.225	64	Weighted Average
4.453		85.22% Pervious Area
0.772		14.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment EDA-3: EDA-3



Summary for Reach 1R: 27"x40" Oval RCP

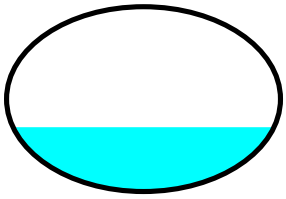
[52] Hint: Inlet/Outlet conditions not evaluated

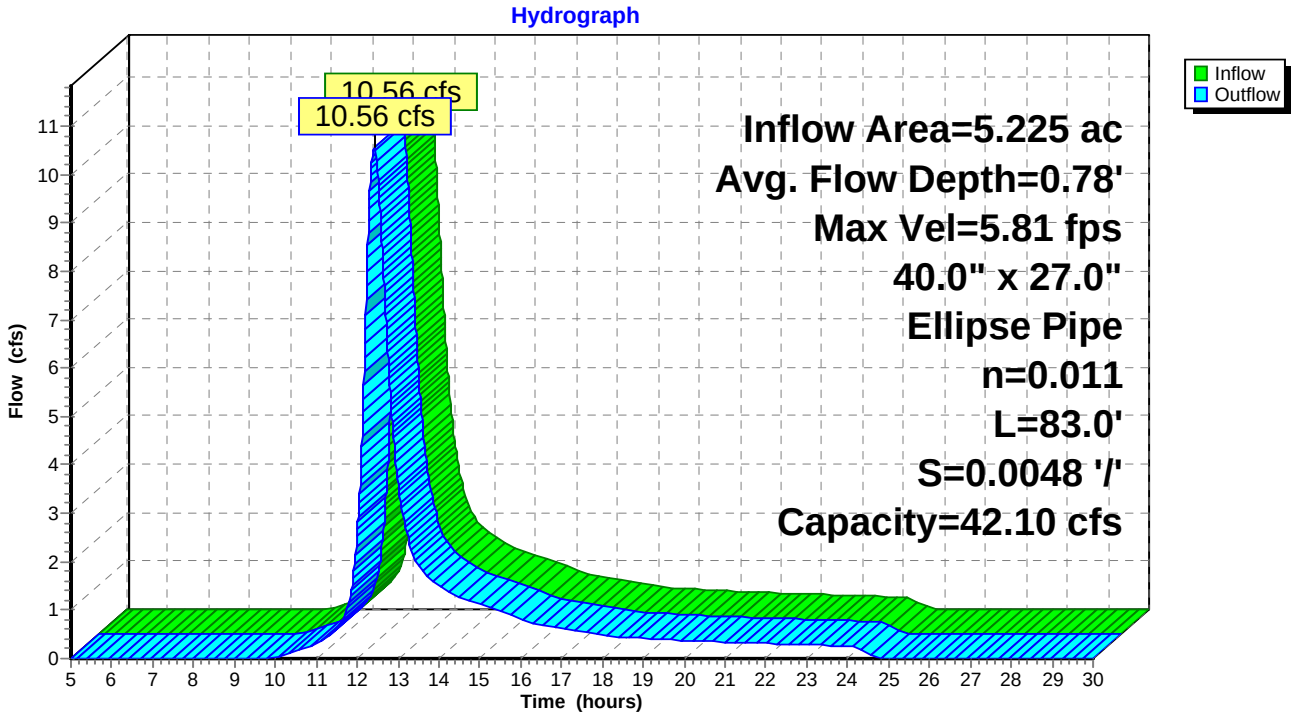
Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 3.00" for 100-Year event
Inflow = 10.56 cfs @ 12.41 hrs, Volume= 1.307 af
Outflow = 10.56 cfs @ 12.42 hrs, Volume= 1.307 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.81 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 0.6 min

Peak Storage= 151 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 2.25' Flow Area= 5.9 sf, Capacity= 42.10 cfs

40.0" W x 27.0" H Ellipse Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 83.0' Slope= 0.0048 '/'
Inlet Invert= 660.10', Outlet Invert= 659.70'



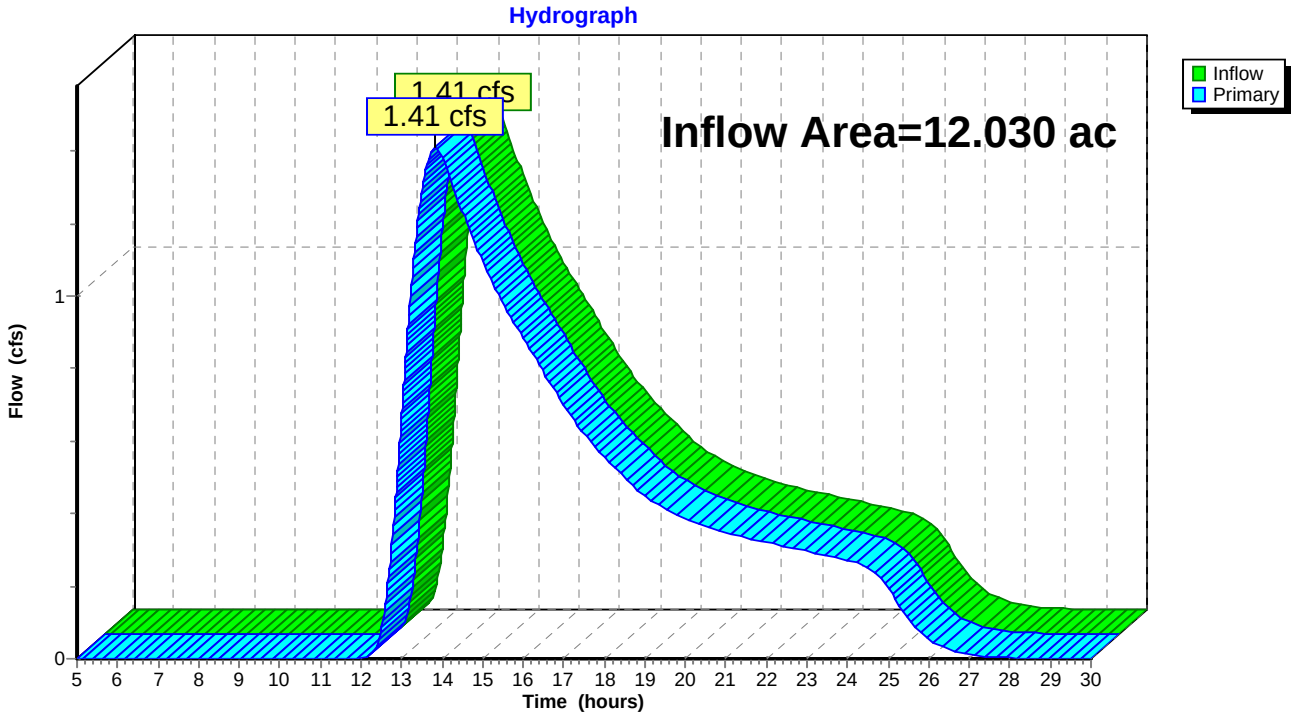


Summary for Link AP-1: Western Wetlands

Inflow Area = 12.030 ac, 0.00% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 1.41 cfs @ 13.84 hrs, Volume= 0.628 af
Primary = 1.41 cfs @ 13.84 hrs, Volume= 0.628 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

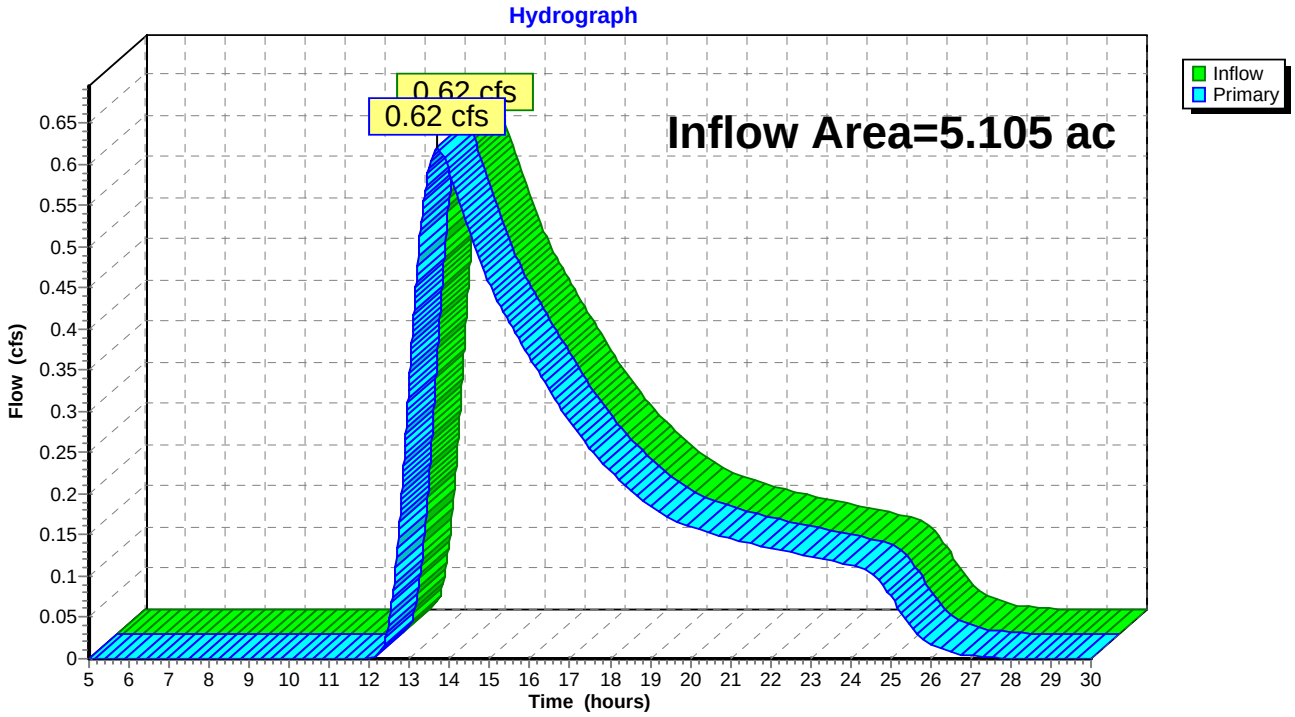


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.105 ac, 0.00% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 0.62 cfs @ 13.67 hrs, Volume= 0.267 af
Primary = 0.62 cfs @ 13.67 hrs, Volume= 0.267 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

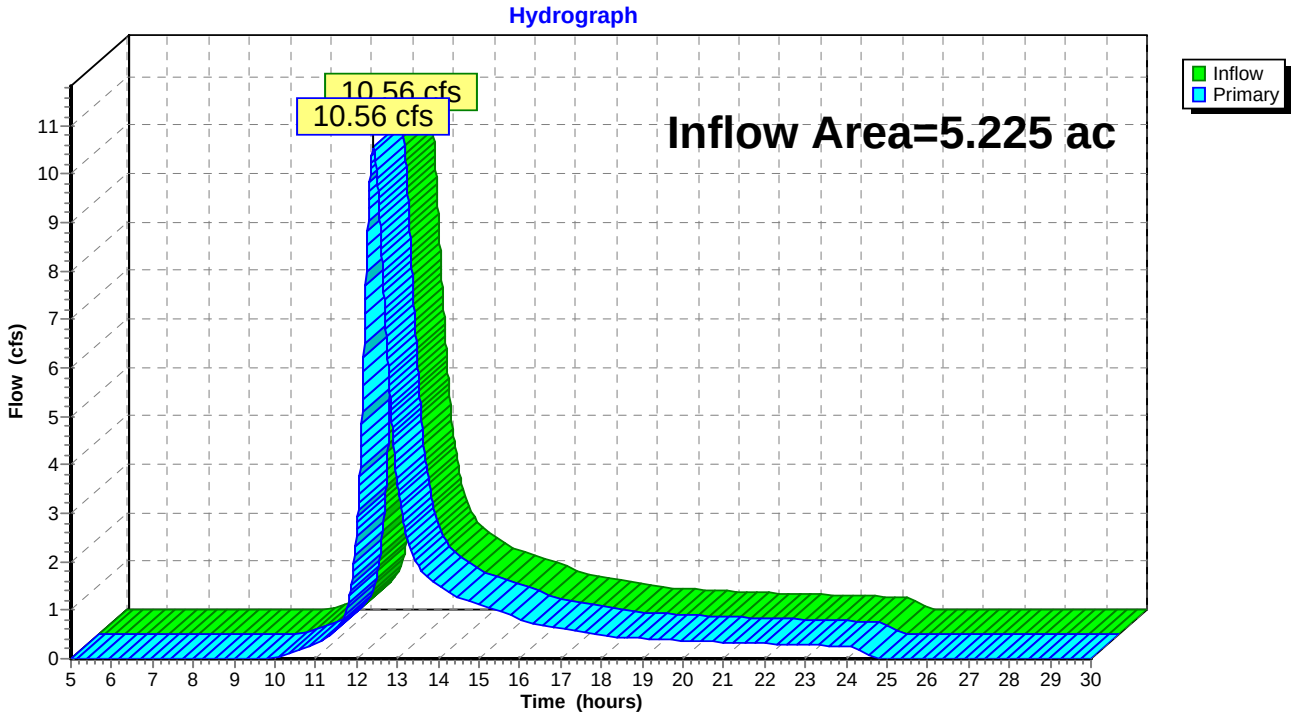


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.78% Impervious, Inflow Depth = 3.00" for 100-Year event
Inflow = 10.56 cfs @ 12.42 hrs, Volume= 1.307 af
Primary = 10.56 cfs @ 12.42 hrs, Volume= 1.307 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale

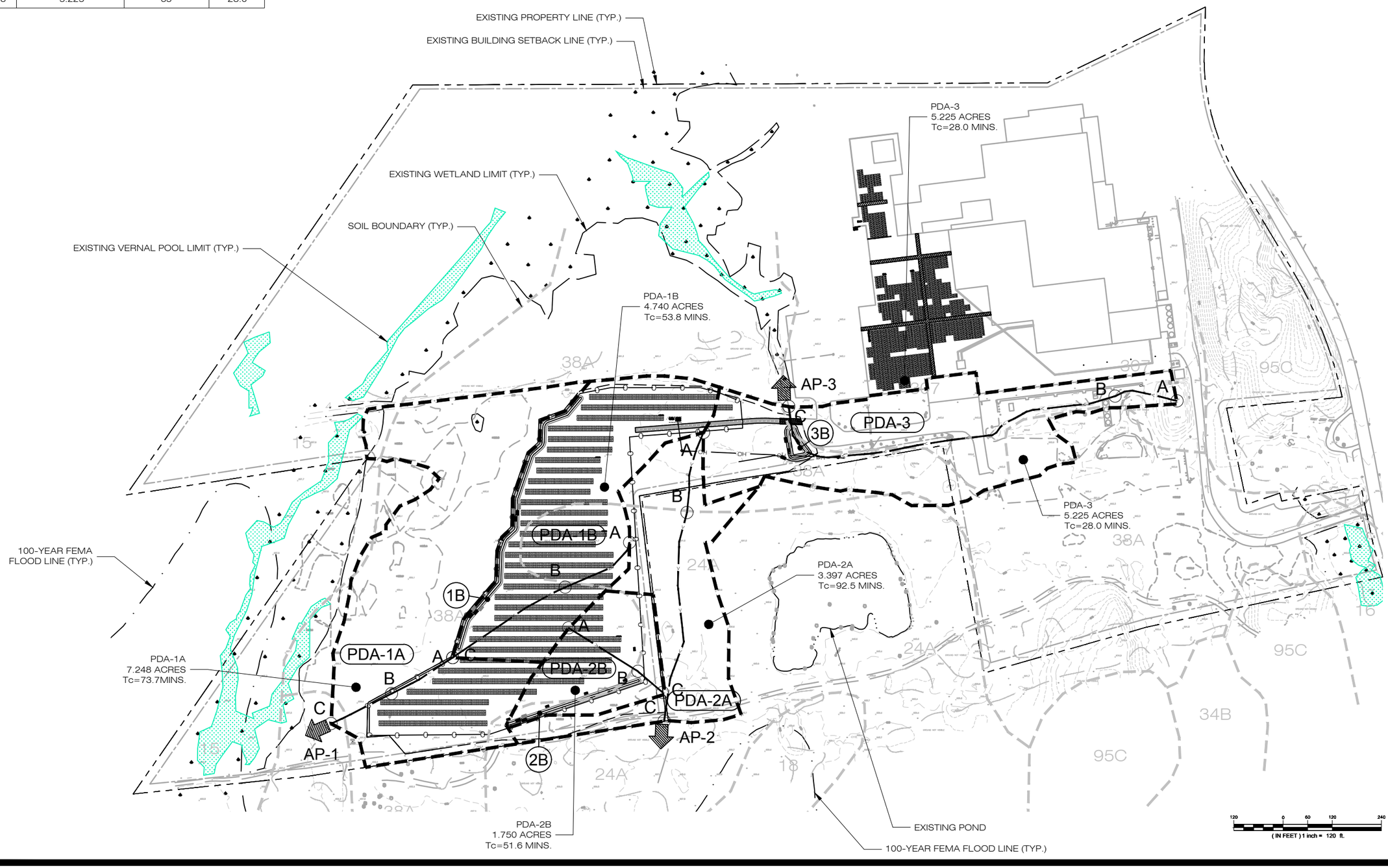


APPENDIX E

Proposed Drainage Area Map (PDA-1) &
Hydrologic Computations (HydroCAD)

PROPOSED DRAINAGE AREAS

	TOTAL AREA (ACRES)	COMPOSITE CN	TC (MINS.)
PDA-1A	7.248	38	73.7
PDA-1B	4.740	39	53.8
PDA-2A	3.397	38	92.5
PDA-2B	1.750	39	51.6
PDA-3	5.225	65	28.0



TRUE N

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION

3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PUREPOWER ENGINEERING

5 MARINE VIEW PLAZA, SUITE 301
HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC

NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON &
ADDRESS: COMPANY
1 BECTON DR.
FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

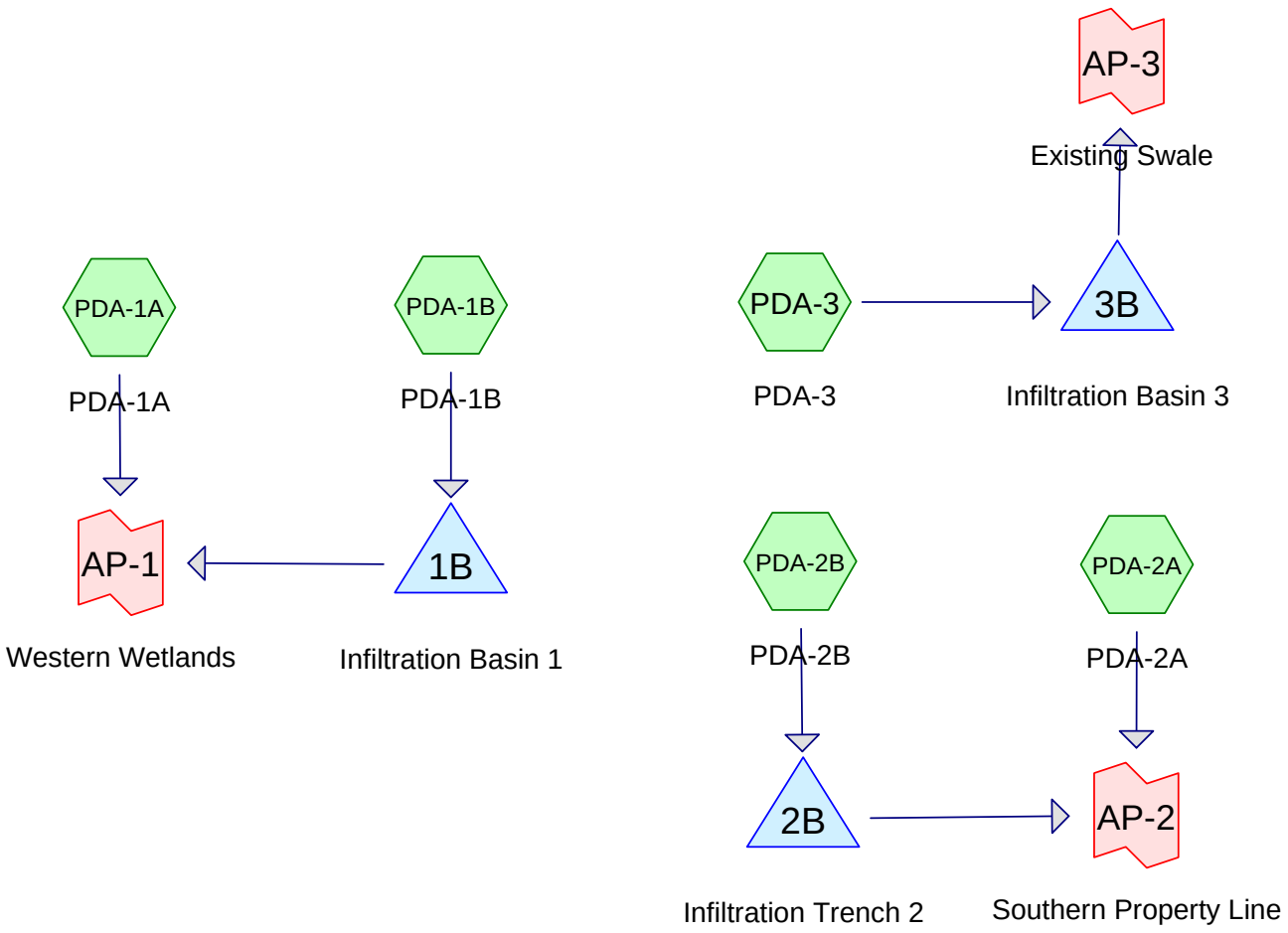
DRAWN BY: ELZ
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:

PROPOSED DRAINAGE AREA MAP

SHEET NUMBER:

PDA-1



Subcat Reach Pond Link

Routing Diagram for North Canaan - Proposed Rev1 11-17-17
Prepared by Microsoft, Printed 11/17/2017

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
10.770	39	>75% Grass cover, Good, HSG A (PDA-1A, PDA-1B, PDA-2A, PDA-2B, PDA-3)
1.478	80	>75% Grass cover, Good, HSG D (PDA-1A, PDA-3)
0.419	72	Dirt roads, HSG A (PDA-1A, PDA-2A, PDA-3)
0.378	89	Dirt roads, HSG D (PDA-3)
0.086	76	Gravel roads, HSG A (PDA-2A, PDA-3)
0.010	91	Gravel roads, HSG D (PDA-3)
0.014	98	Paved parking, HSG A (PDA-2A, PDA-3)
0.772	98	Paved parking, HSG D (PDA-3)
8.203	36	Woods, Fair, HSG A (PDA-1A, PDA-2A, PDA-3)
0.230	79	Woods, Fair, HSG D (PDA-1A, PDA-3)
22.360	**45**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	3B	660.10	659.70	83.0	0.0048	0.011	40.0	27.0	0.0

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 PDA-1A: PDA-1A Runoff Area=7.248 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=364' Tc=73.7 min CN=38 Runoff=0.00 cfs 0.000 af

Subcatchment PDA-1B: PDA-1B Runoff Area=4.740 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=524' Tc=53.8 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment PDA-2A: PDA-2A Runoff Area=3.397 ac 0.21% Impervious Runoff Depth=0.00"
Flow Length=719' Tc=92.5 min CN=38 Runoff=0.00 cfs 0.000 af

Subcatchment PDA-2B: PDA-2B Runoff Area=1.750 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=280' Tc=51.6 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment PDA-3: PDA-3 Runoff Area=5.225 ac 14.91% Impervious Runoff Depth=0.60"
Flow Length=1,059' Tc=28.0 min CN=65 Runoff=1.70 cfs 0.261 af

Pond 1B: Infiltration Basin 1 Peak Elev=659.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 2B: Infiltration Trench 2 Peak Elev=658.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 3B: Infiltration Basin 3 Peak Elev=660.46' Storage=2,273 cf Inflow=1.70 cfs 0.261 af
Discarded=0.15 cfs 0.154 af Primary=1.05 cfs 0.108 af Outflow=1.20 cfs 0.261 af

Link AP-1: Western Wetlands Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP-2: Southern Property Line Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP-3: Existing Swale Inflow=1.05 cfs 0.108 af
Primary=1.05 cfs 0.108 af

Total Runoff Area = 22.360 ac Runoff Volume = 0.262 af Average Runoff Depth = 0.14"
96.48% Pervious = 21.574 ac 3.52% Impervious = 0.786 ac

Summary for Subcatchment PDA-1A: PDA-1A

[45] Hint: Runoff=Zero

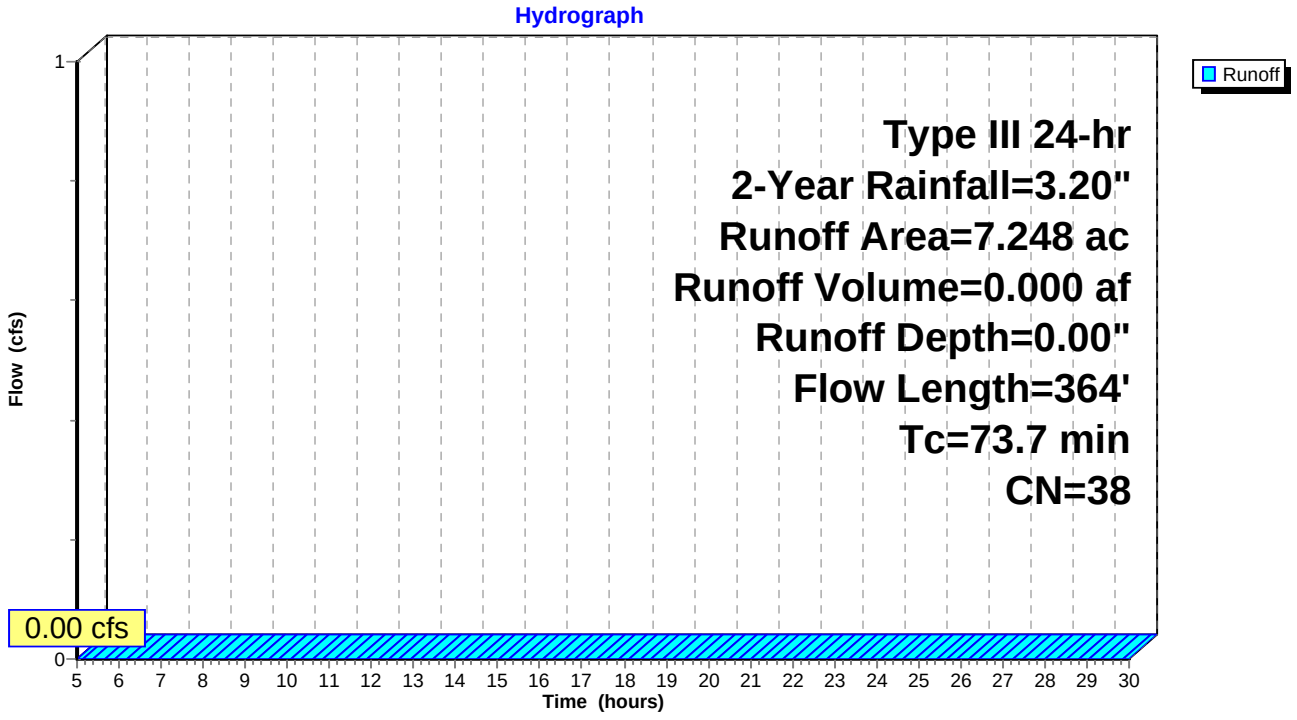
Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
4.843	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
2.150	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
7.248	38	Weighted Average
7.248		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
8.6	164	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
73.7	364	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

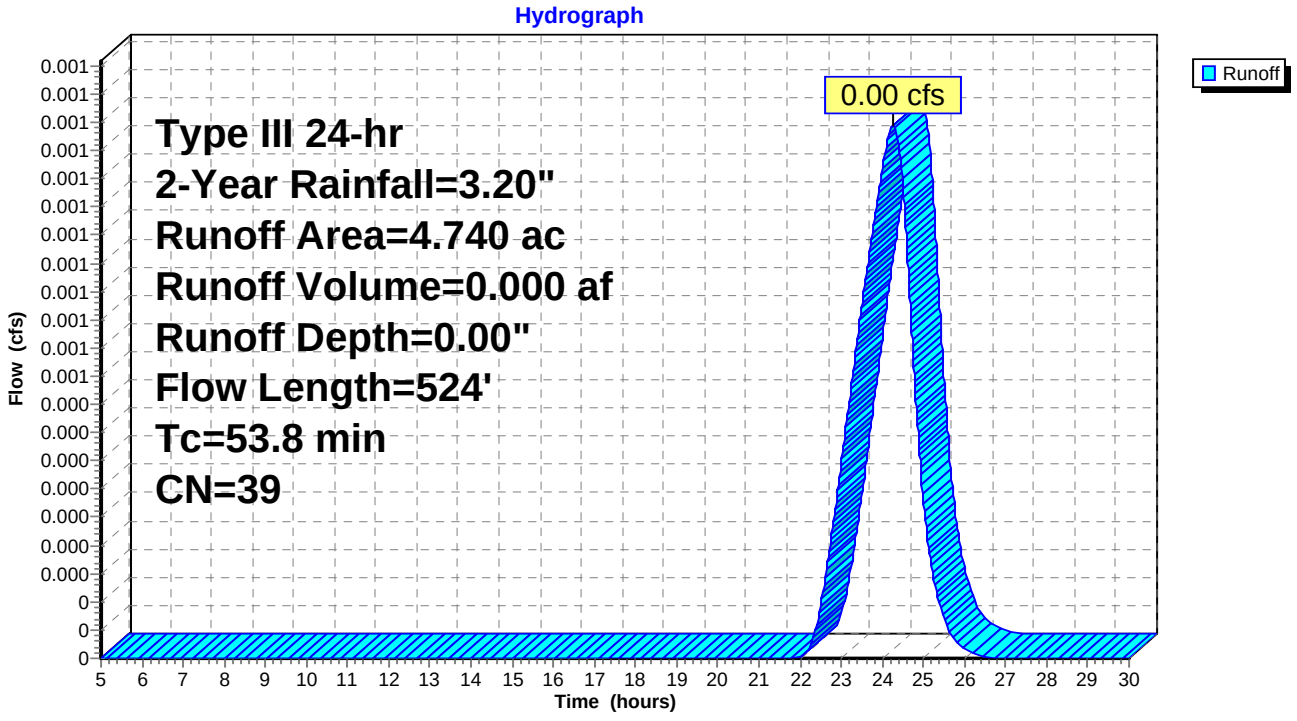
Runoff = 0.00 cfs @ 24.27 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
4.740	39	>75% Grass cover, Good, HSG A
4.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.6	200	0.0055	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
12.2	324	0.0040	0.44		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
53.8	524	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Subcatchment PDA-2A: PDA-2A

[45] Hint: Runoff=Zero

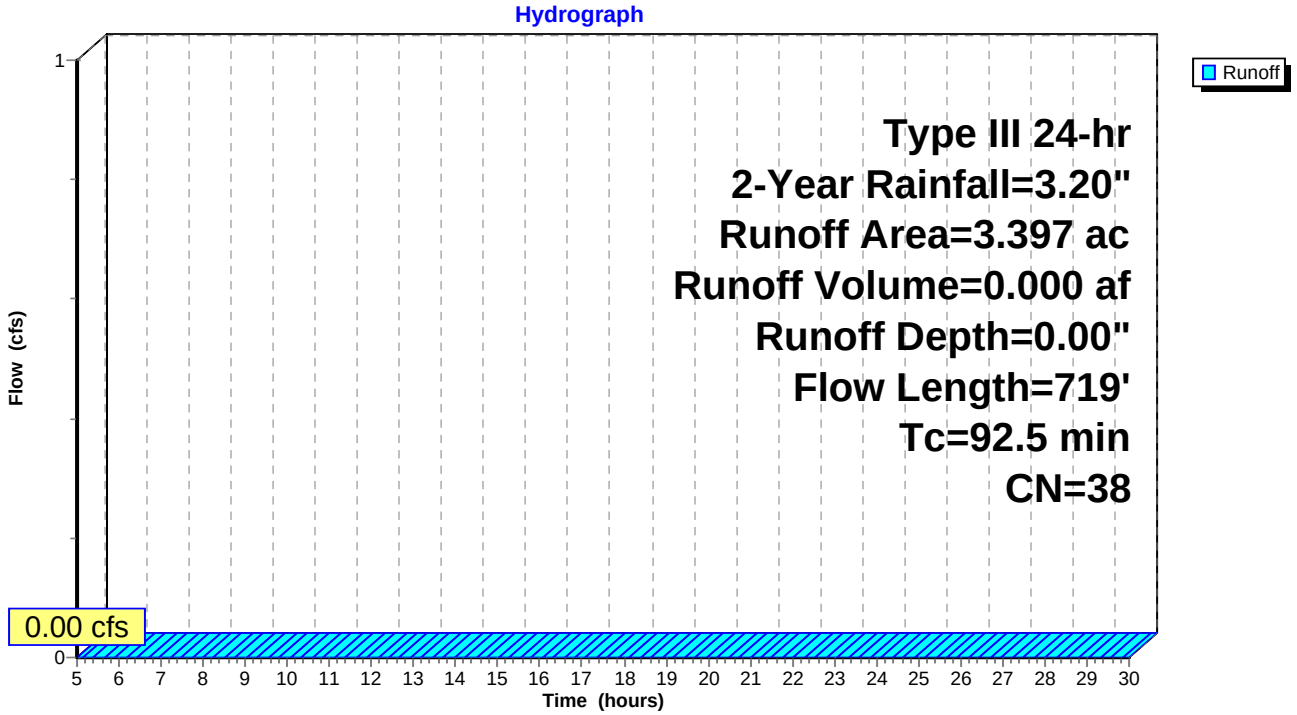
Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
2.231	36	Woods, Fair, HSG A
1.029	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
0.033	76	Gravel roads, HSG A
0.007	98	Paved parking, HSG A
3.397	38	Weighted Average
3.390		99.79% Pervious Area
0.007		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment PDA-2A: PDA-2A



Summary for Subcatchment PDA-2B: PDA-2B

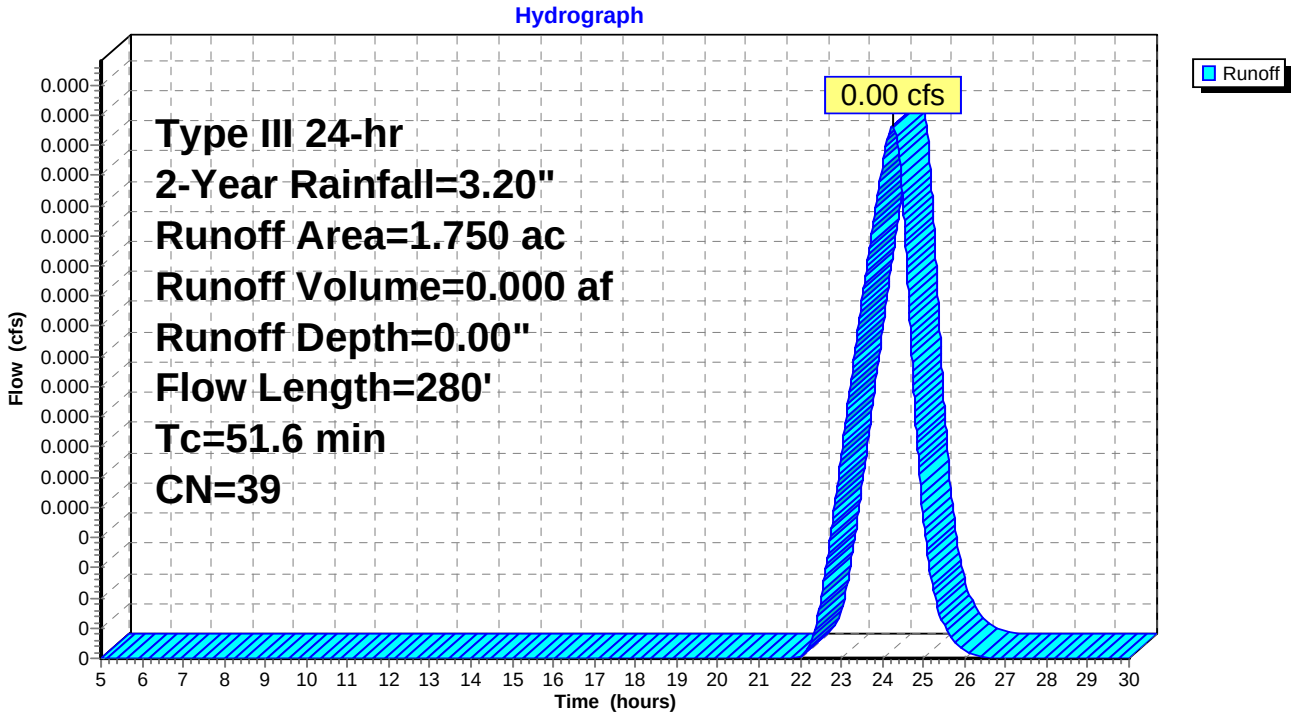
Runoff = 0.00 cfs @ 24.25 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
1.750	39	>75% Grass cover, Good, HSG A
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.9	200	0.0035	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
1.7	80	0.0129	0.80		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
51.6	280	Total			

Subcatchment PDA-2B: PDA-2B



Summary for Subcatchment PDA-3: PDA-3

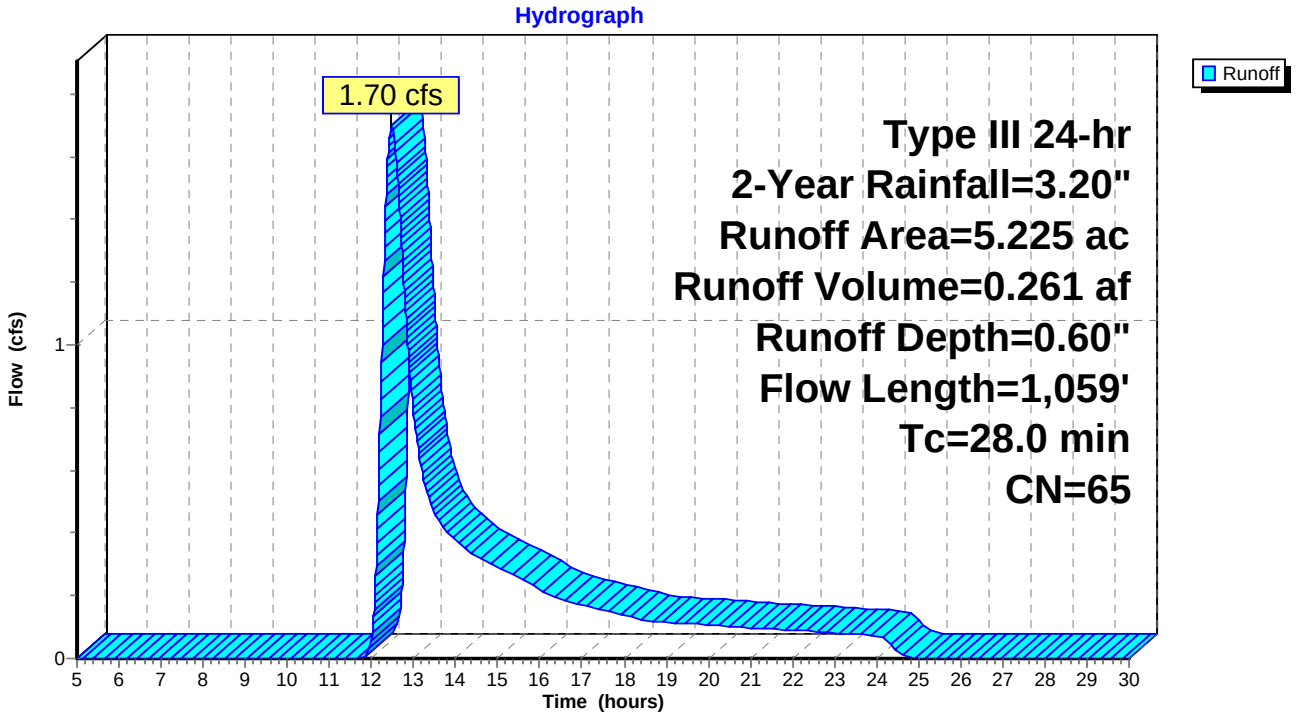
Runoff = 1.70 cfs @ 12.48 hrs, Volume= 0.261 af, Depth= 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
1.101	39	>75% Grass cover, Good, HSG A
1.455	80	>75% Grass cover, Good, HSG D
1.129	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.007	98	Paved parking, HSG A
0.772	98	Paved parking, HSG D
0.053	76	Gravel roads, HSG A
0.010	91	Gravel roads, HSG D
5.225	65	Weighted Average
4.446		85.09% Pervious Area
0.779		14.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment PDA-3: PDA-3



Summary for Pond 1B: Infiltration Basin 1

Inflow Area = 4.740 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.27 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 24.31 hrs, Volume= 0.000 af, Atten= 0%, Lag= 2.3 min
Discarded = 0.00 cfs @ 24.31 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 659.00' @ 24.31 hrs Surf.Area= 3,590 sf Storage= 0 cf

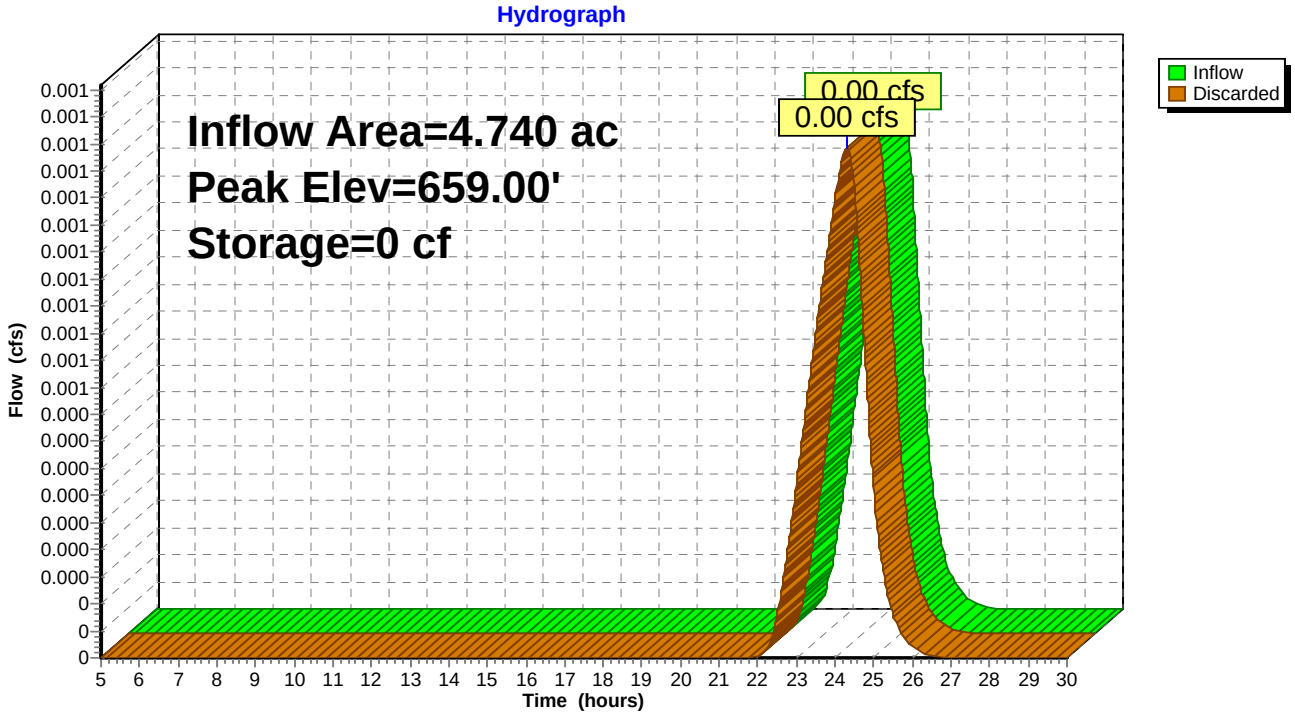
Plug-Flow detention time= 2.4 min calculated for 0.000 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (1,443.3 - 1,440.9)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,503 cf	**5.00'W x 718.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.25 cfs @ 24.31 hrs HW=659.00' (Free Discharge)
1=Exfiltration (Controls 0.25 cfs)

Pond 1B: Infiltration Basin 1



Summary for Pond 2B: Infiltration Trench 2

Inflow Area = 1.750 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 24.25 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 24.29 hrs, Volume= 0.000 af, Atten= 0%, Lag= 2.0 min
Discarded = 0.00 cfs @ 24.29 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 658.00' @ 24.29 hrs Surf.Area= 1,665 sf Storage= 0 cf

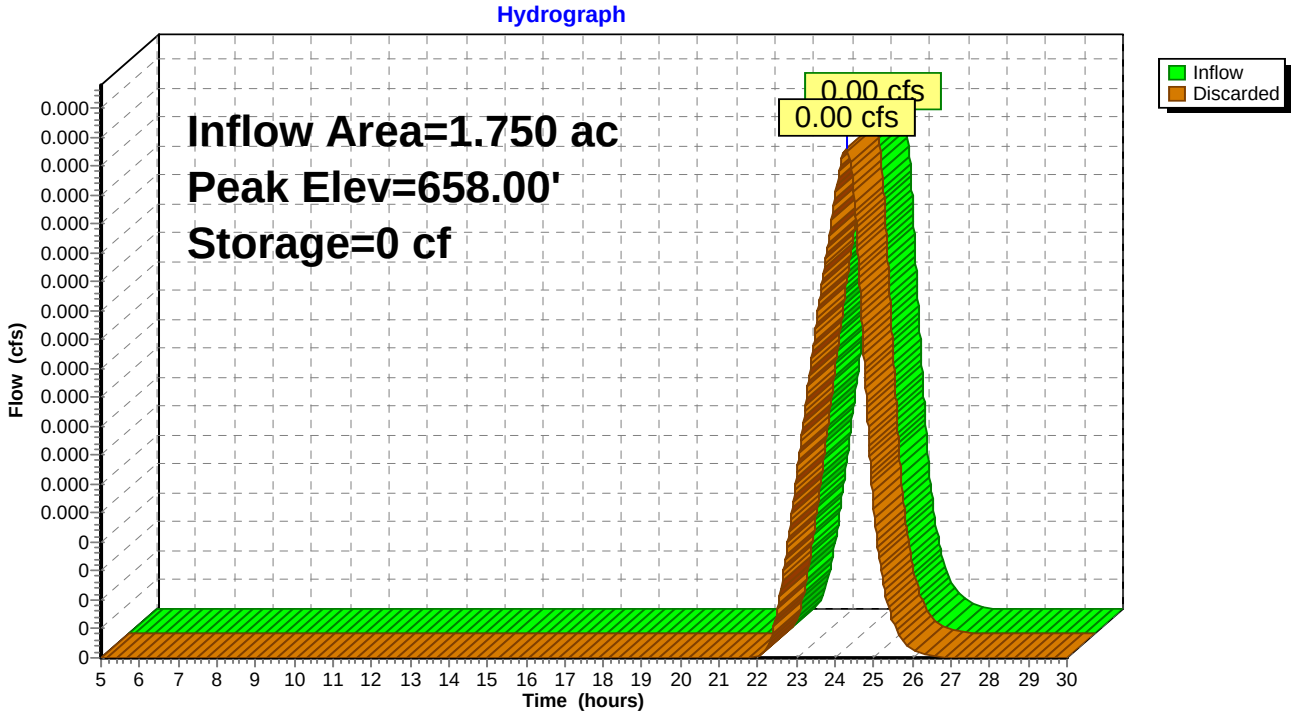
Plug-Flow detention time= 2.4 min calculated for 0.000 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (1,441.3 - 1,438.9)

Volume	Invert	Avail.Storage	Storage Description
#1	658.00'	3,038 cf	**5.00'W x 333.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	658.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.12 cfs @ 24.29 hrs HW=658.00' (Free Discharge)
└**1=Exfiltration** (Controls 0.12 cfs)

Pond 2B: Infiltration Trench 2



Summary for Pond 3B: Infiltration Basin 3

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 0.60" for 2-Year event
Inflow = 1.70 cfs @ 12.48 hrs, Volume= 0.261 af
Outflow = 1.20 cfs @ 12.77 hrs, Volume= 0.261 af, Atten= 30%, Lag= 17.6 min
Discarded = 0.15 cfs @ 12.77 hrs, Volume= 0.154 af
Primary = 1.05 cfs @ 12.77 hrs, Volume= 0.108 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 660.46' @ 12.77 hrs Surf.Area= 2,098 sf Storage= 2,273 cf

Plug-Flow detention time= 111.7 min calculated for 0.261 af (100% of inflow)
Center-of-Mass det. time= 111.7 min (1,027.5 - 915.8)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

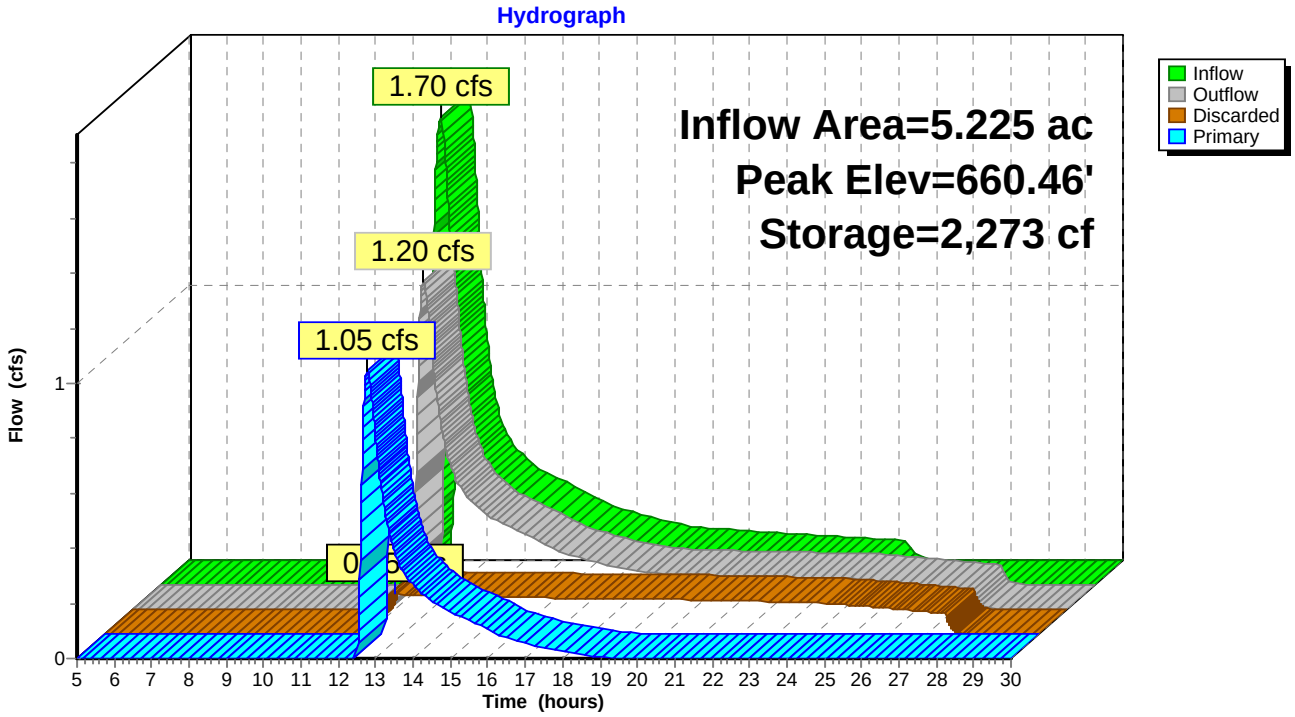
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	1,047	0	0
660.00	1,735	1,391	1,391
661.00	2,524	2,130	3,521
662.00	3,413	2,969	6,489

Device	Routing	Invert	Outlet Devices
#1	Primary	660.10'	**40.0" W x 27.0" H Ellipse Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 660.10' / 659.70' S= 0.0048 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 5.89 sf
#2	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.15 cfs @ 12.77 hrs HW=660.46' (Free Discharge)
↑└**2=Exfiltration** (Controls 0.15 cfs)

Primary OutFlow Max=1.05 cfs @ 12.77 hrs HW=660.46' (Free Discharge)
↑└**1=Culvert** (Inlet Controls 1.05 cfs @ 1.72 fps)

Pond 3B: Infiltration Basin 3

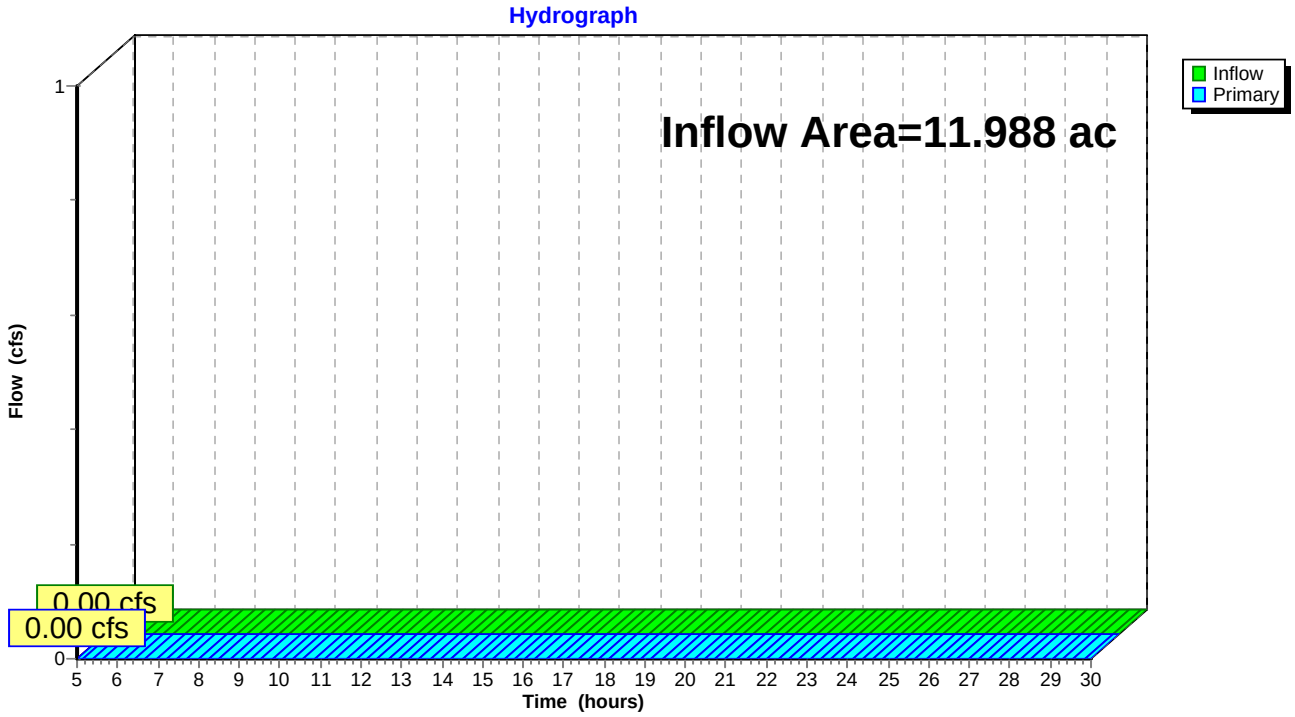


Summary for Link AP-1: Western Wetlands

Inflow Area = 11.988 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

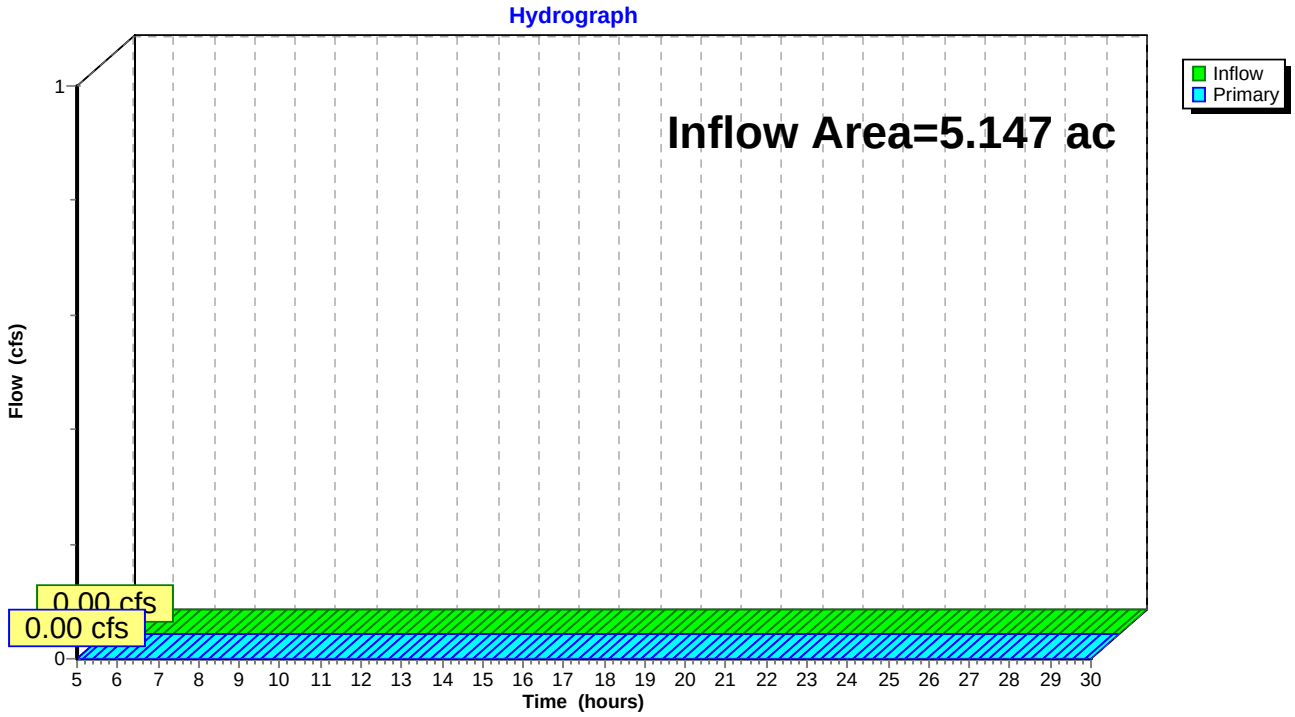


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.147 ac, 0.14% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

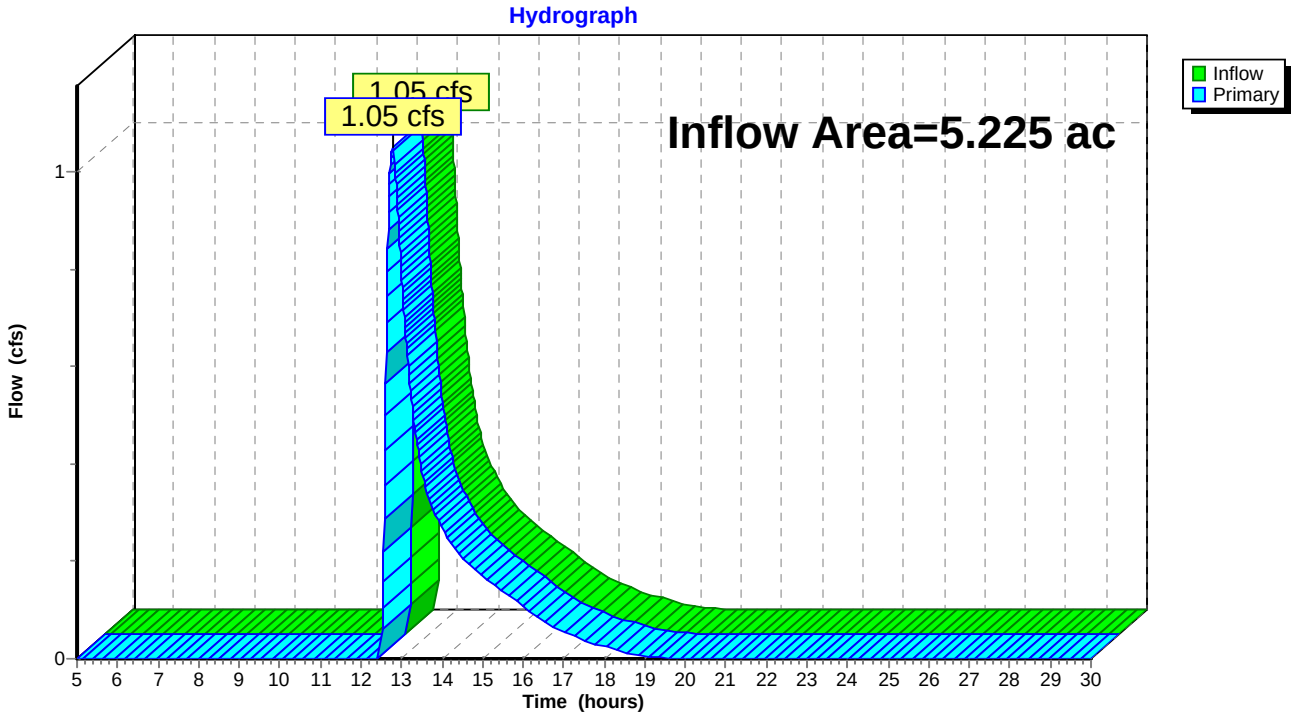


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 0.25" for 2-Year event
Inflow = 1.05 cfs @ 12.77 hrs, Volume= 0.108 af
Primary = 1.05 cfs @ 12.77 hrs, Volume= 0.108 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 PDA-1A: PDA-1A Runoff Area=7.248 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=364' Tc=73.7 min CN=38 Runoff=0.11 cfs 0.070 af

Subcatchment PDA-1B: PDA-1B Runoff Area=4.740 ac 0.00% Impervious Runoff Depth=0.14"
Flow Length=524' Tc=53.8 min CN=39 Runoff=0.09 cfs 0.057 af

Subcatchment PDA-2A: PDA-2A Runoff Area=3.397 ac 0.21% Impervious Runoff Depth=0.12"
Flow Length=719' Tc=92.5 min CN=38 Runoff=0.05 cfs 0.033 af

Subcatchment PDA-2B: PDA-2B Runoff Area=1.750 ac 0.00% Impervious Runoff Depth=0.14"
Flow Length=280' Tc=51.6 min CN=39 Runoff=0.03 cfs 0.021 af

Subcatchment PDA-3: PDA-3 Runoff Area=5.225 ac 14.91% Impervious Runoff Depth=1.46"
Flow Length=1,059' Tc=28.0 min CN=65 Runoff=4.87 cfs 0.635 af

Pond 1B: Infiltration Basin 1 Peak Elev=659.00' Storage=13 cf Inflow=0.09 cfs 0.057 af
Outflow=0.09 cfs 0.057 af

Pond 2B: Infiltration Trench 2 Peak Elev=658.00' Storage=5 cf Inflow=0.03 cfs 0.021 af
Outflow=0.03 cfs 0.021 af

Pond 3B: Infiltration Basin 3 Peak Elev=660.87' Storage=3,192 cf Inflow=4.87 cfs 0.635 af
Discarded=0.17 cfs 0.182 af Primary=4.50 cfs 0.453 af Outflow=4.67 cfs 0.635 af

Link AP-1: Western Wetlands Inflow=0.11 cfs 0.070 af
Primary=0.11 cfs 0.070 af

Link AP-2: Southern Property Line Inflow=0.05 cfs 0.033 af
Primary=0.05 cfs 0.033 af

Link AP-3: Existing Swale Inflow=4.50 cfs 0.453 af
Primary=4.50 cfs 0.453 af

Total Runoff Area = 22.360 ac Runoff Volume = 0.815 af Average Runoff Depth = 0.44"
96.48% Pervious = 21.574 ac 3.52% Impervious = 0.786 ac

Summary for Subcatchment PDA-1A: PDA-1A

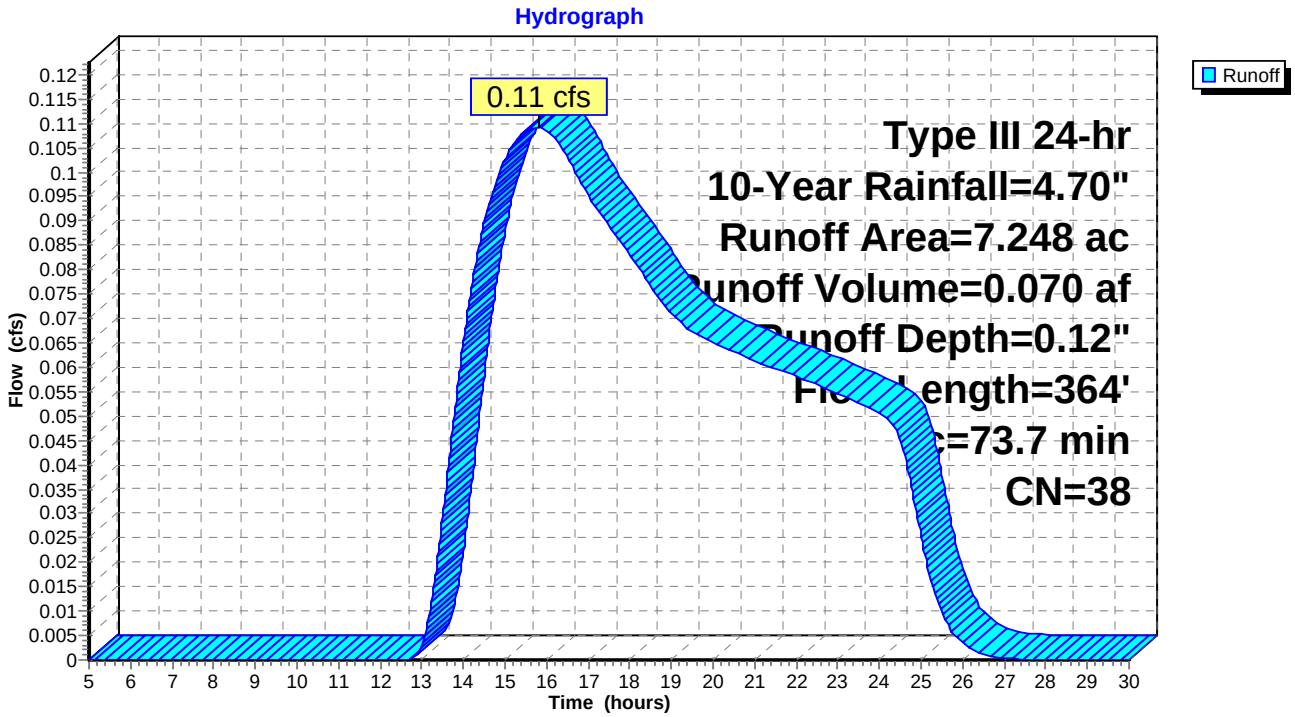
Runoff = 0.11 cfs @ 15.80 hrs, Volume= 0.070 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
4.843	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
2.150	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
7.248	38	Weighted Average
7.248		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
8.6	164	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
73.7	364	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

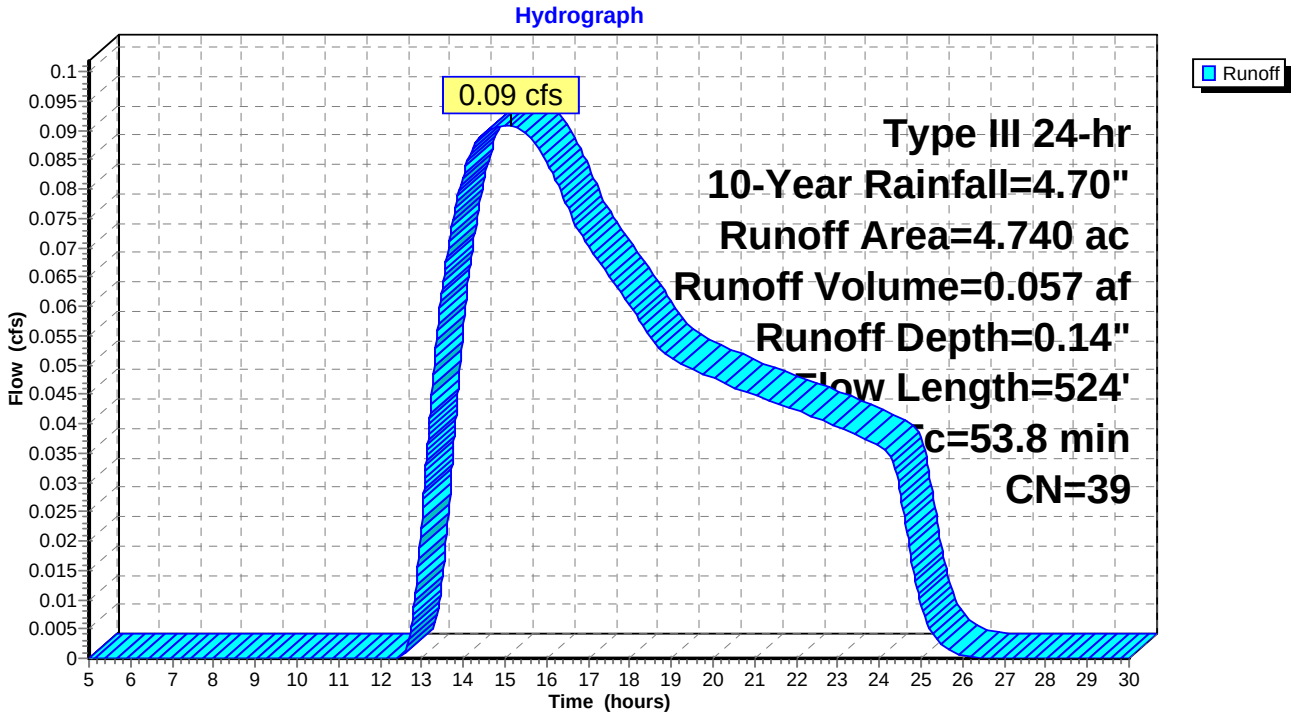
Runoff = 0.09 cfs @ 15.12 hrs, Volume= 0.057 af, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
4.740	39	>75% Grass cover, Good, HSG A
4.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.6	200	0.0055	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
12.2	324	0.0040	0.44		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
53.8	524	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Subcatchment PDA-2A: PDA-2A

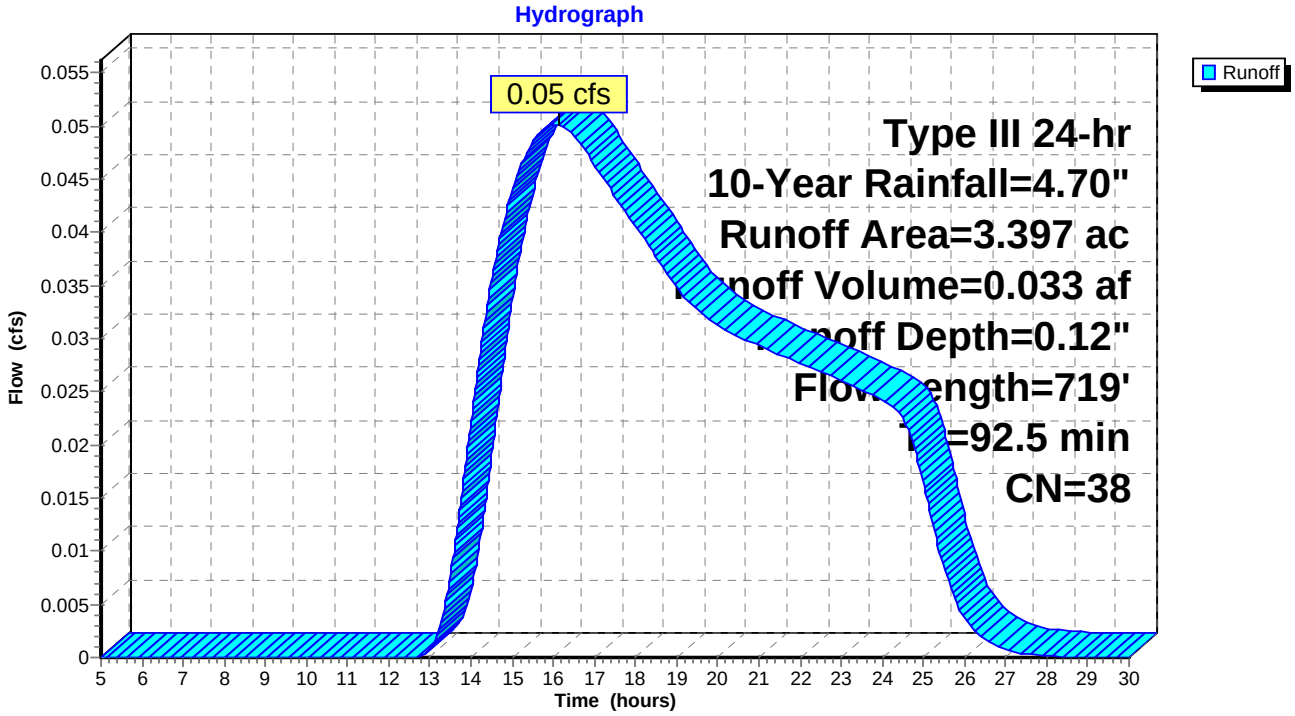
Runoff = 0.05 cfs @ 16.13 hrs, Volume= 0.033 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
2.231	36	Woods, Fair, HSG A
1.029	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
0.033	76	Gravel roads, HSG A
0.007	98	Paved parking, HSG A
3.397	38	Weighted Average
3.390		99.79% Pervious Area
0.007		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment PDA-2A: PDA-2A



Summary for Subcatchment PDA-2B: PDA-2B

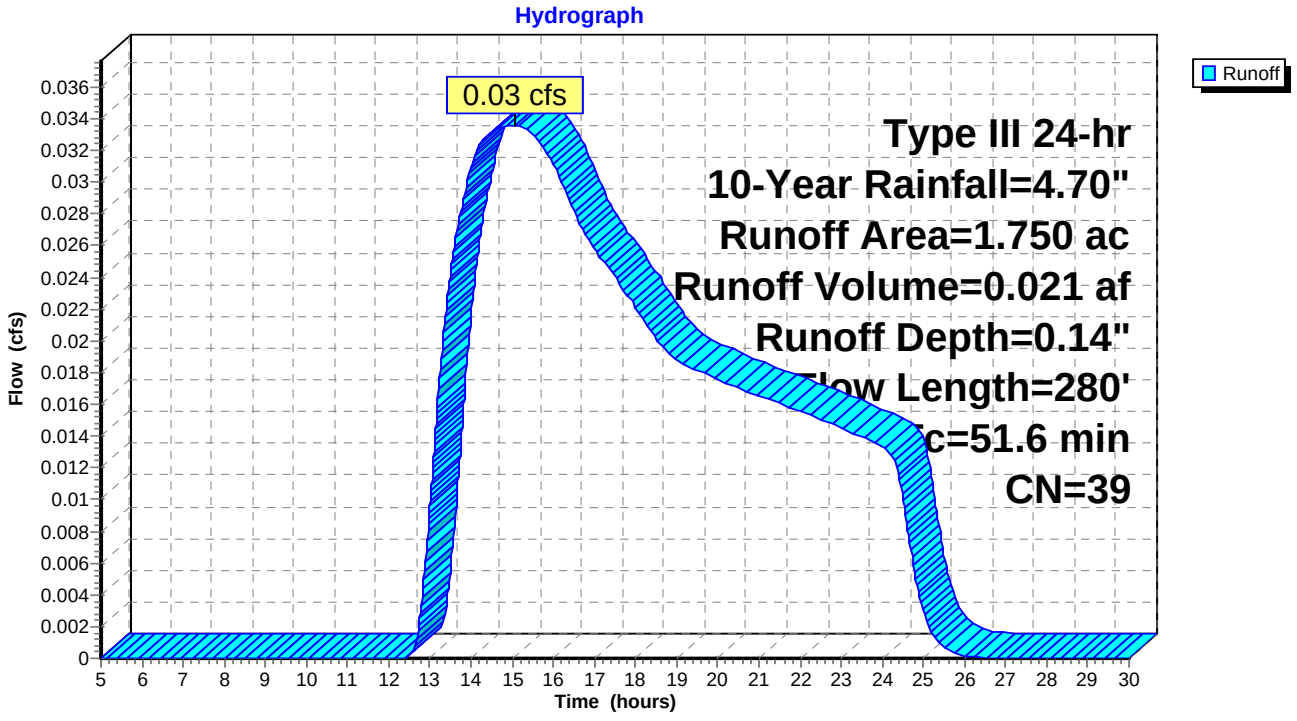
Runoff = 0.03 cfs @ 15.08 hrs, Volume= 0.021 af, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
1.750	39	>75% Grass cover, Good, HSG A
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.9	200	0.0035	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
1.7	80	0.0129	0.80		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
51.6	280	Total			

Subcatchment PDA-2B: PDA-2B



Summary for Subcatchment PDA-3: PDA-3

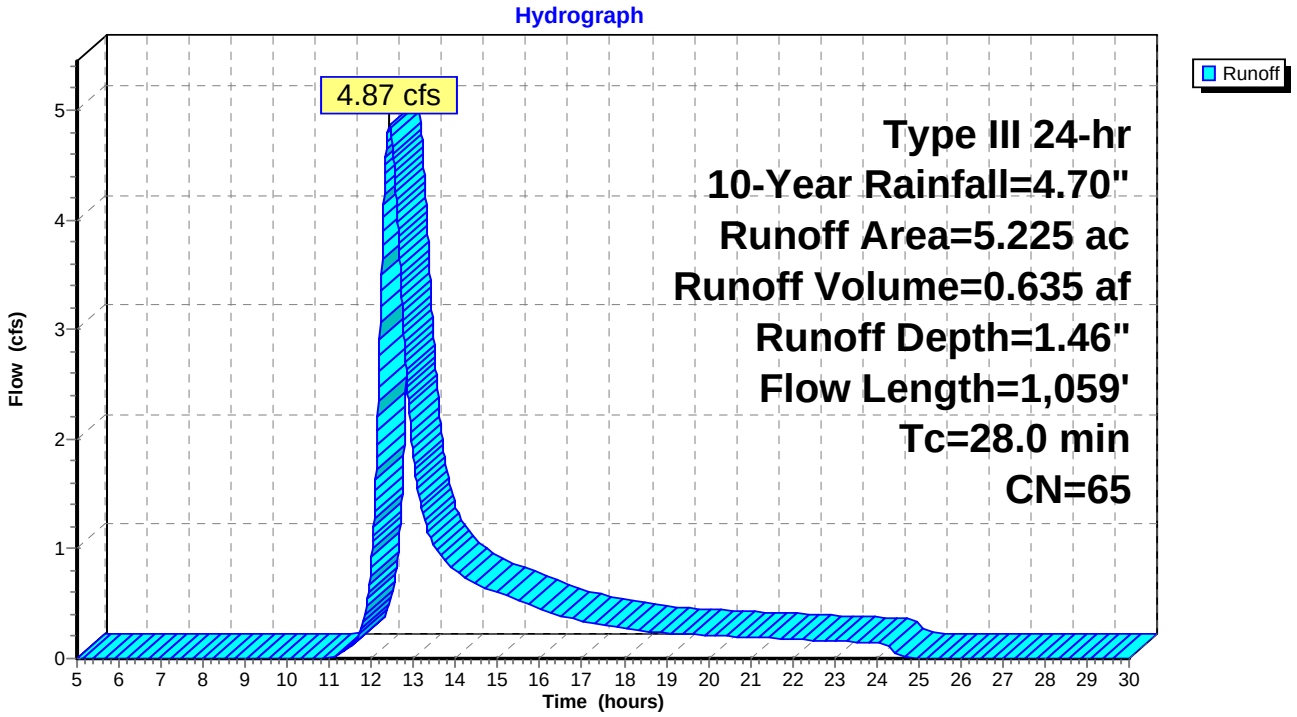
Runoff = 4.87 cfs @ 12.42 hrs, Volume= 0.635 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
1.101	39	>75% Grass cover, Good, HSG A
1.455	80	>75% Grass cover, Good, HSG D
1.129	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.007	98	Paved parking, HSG A
0.772	98	Paved parking, HSG D
0.053	76	Gravel roads, HSG A
0.010	91	Gravel roads, HSG D
5.225	65	Weighted Average
4.446		85.09% Pervious Area
0.779		14.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment PDA-3: PDA-3



Summary for Pond 1B: Infiltration Basin 1

Inflow Area = 4.740 ac, 0.00% Impervious, Inflow Depth = 0.14" for 10-Year event
Inflow = 0.09 cfs @ 15.12 hrs, Volume= 0.057 af
Outflow = 0.09 cfs @ 15.14 hrs, Volume= 0.057 af, Atten= 0%, Lag= 1.1 min
Discarded = 0.09 cfs @ 15.14 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 659.00' @ 15.14 hrs Surf.Area= 3,611 sf Storage= 13 cf

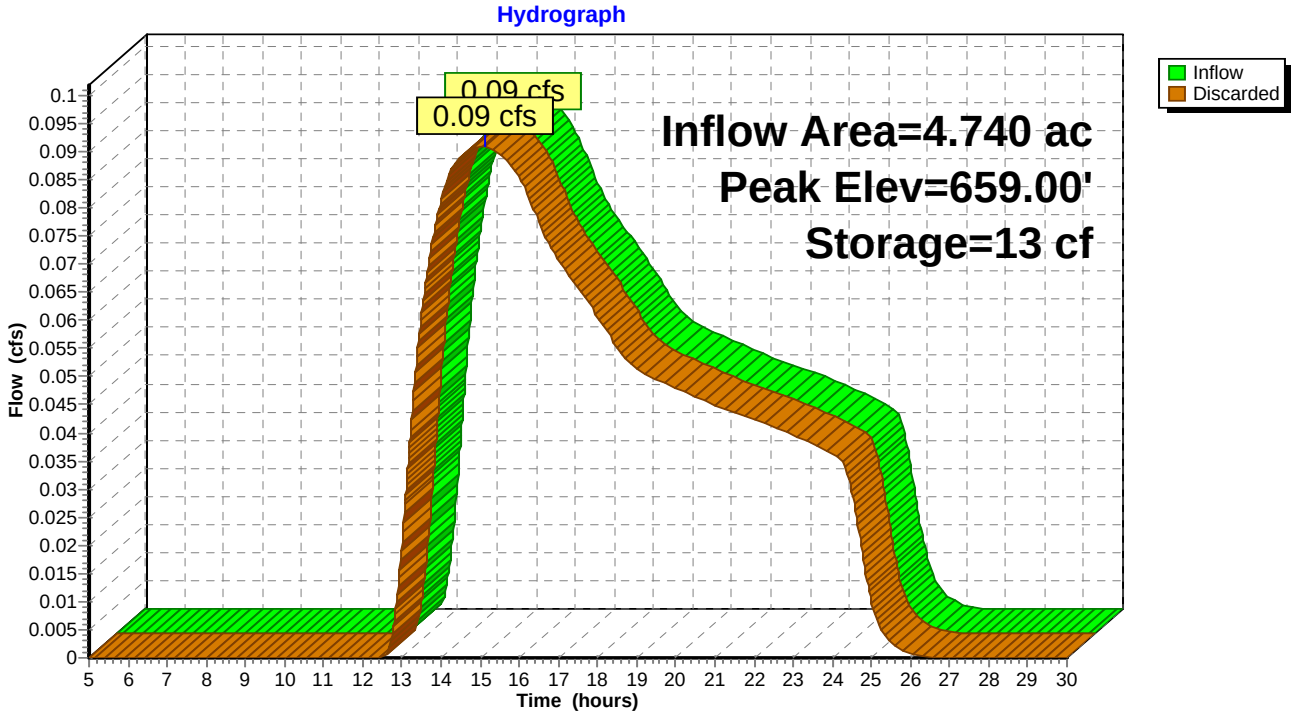
Plug-Flow detention time= 2.4 min calculated for 0.057 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (1,080.9 - 1,078.5)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,503 cf	**5.00'W x 718.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.25 cfs @ 15.14 hrs HW=659.00' (Free Discharge)
1=Exfiltration (Controls 0.25 cfs)

Pond 1B: Infiltration Basin 1



Summary for Pond 2B: Infiltration Trench 2

Inflow Area = 1.750 ac, 0.00% Impervious, Inflow Depth = 0.14" for 10-Year event
Inflow = 0.03 cfs @ 15.08 hrs, Volume= 0.021 af
Outflow = 0.03 cfs @ 15.09 hrs, Volume= 0.021 af, Atten= 0%, Lag= 1.0 min
Discarded = 0.03 cfs @ 15.09 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 658.00' @ 15.09 hrs Surf.Area= 1,673 sf Storage= 5 cf

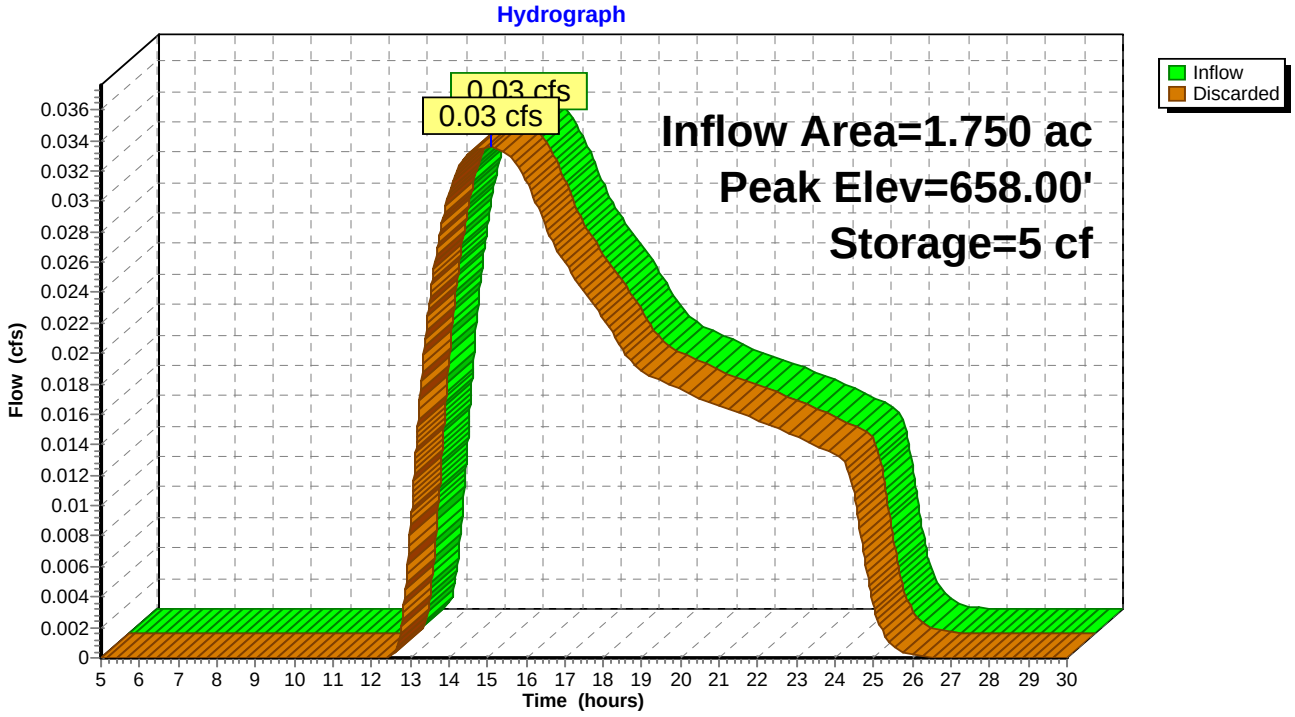
Plug-Flow detention time= 2.4 min calculated for 0.021 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (1,078.8 - 1,076.5)

Volume	Invert	Avail.Storage	Storage Description
#1	658.00'	3,038 cf	**5.00'W x 333.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	658.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.12 cfs @ 15.09 hrs HW=658.00' (Free Discharge)
└**1=Exfiltration** (Controls 0.12 cfs)

Pond 2B: Infiltration Trench 2



Summary for Pond 3B: Infiltration Basin 3

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 1.46" for 10-Year event
Inflow = 4.87 cfs @ 12.42 hrs, Volume= 0.635 af
Outflow = 4.67 cfs @ 12.51 hrs, Volume= 0.635 af, Atten= 4%, Lag= 5.1 min
Discarded = 0.17 cfs @ 12.51 hrs, Volume= 0.182 af
Primary = 4.50 cfs @ 12.51 hrs, Volume= 0.453 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 660.87' @ 12.51 hrs Surf.Area= 2,419 sf Storage= 3,192 cf

Plug-Flow detention time= 59.4 min calculated for 0.635 af (100% of inflow)
Center-of-Mass det. time= 59.3 min (944.6 - 885.2)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

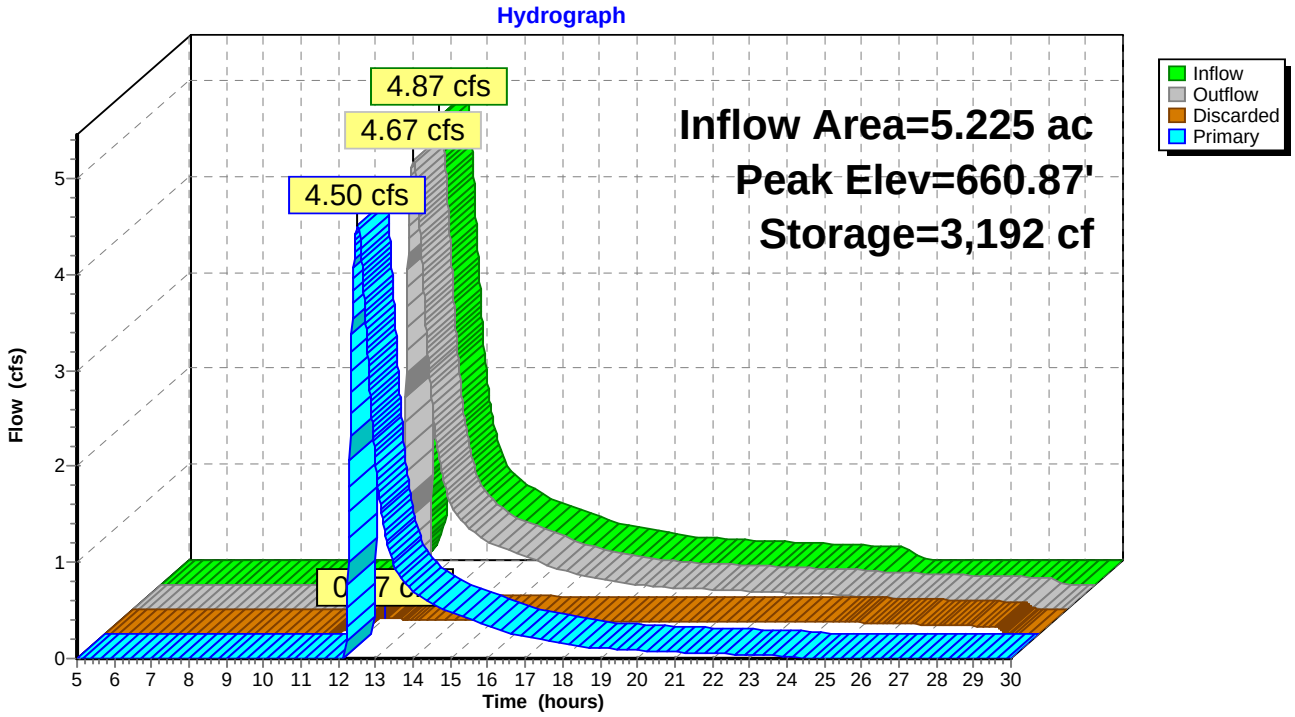
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	1,047	0	0
660.00	1,735	1,391	1,391
661.00	2,524	2,130	3,521
662.00	3,413	2,969	6,489

Device	Routing	Invert	Outlet Devices
#1	Primary	660.10'	**40.0" W x 27.0" H Ellipse Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 660.10' / 659.70' S= 0.0048 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 5.89 sf
#2	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.17 cfs @ 12.51 hrs HW=660.87' (Free Discharge)
↑**2=Exfiltration** (Controls 0.17 cfs)

Primary OutFlow Max=4.50 cfs @ 12.51 hrs HW=660.87' (Free Discharge)
↑**1=Culvert** (Inlet Controls 4.50 cfs @ 2.54 fps)

Pond 3B: Infiltration Basin 3

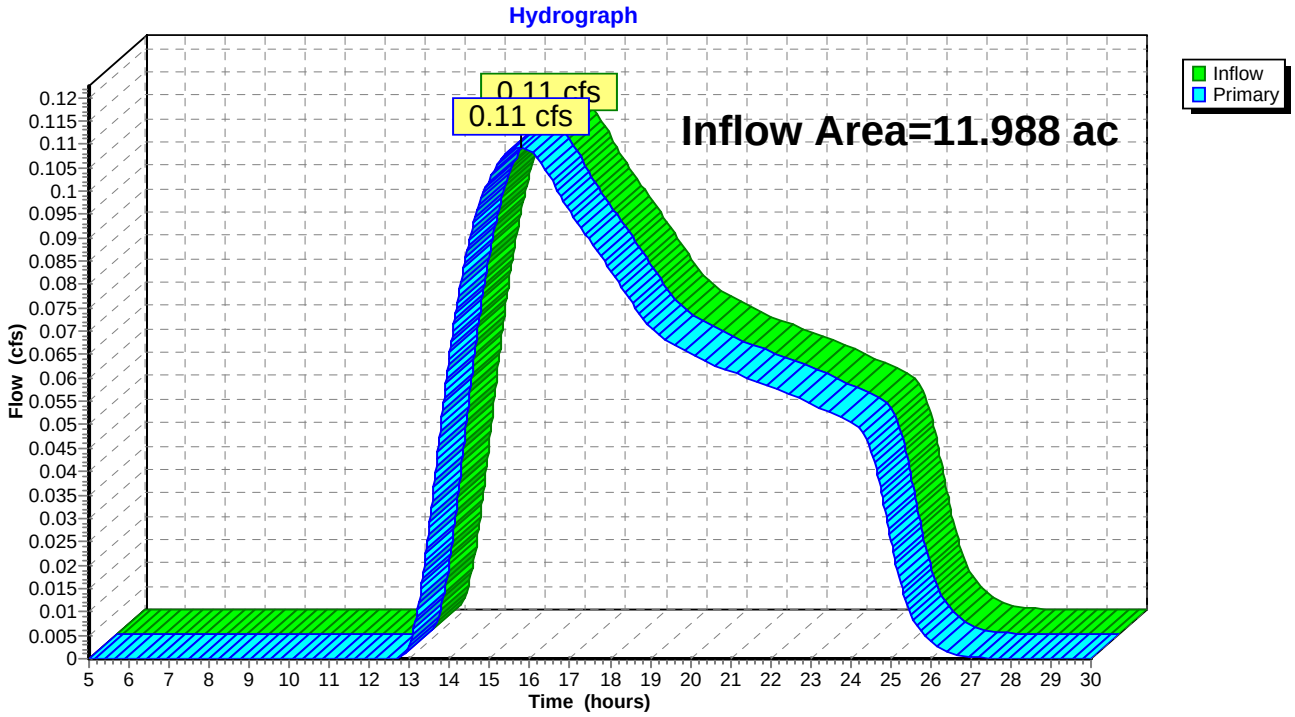


Summary for Link AP-1: Western Wetlands

Inflow Area = 11.988 ac, 0.00% Impervious, Inflow Depth = 0.07" for 10-Year event
Inflow = 0.11 cfs @ 15.80 hrs, Volume= 0.070 af
Primary = 0.11 cfs @ 15.80 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

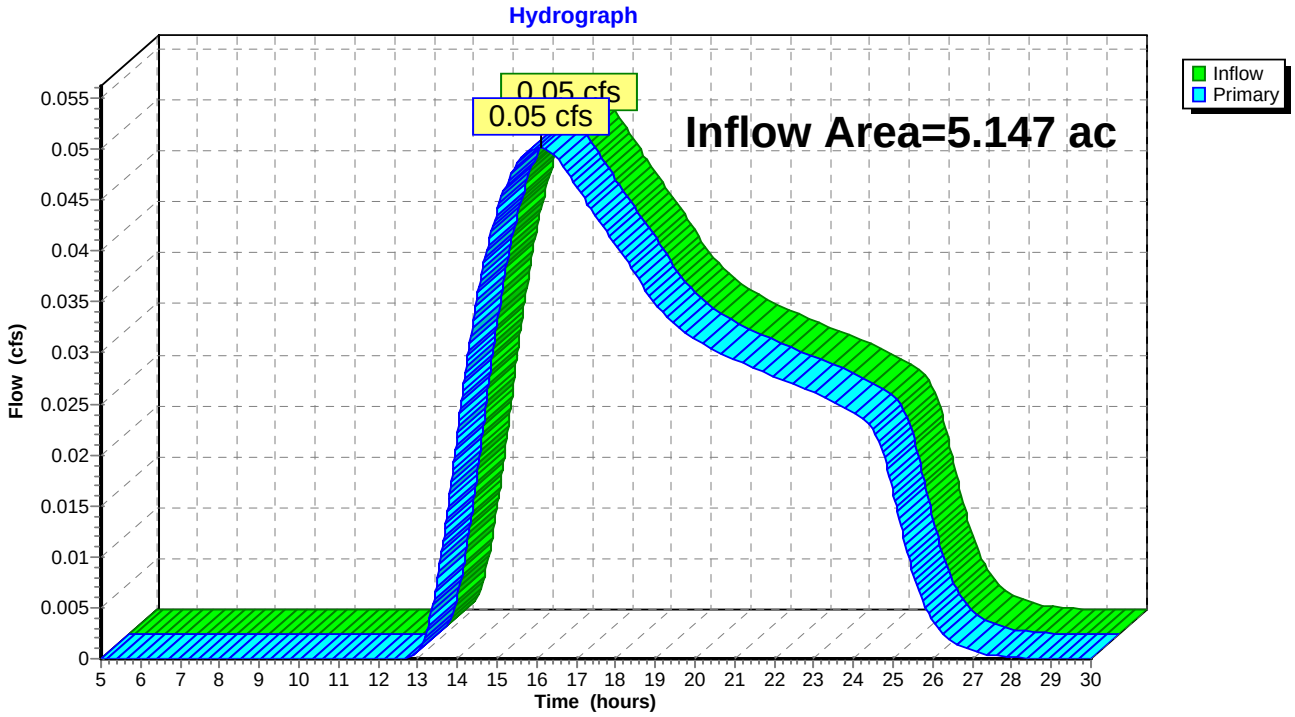


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.147 ac, 0.14% Impervious, Inflow Depth = 0.08" for 10-Year event
Inflow = 0.05 cfs @ 16.13 hrs, Volume= 0.033 af
Primary = 0.05 cfs @ 16.13 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

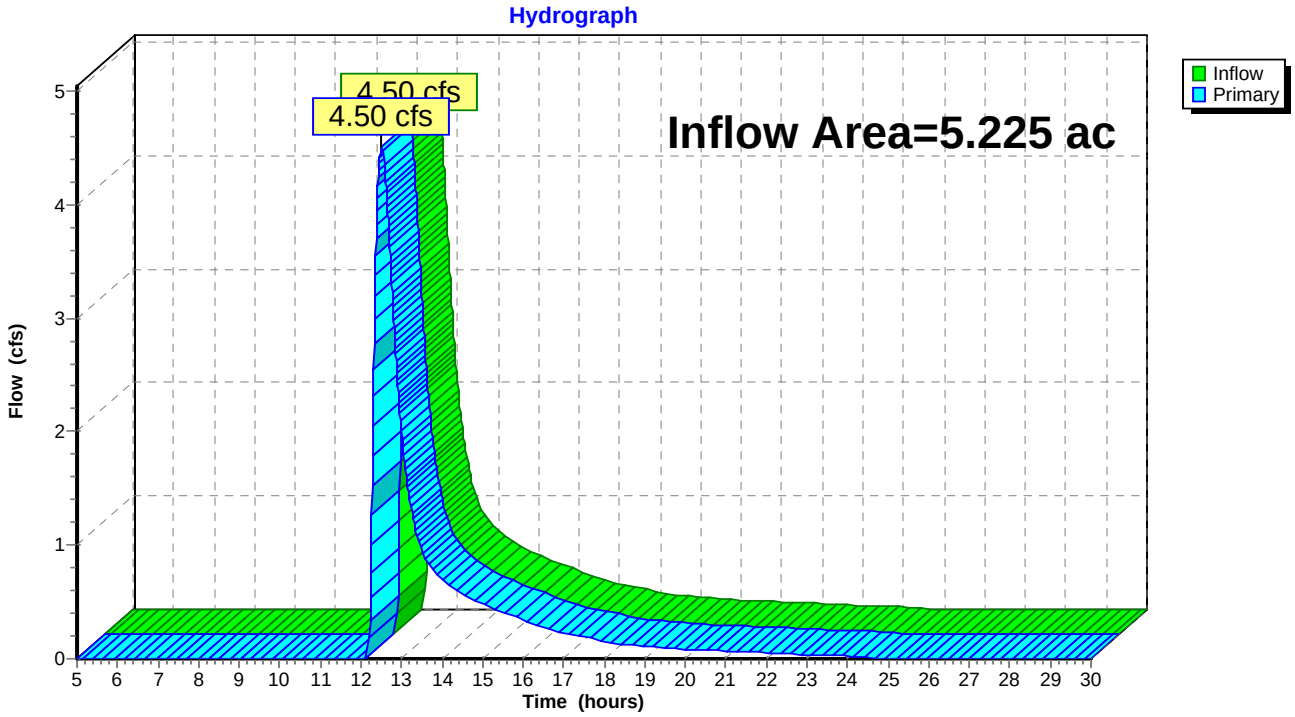


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 1.04" for 10-Year event
Inflow = 4.50 cfs @ 12.51 hrs, Volume= 0.453 af
Primary = 4.50 cfs @ 12.51 hrs, Volume= 0.453 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 PDA-1A: PDA-1A Runoff Area=7.248 ac 0.00% Impervious Runoff Depth=0.27"
Flow Length=364' Tc=73.7 min CN=38 Runoff=0.29 cfs 0.163 af

Subcatchment PDA-1B: PDA-1B Runoff Area=4.740 ac 0.00% Impervious Runoff Depth=0.31"
Flow Length=524' Tc=53.8 min CN=39 Runoff=0.26 cfs 0.123 af

Subcatchment PDA-2A: PDA-2A Runoff Area=3.397 ac 0.21% Impervious Runoff Depth=0.27"
Flow Length=719' Tc=92.5 min CN=38 Runoff=0.13 cfs 0.076 af

Subcatchment PDA-2B: PDA-2B Runoff Area=1.750 ac 0.00% Impervious Runoff Depth=0.31"
Flow Length=280' Tc=51.6 min CN=39 Runoff=0.10 cfs 0.046 af

Subcatchment PDA-3: PDA-3 Runoff Area=5.225 ac 14.91% Impervious Runoff Depth=1.99"
Flow Length=1,059' Tc=28.0 min CN=65 Runoff=6.87 cfs 0.869 af

Pond 1B: Infiltration Basin 1 Peak Elev=659.01' Storage=42 cf Inflow=0.26 cfs 0.123 af
Outflow=0.25 cfs 0.123 af

Pond 2B: Infiltration Trench 2 Peak Elev=658.01' Storage=14 cf Inflow=0.10 cfs 0.046 af
Outflow=0.10 cfs 0.046 af

Pond 3B: Infiltration Basin 3 Peak Elev=661.04' Storage=3,611 cf Inflow=6.87 cfs 0.869 af
Discarded=0.18 cfs 0.190 af Primary=6.50 cfs 0.678 af Outflow=6.68 cfs 0.869 af

Link AP-1: Western Wetlands Inflow=0.29 cfs 0.163 af
Primary=0.29 cfs 0.163 af

Link AP-2: Southern Property Line Inflow=0.13 cfs 0.076 af
Primary=0.13 cfs 0.076 af

Link AP-3: Existing Swale Inflow=6.50 cfs 0.678 af
Primary=6.50 cfs 0.678 af

Total Runoff Area = 22.360 ac Runoff Volume = 1.277 af Average Runoff Depth = 0.69"
96.48% Pervious = 21.574 ac 3.52% Impervious = 0.786 ac

Summary for Subcatchment PDA-1A: PDA-1A

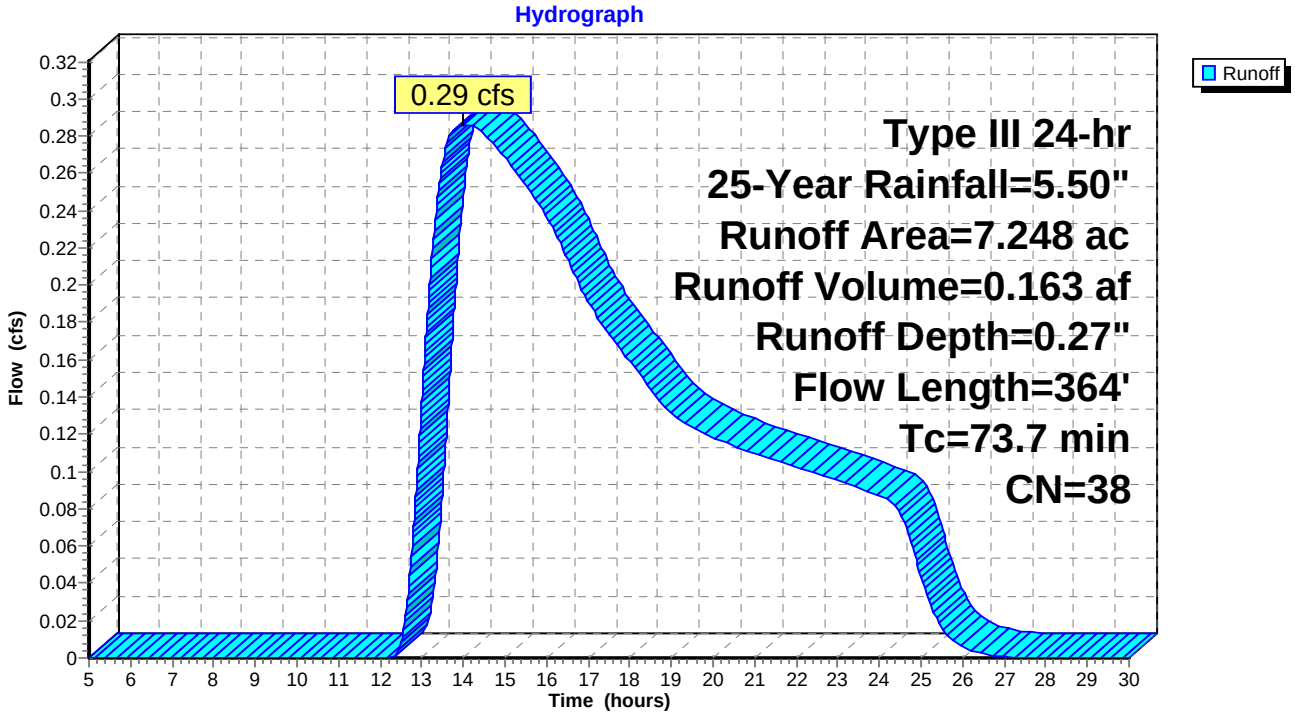
Runoff = 0.29 cfs @ 14.01 hrs, Volume= 0.163 af, Depth= 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
4.843	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
2.150	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
7.248	38	Weighted Average
7.248		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
8.6	164	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
73.7	364	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

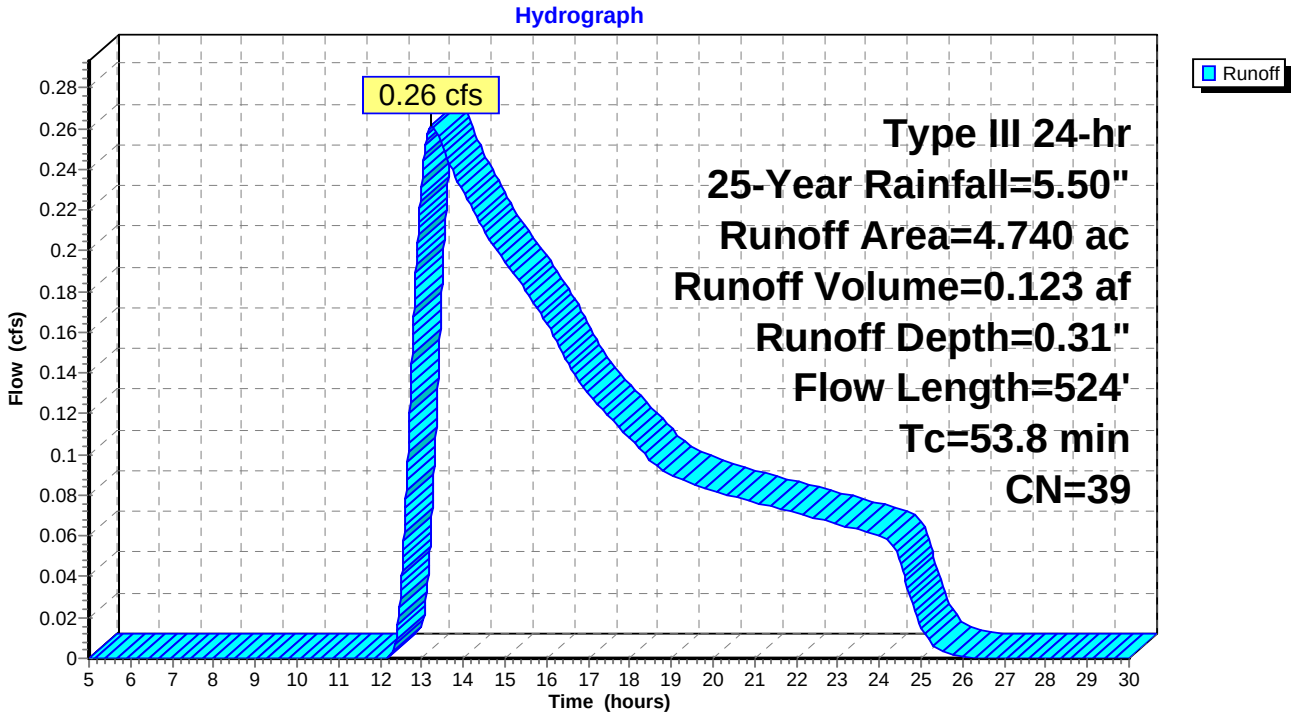
Runoff = 0.26 cfs @ 13.22 hrs, Volume= 0.123 af, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
4.740	39	>75% Grass cover, Good, HSG A
4.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.6	200	0.0055	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
12.2	324	0.0040	0.44		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
53.8	524	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Subcatchment PDA-2A: PDA-2A

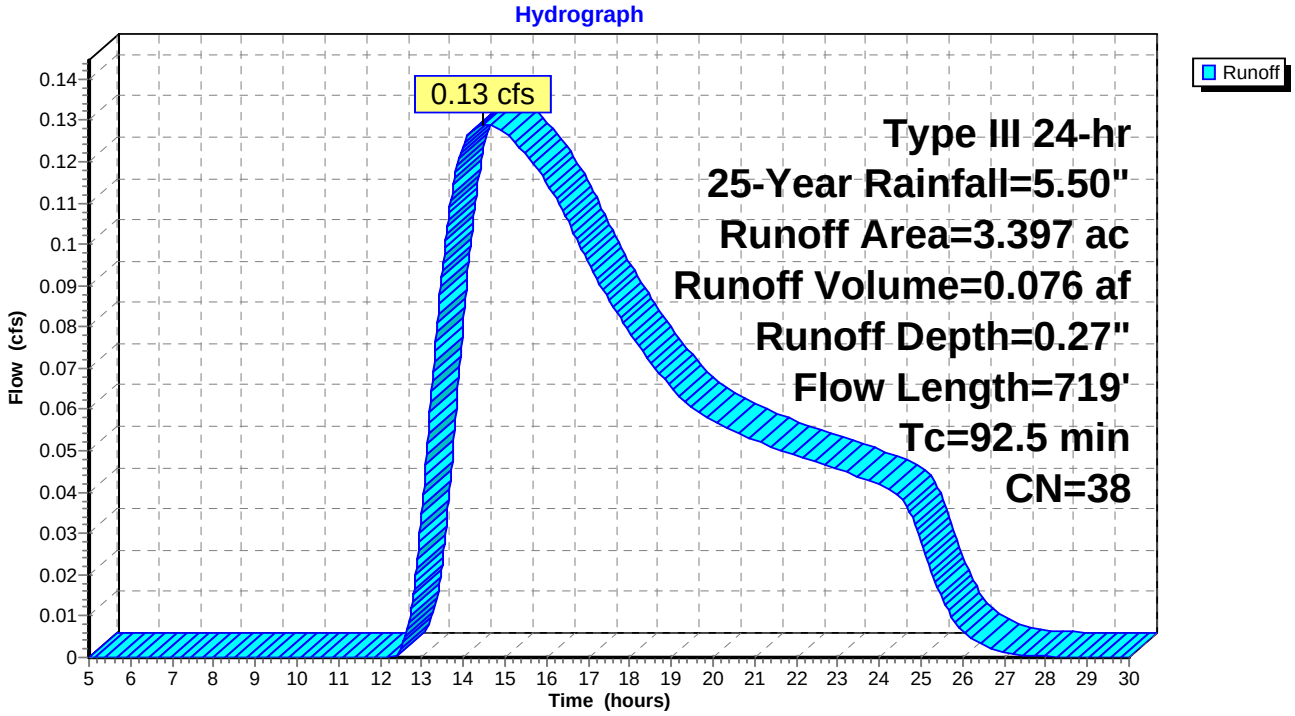
Runoff = 0.13 cfs @ 14.49 hrs, Volume= 0.076 af, Depth= 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
2.231	36	Woods, Fair, HSG A
1.029	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
0.033	76	Gravel roads, HSG A
0.007	98	Paved parking, HSG A
3.397	38	Weighted Average
3.390		99.79% Pervious Area
0.007		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment PDA-2A: PDA-2A



Summary for Subcatchment PDA-2B: PDA-2B

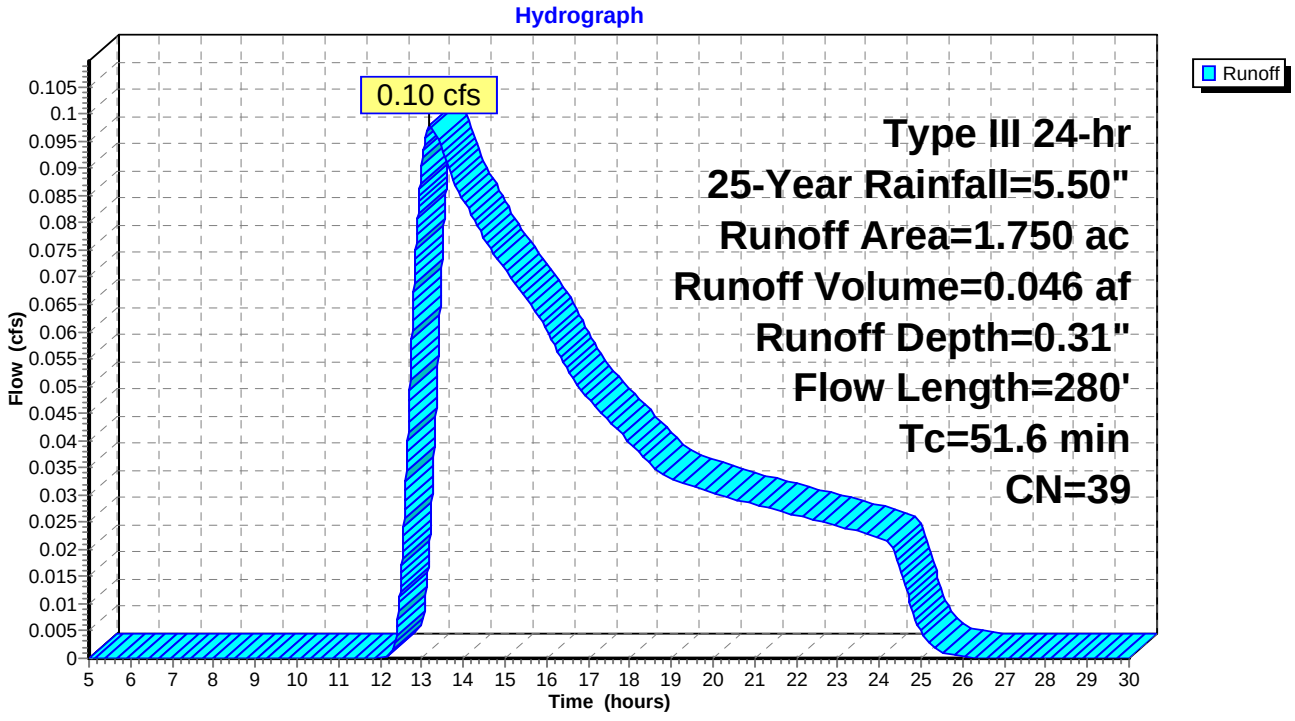
Runoff = 0.10 cfs @ 13.19 hrs, Volume= 0.046 af, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
1.750	39	>75% Grass cover, Good, HSG A
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.9	200	0.0035	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
1.7	80	0.0129	0.80		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
51.6	280	Total			

Subcatchment PDA-2B: PDA-2B



Summary for Subcatchment PDA-3: PDA-3

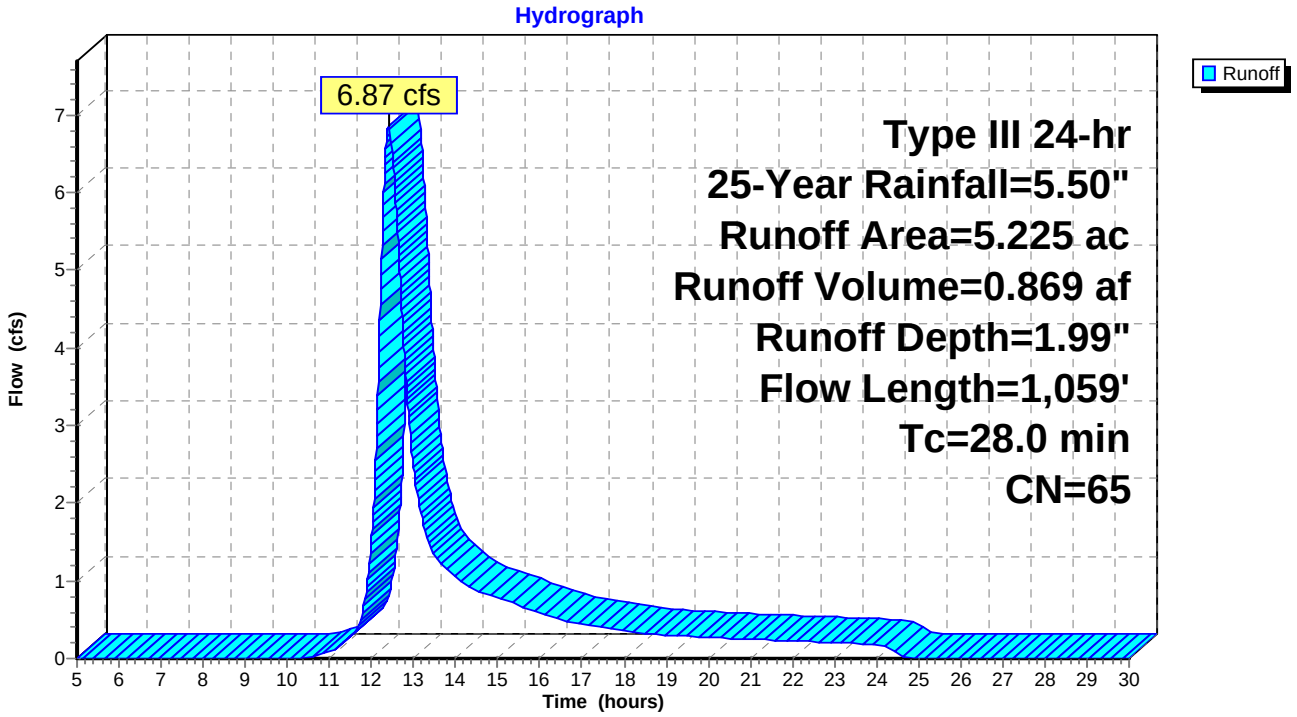
Runoff = 6.87 cfs @ 12.41 hrs, Volume= 0.869 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (ac)	CN	Description
1.101	39	>75% Grass cover, Good, HSG A
1.455	80	>75% Grass cover, Good, HSG D
1.129	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.007	98	Paved parking, HSG A
0.772	98	Paved parking, HSG D
0.053	76	Gravel roads, HSG A
0.010	91	Gravel roads, HSG D
5.225	65	Weighted Average
4.446		85.09% Pervious Area
0.779		14.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment PDA-3: PDA-3



Summary for Pond 1B: Infiltration Basin 1

Inflow Area = 4.740 ac, 0.00% Impervious, Inflow Depth = 0.31" for 25-Year event
Inflow = 0.26 cfs @ 13.22 hrs, Volume= 0.123 af
Outflow = 0.25 cfs @ 13.46 hrs, Volume= 0.123 af, Atten= 3%, Lag= 14.2 min
Discarded = 0.25 cfs @ 13.46 hrs, Volume= 0.123 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 659.01' @ 13.46 hrs Surf.Area= 3,658 sf Storage= 42 cf

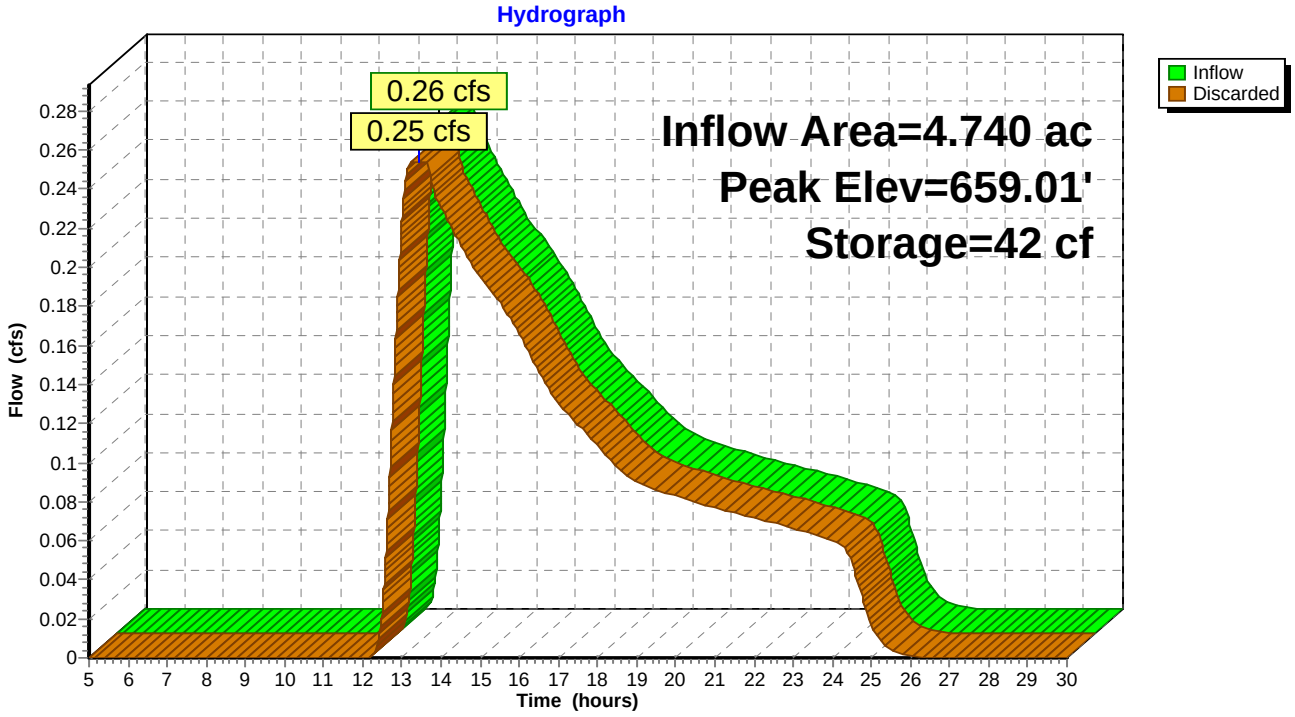
Plug-Flow detention time= 2.4 min calculated for 0.123 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (1,027.6 - 1,025.2)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,503 cf	**5.00'W x 718.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.25 cfs @ 13.46 hrs HW=659.01' (Free Discharge)
1=Exfiltration (Controls 0.25 cfs)

Pond 1B: Infiltration Basin 1



Summary for Pond 2B: Infiltration Trench 2

Inflow Area = 1.750 ac, 0.00% Impervious, Inflow Depth = 0.31" for 25-Year event
Inflow = 0.10 cfs @ 13.19 hrs, Volume= 0.046 af
Outflow = 0.10 cfs @ 13.25 hrs, Volume= 0.046 af, Atten= 0%, Lag= 3.8 min
Discarded = 0.10 cfs @ 13.25 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 658.01' @ 13.25 hrs Surf.Area= 1,688 sf Storage= 14 cf

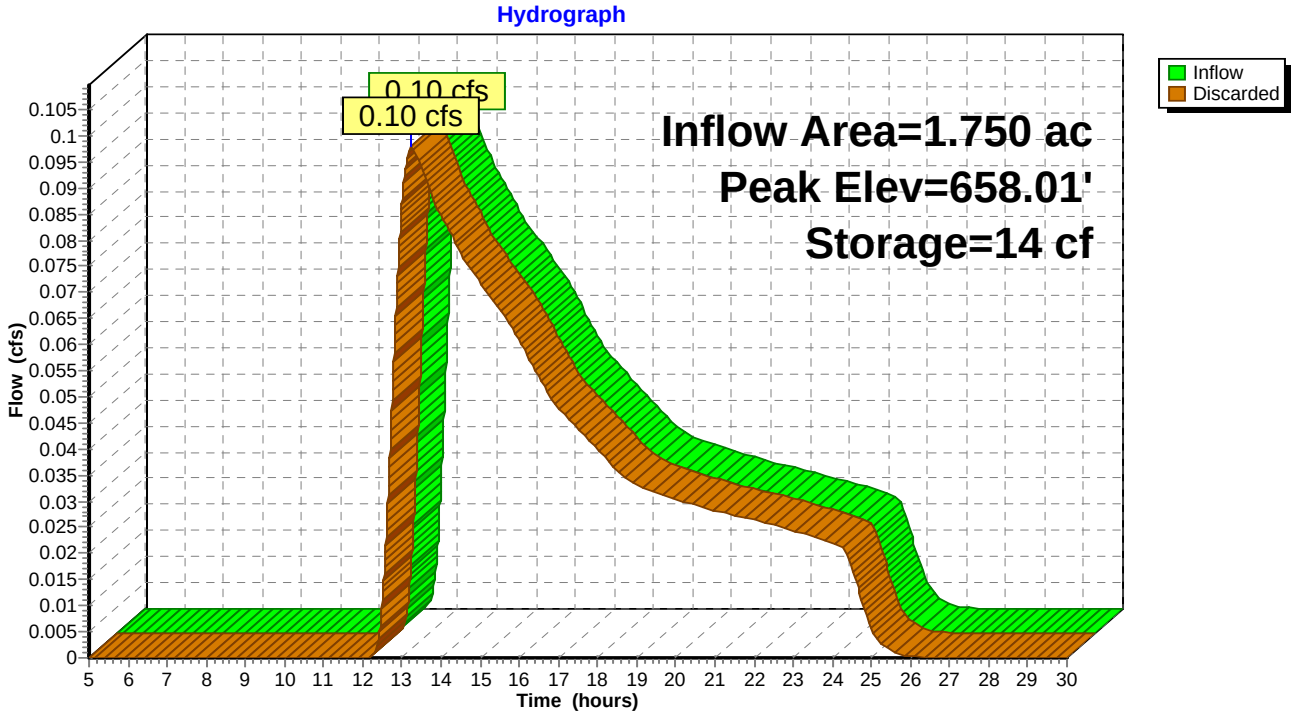
Plug-Flow detention time= 2.4 min calculated for 0.046 af (100% of inflow)
Center-of-Mass det. time= 2.4 min (1,025.5 - 1,023.1)

Volume	Invert	Avail.Storage	Storage Description
#1	658.00'	3,038 cf	**5.00'W x 333.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	658.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.12 cfs @ 13.25 hrs HW=658.01' (Free Discharge)
1=Exfiltration (Controls 0.12 cfs)

Pond 2B: Infiltration Trench 2



Summary for Pond 3B: Infiltration Basin 3

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 1.99" for 25-Year event
Inflow = 6.87 cfs @ 12.41 hrs, Volume= 0.869 af
Outflow = 6.68 cfs @ 12.48 hrs, Volume= 0.869 af, Atten= 3%, Lag= 3.9 min
Discarded = 0.18 cfs @ 12.48 hrs, Volume= 0.190 af
Primary = 6.50 cfs @ 12.48 hrs, Volume= 0.678 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 661.04' @ 12.48 hrs Surf.Area= 2,556 sf Storage= 3,611 cf

Plug-Flow detention time= 46.1 min calculated for 0.868 af (100% of inflow)
Center-of-Mass det. time= 46.1 min (921.7 - 875.5)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

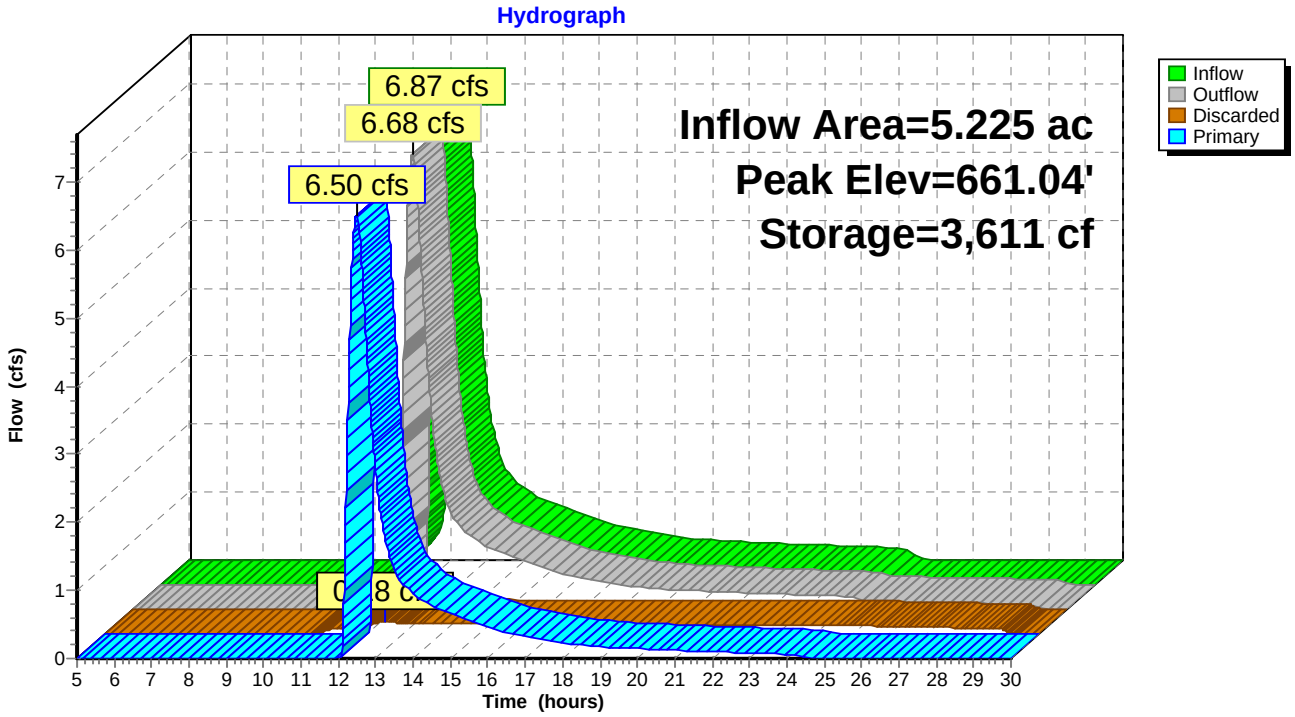
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	1,047	0	0
660.00	1,735	1,391	1,391
661.00	2,524	2,130	3,521
662.00	3,413	2,969	6,489

Device	Routing	Invert	Outlet Devices
#1	Primary	660.10'	**40.0" W x 27.0" H Ellipse Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 660.10' / 659.70' S= 0.0048 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 5.89 sf
#2	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.18 cfs @ 12.48 hrs HW=661.04' (Free Discharge)
↑**2=Exfiltration** (Controls 0.18 cfs)

Primary OutFlow Max=6.50 cfs @ 12.48 hrs HW=661.04' (Free Discharge)
↑**1=Culvert** (Barrel Controls 6.50 cfs @ 4.15 fps)

Pond 3B: Infiltration Basin 3

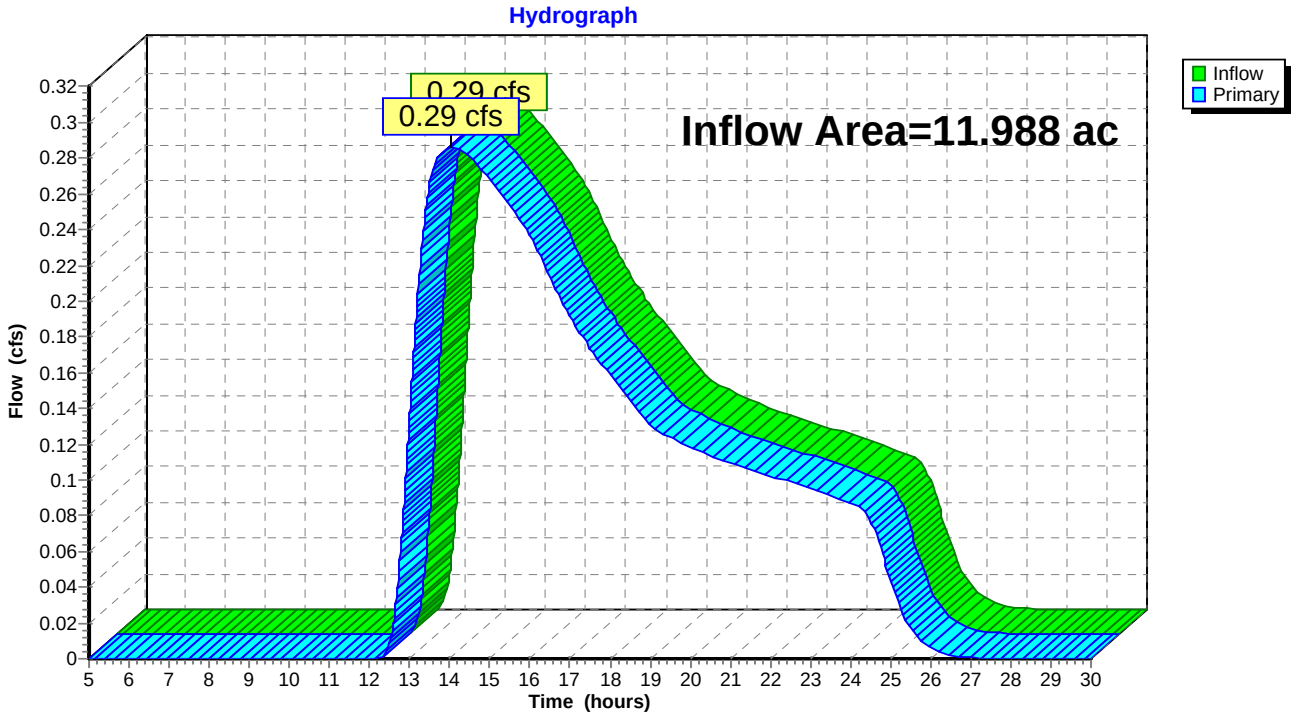


Summary for Link AP-1: Western Wetlands

Inflow Area = 11.988 ac, 0.00% Impervious, Inflow Depth = 0.16" for 25-Year event
Inflow = 0.29 cfs @ 14.01 hrs, Volume= 0.163 af
Primary = 0.29 cfs @ 14.01 hrs, Volume= 0.163 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

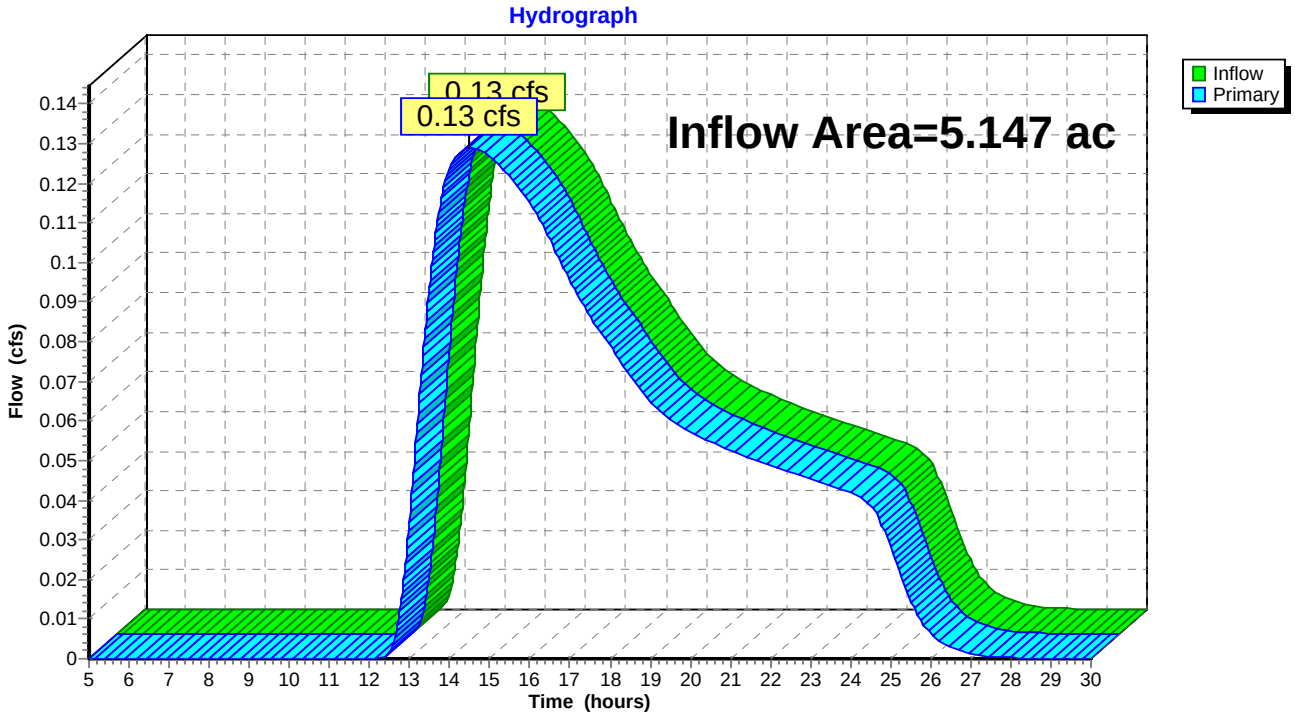


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.147 ac, 0.14% Impervious, Inflow Depth = 0.18" for 25-Year event
Inflow = 0.13 cfs @ 14.49 hrs, Volume= 0.076 af
Primary = 0.13 cfs @ 14.49 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

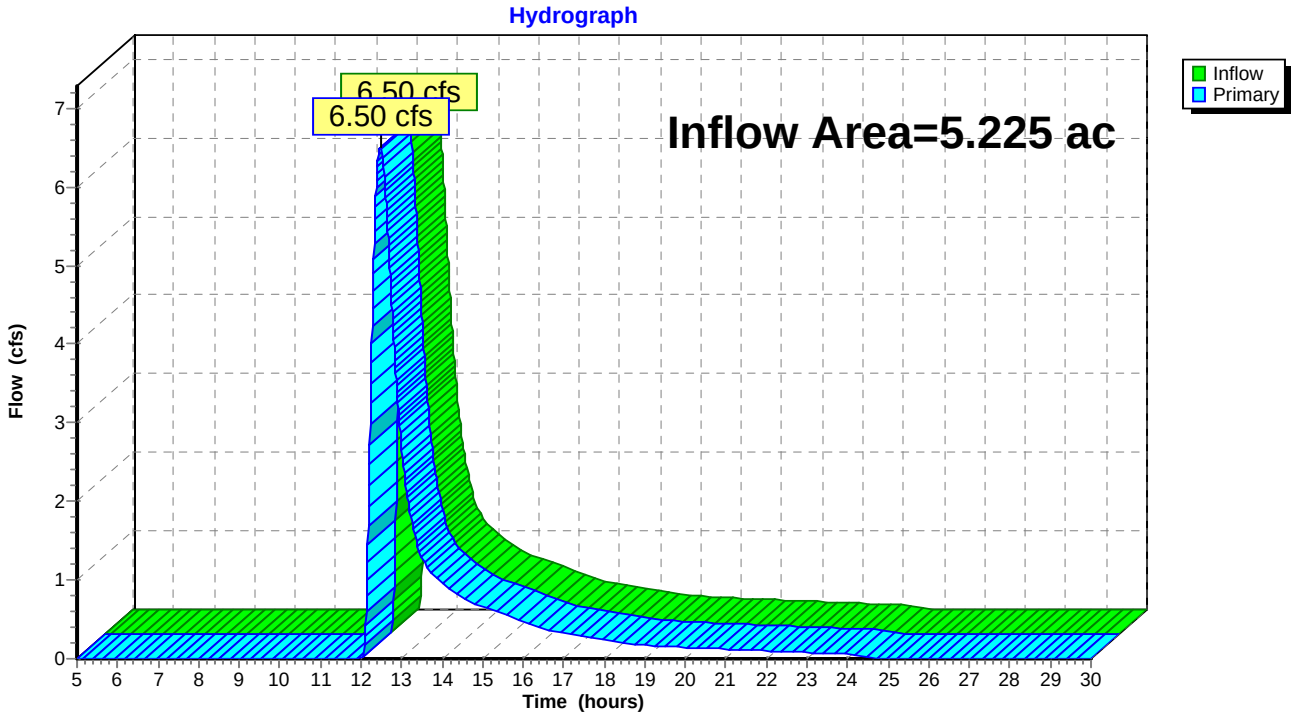


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 1.56" for 25-Year event
Inflow = 6.50 cfs @ 12.48 hrs, Volume= 0.678 af
Primary = 6.50 cfs @ 12.48 hrs, Volume= 0.678 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 PDA-1A: PDA-1A Runoff Area=7.248 ac 0.00% Impervious Runoff Depth=0.45"
Flow Length=364' Tc=73.7 min CN=38 Runoff=0.61 cfs 0.271 af

Subcatchment PDA-1B: PDA-1B Runoff Area=4.740 ac 0.00% Impervious Runoff Depth=0.50"
Flow Length=524' Tc=53.8 min CN=39 Runoff=0.57 cfs 0.199 af

Subcatchment PDA-2A: PDA-2A Runoff Area=3.397 ac 0.21% Impervious Runoff Depth=0.45"
Flow Length=719' Tc=92.5 min CN=38 Runoff=0.26 cfs 0.127 af

Subcatchment PDA-2B: PDA-2B Runoff Area=1.750 ac 0.00% Impervious Runoff Depth=0.50"
Flow Length=280' Tc=51.6 min CN=39 Runoff=0.21 cfs 0.074 af

Subcatchment PDA-3: PDA-3 Runoff Area=5.225 ac 14.91% Impervious Runoff Depth=2.50"
Flow Length=1,059' Tc=28.0 min CN=65 Runoff=8.73 cfs 1.088 af

Pond 1B: Infiltration Basin 1 Peak Elev=659.22' Storage=914 cf Inflow=0.57 cfs 0.199 af
Outflow=0.34 cfs 0.199 af

Pond 2B: Infiltration Trench 2 Peak Elev=658.13' Storage=236 cf Inflow=0.21 cfs 0.074 af
Outflow=0.14 cfs 0.074 af

Pond 3B: Infiltration Basin 3 Peak Elev=661.18' Storage=3,977 cf Inflow=8.73 cfs 1.088 af
Discarded=0.19 cfs 0.197 af Primary=8.33 cfs 0.891 af Outflow=8.52 cfs 1.088 af

Link AP-1: Western Wetlands Inflow=0.61 cfs 0.271 af
Primary=0.61 cfs 0.271 af

Link AP-2: Southern Property Line Inflow=0.26 cfs 0.127 af
Primary=0.26 cfs 0.127 af

Link AP-3: Existing Swale Inflow=8.33 cfs 0.891 af
Primary=8.33 cfs 0.891 af

Total Runoff Area = 22.360 ac Runoff Volume = 1.758 af Average Runoff Depth = 0.94"
96.48% Pervious = 21.574 ac 3.52% Impervious = 0.786 ac

Summary for Subcatchment PDA-1A: PDA-1A

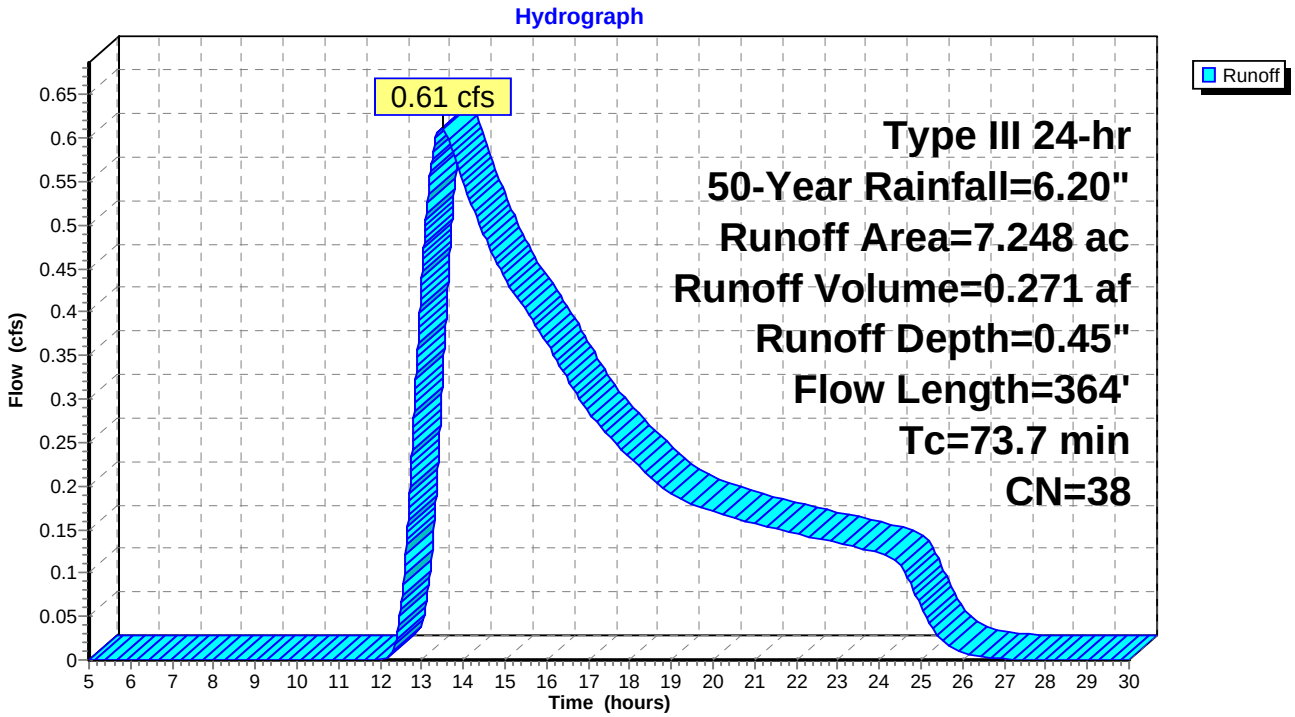
Runoff = 0.61 cfs @ 13.51 hrs, Volume= 0.271 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
4.843	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
2.150	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
7.248	38	Weighted Average
7.248		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
8.6	164	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
73.7	364	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

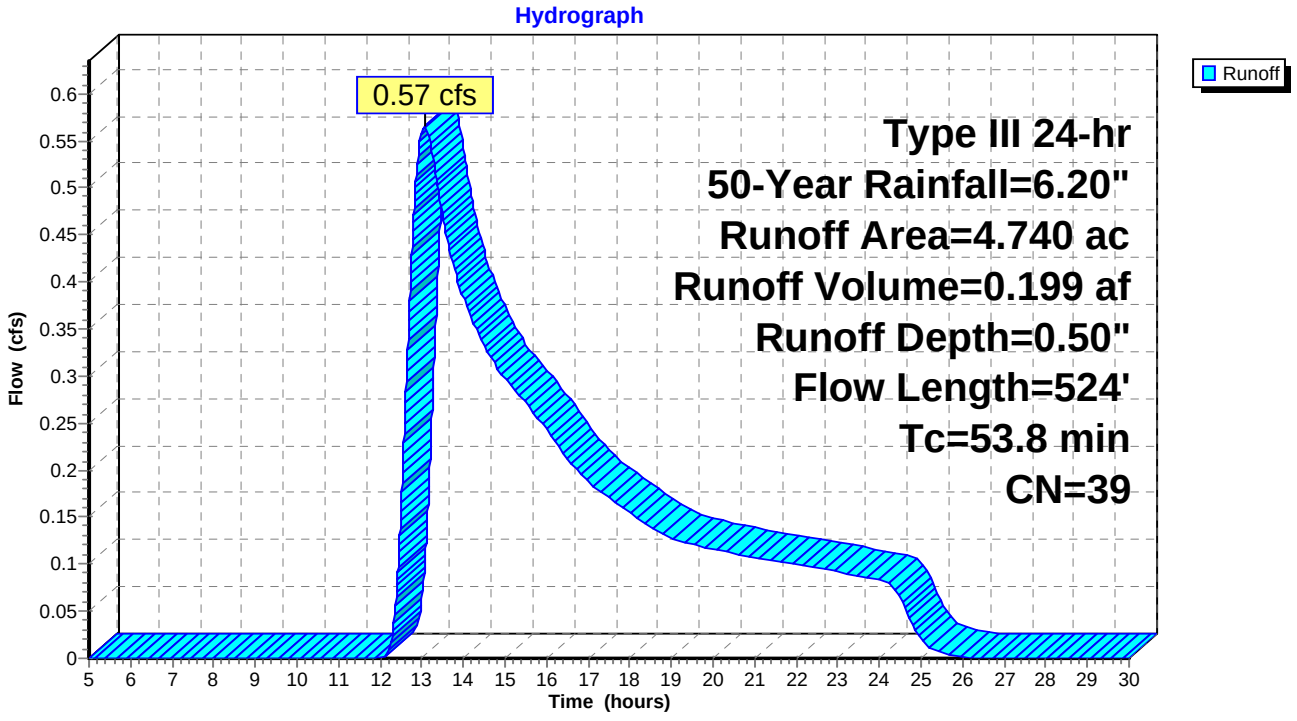
Runoff = 0.57 cfs @ 13.09 hrs, Volume= 0.199 af, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
4.740	39	>75% Grass cover, Good, HSG A
4.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.6	200	0.0055	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
12.2	324	0.0040	0.44		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
53.8	524	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Subcatchment PDA-2A: PDA-2A

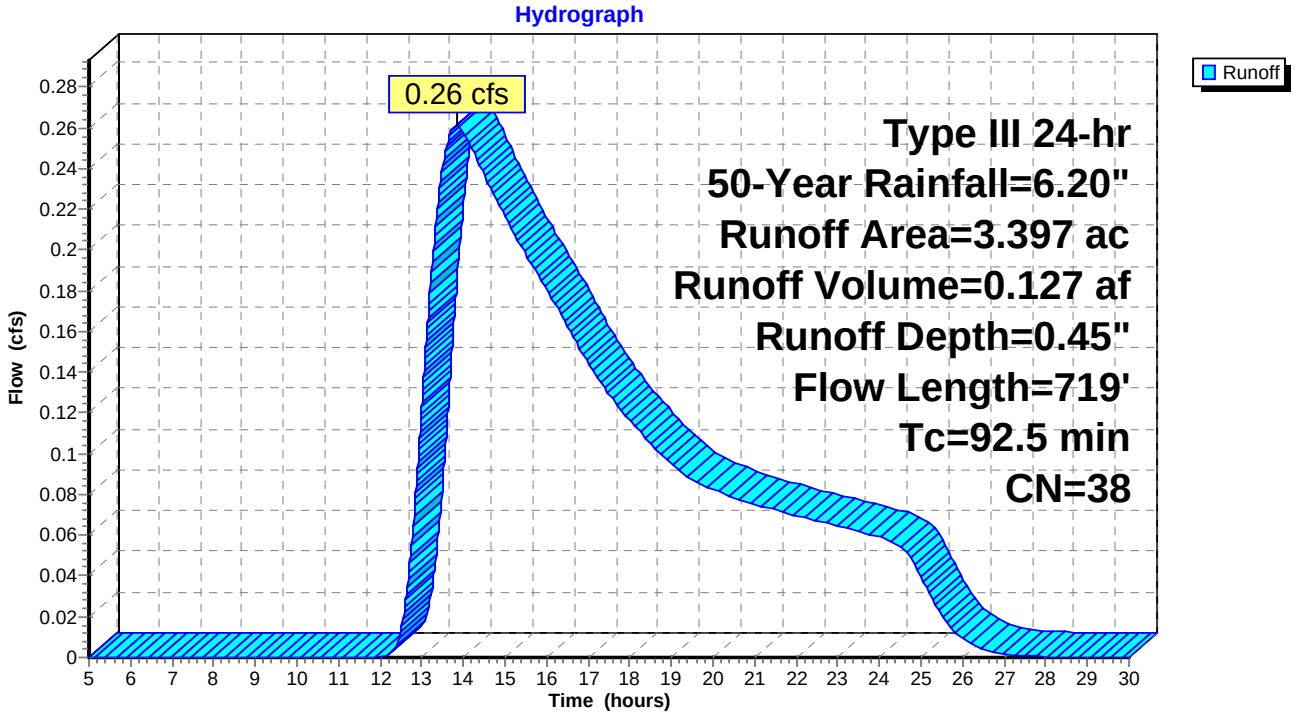
Runoff = 0.26 cfs @ 13.87 hrs, Volume= 0.127 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
2.231	36	Woods, Fair, HSG A
1.029	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
0.033	76	Gravel roads, HSG A
0.007	98	Paved parking, HSG A
3.397	38	Weighted Average
3.390		99.79% Pervious Area
0.007		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment PDA-2A: PDA-2A



Summary for Subcatchment PDA-2B: PDA-2B

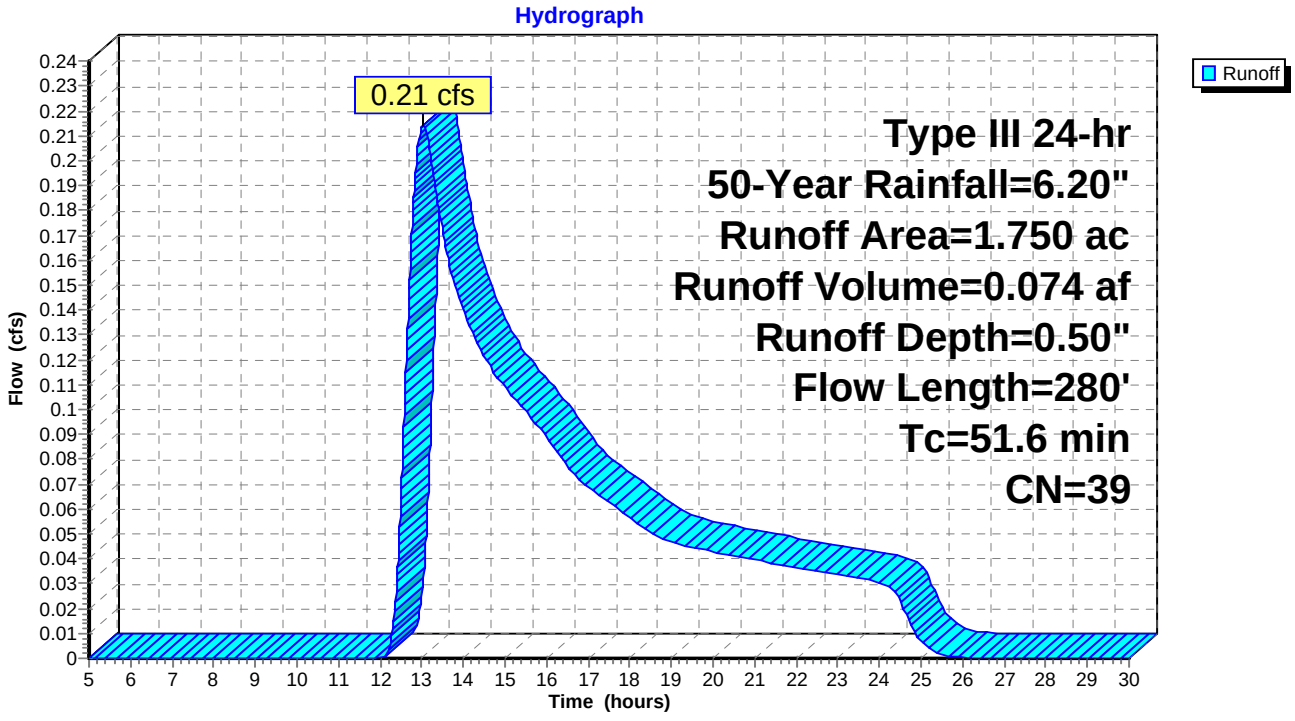
Runoff = 0.21 cfs @ 13.02 hrs, Volume= 0.074 af, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
1.750	39	>75% Grass cover, Good, HSG A
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.9	200	0.0035	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
1.7	80	0.0129	0.80		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
51.6	280	Total			

Subcatchment PDA-2B: PDA-2B



Summary for Subcatchment PDA-3: PDA-3

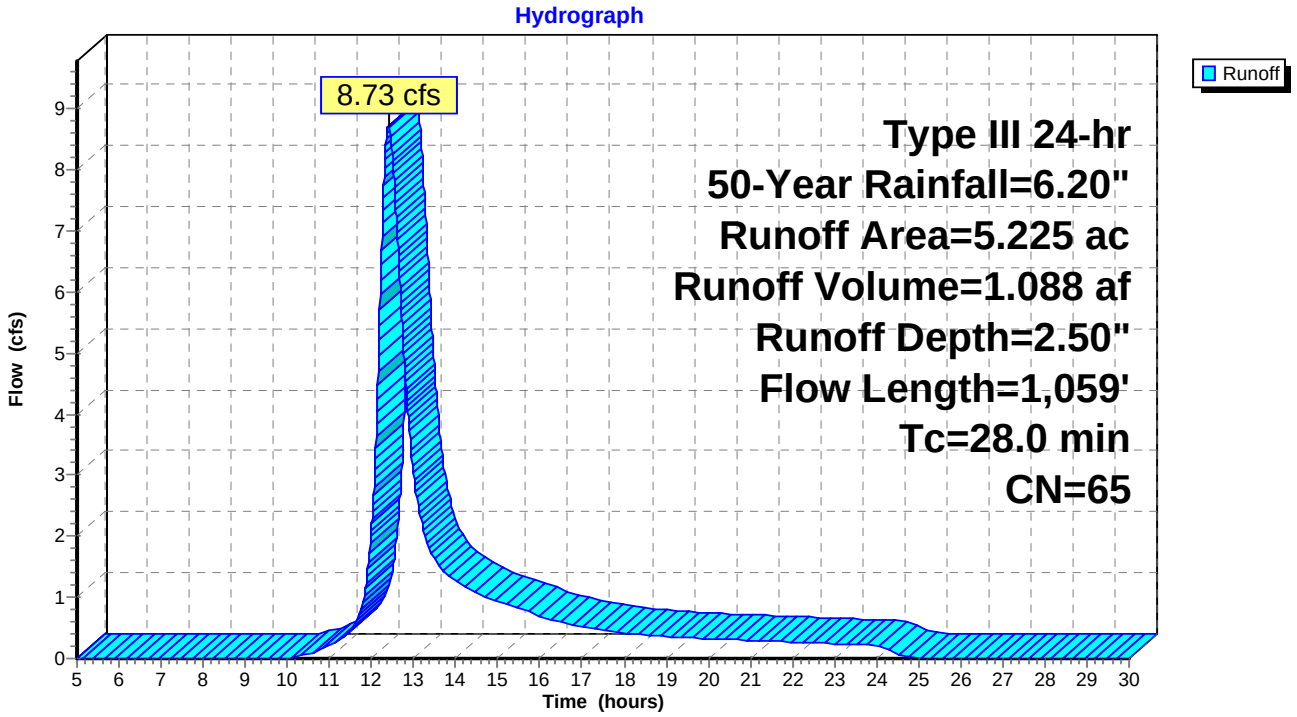
Runoff = 8.73 cfs @ 12.41 hrs, Volume= 1.088 af, Depth= 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=6.20"

Area (ac)	CN	Description
1.101	39	>75% Grass cover, Good, HSG A
1.455	80	>75% Grass cover, Good, HSG D
1.129	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.007	98	Paved parking, HSG A
0.772	98	Paved parking, HSG D
0.053	76	Gravel roads, HSG A
0.010	91	Gravel roads, HSG D
5.225	65	Weighted Average
4.446		85.09% Pervious Area
0.779		14.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment PDA-3: PDA-3



Summary for Pond 1B: Infiltration Basin 1

Inflow Area = 4.740 ac, 0.00% Impervious, Inflow Depth = 0.50" for 50-Year event
Inflow = 0.57 cfs @ 13.09 hrs, Volume= 0.199 af
Outflow = 0.34 cfs @ 14.45 hrs, Volume= 0.199 af, Atten= 41%, Lag= 81.8 min
Discarded = 0.34 cfs @ 14.45 hrs, Volume= 0.199 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 659.22' @ 14.45 hrs Surf.Area= 4,846 sf Storage= 914 cf

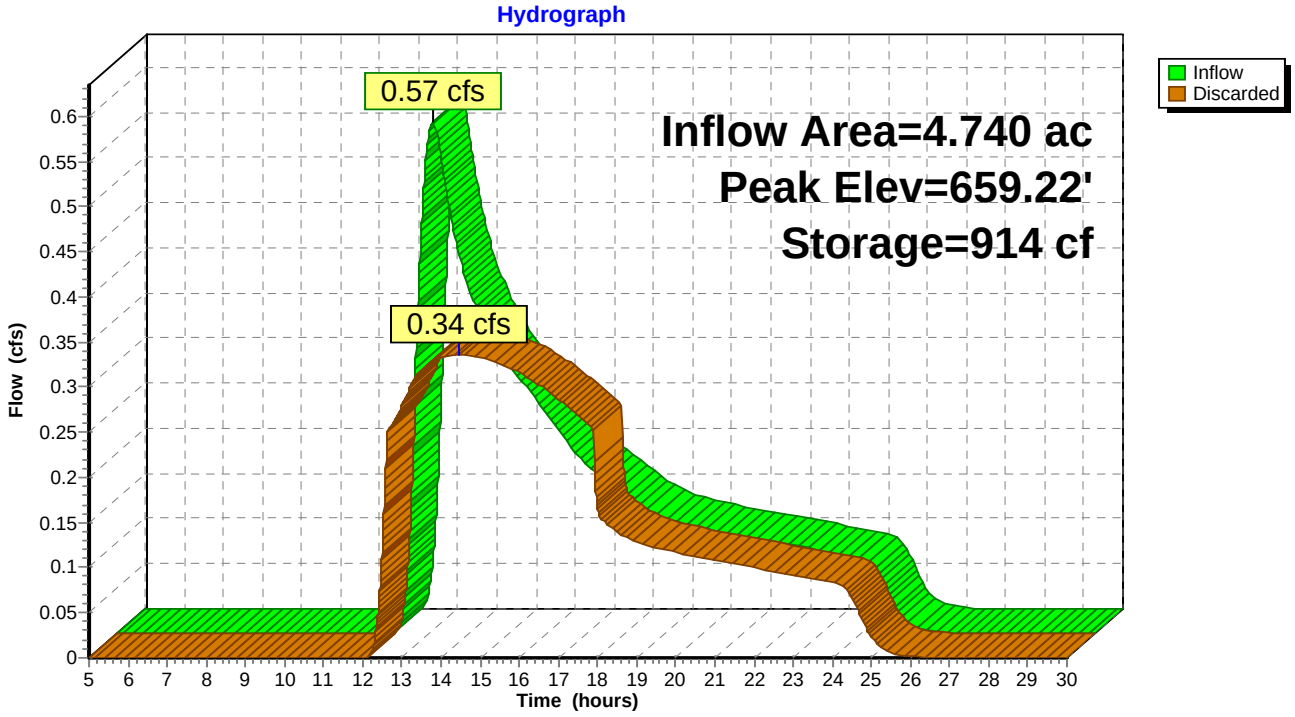
Plug-Flow detention time= 22.3 min calculated for 0.199 af (100% of inflow)
Center-of-Mass det. time= 22.2 min (1,019.2 - 996.9)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,503 cf	**5.00'W x 718.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.34 cfs @ 14.45 hrs HW=659.22' (Free Discharge)
1=Exfiltration (Controls 0.34 cfs)

Pond 1B: Infiltration Basin 1



Summary for Pond 2B: Infiltration Trench 2

Inflow Area = 1.750 ac, 0.00% Impervious, Inflow Depth = 0.50" for 50-Year event
Inflow = 0.21 cfs @ 13.02 hrs, Volume= 0.074 af
Outflow = 0.14 cfs @ 14.00 hrs, Volume= 0.074 af, Atten= 35%, Lag= 58.8 min
Discarded = 0.14 cfs @ 14.00 hrs, Volume= 0.074 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 658.13' @ 14.00 hrs Surf.Area= 2,014 sf Storage= 236 cf

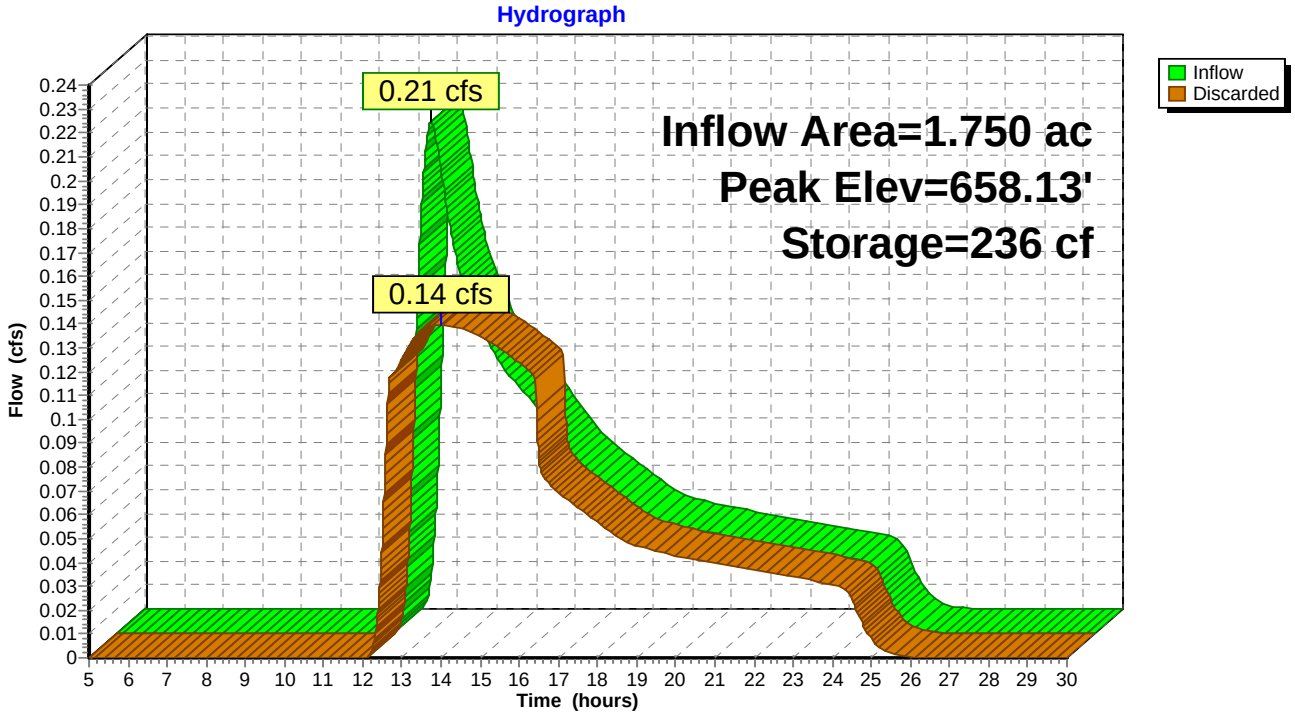
Plug-Flow detention time= 11.8 min calculated for 0.074 af (100% of inflow)
Center-of-Mass det. time= 11.8 min (1,006.7 - 994.9)

Volume	Invert	Avail.Storage	Storage Description
#1	658.00'	3,038 cf	**5.00'W x 333.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	658.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.14 cfs @ 14.00 hrs HW=658.13' (Free Discharge)
1=Exfiltration (Controls 0.14 cfs)

Pond 2B: Infiltration Trench 2



Summary for Pond 3B: Infiltration Basin 3

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 2.50" for 50-Year event
Inflow = 8.73 cfs @ 12.41 hrs, Volume= 1.088 af
Outflow = 8.52 cfs @ 12.47 hrs, Volume= 1.088 af, Atten= 2%, Lag= 3.4 min
Discarded = 0.19 cfs @ 12.47 hrs, Volume= 0.197 af
Primary = 8.33 cfs @ 12.47 hrs, Volume= 0.891 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 661.18' @ 12.47 hrs Surf.Area= 2,680 sf Storage= 3,977 cf

Plug-Flow detention time= 38.8 min calculated for 1.088 af (100% of inflow)
Center-of-Mass det. time= 38.8 min (907.5 - 868.8)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

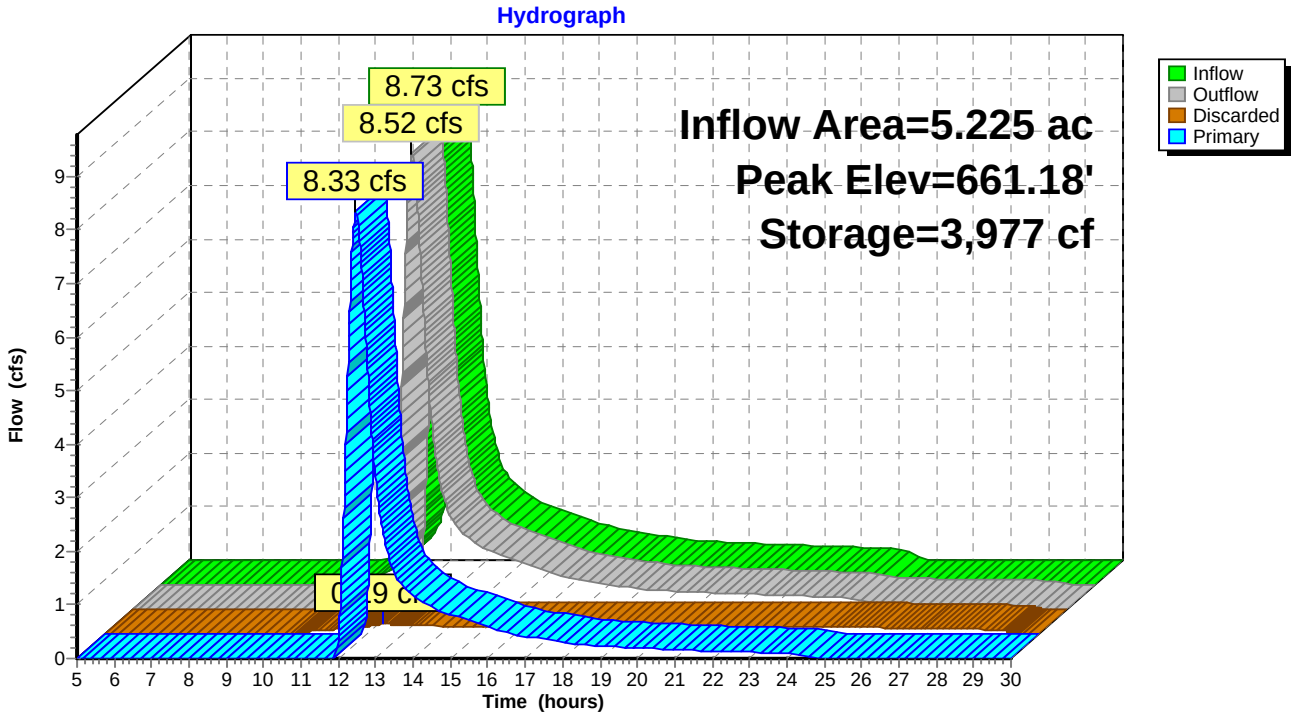
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	1,047	0	0
660.00	1,735	1,391	1,391
661.00	2,524	2,130	3,521
662.00	3,413	2,969	6,489

Device	Routing	Invert	Outlet Devices
#1	Primary	660.10'	**40.0" W x 27.0" H Ellipse Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 660.10' / 659.70' S= 0.0048 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 5.89 sf
#2	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.19 cfs @ 12.47 hrs HW=661.18' (Free Discharge)
↑└**2=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=8.33 cfs @ 12.47 hrs HW=661.18' (Free Discharge)
↑└**1=Culvert** (Barrel Controls 8.33 cfs @ 4.39 fps)

Pond 3B: Infiltration Basin 3

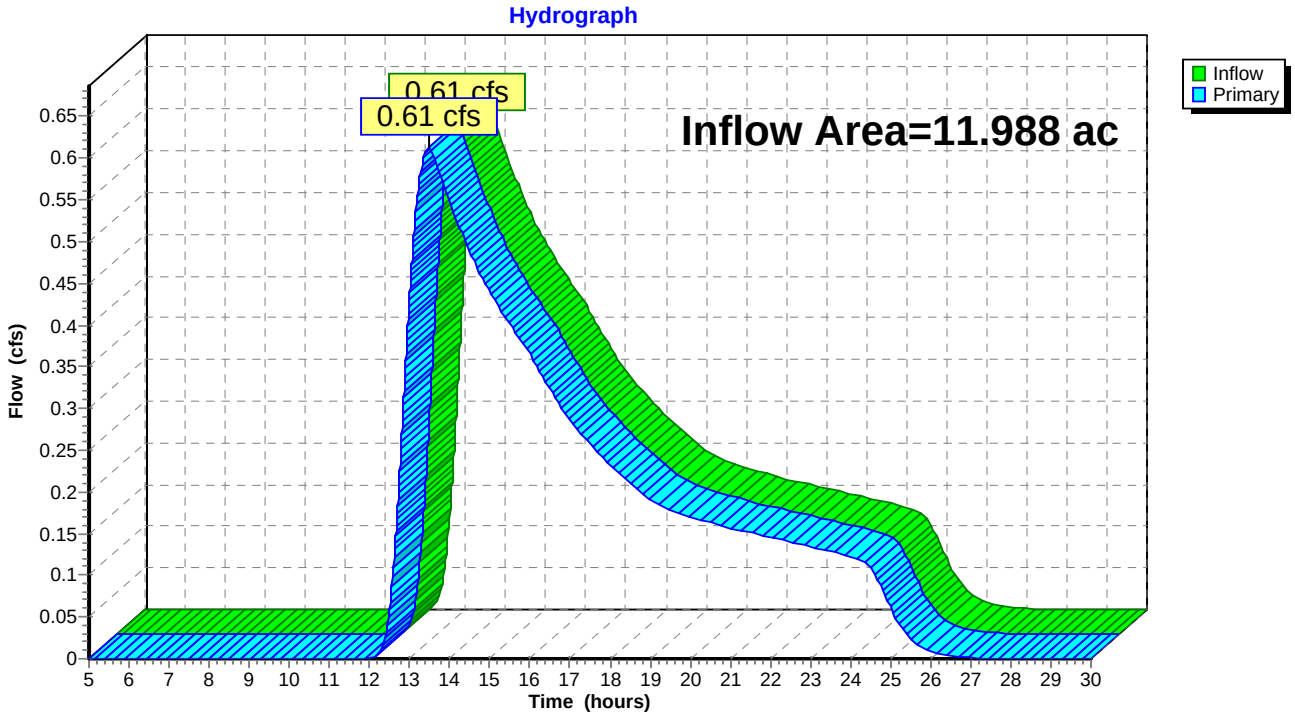


Summary for Link AP-1: Western Wetlands

Inflow Area = 11.988 ac, 0.00% Impervious, Inflow Depth = 0.27" for 50-Year event
Inflow = 0.61 cfs @ 13.51 hrs, Volume= 0.271 af
Primary = 0.61 cfs @ 13.51 hrs, Volume= 0.271 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

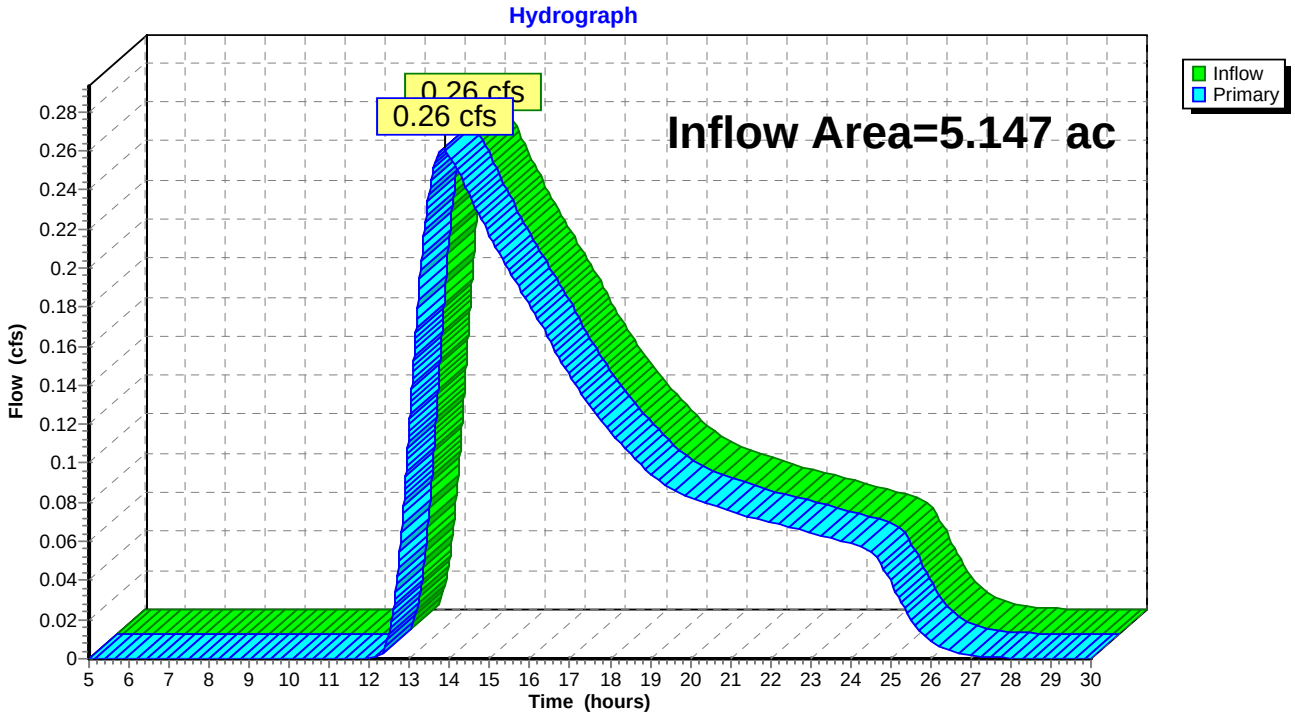


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.147 ac, 0.14% Impervious, Inflow Depth = 0.30" for 50-Year event
Inflow = 0.26 cfs @ 13.87 hrs, Volume= 0.127 af
Primary = 0.26 cfs @ 13.87 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

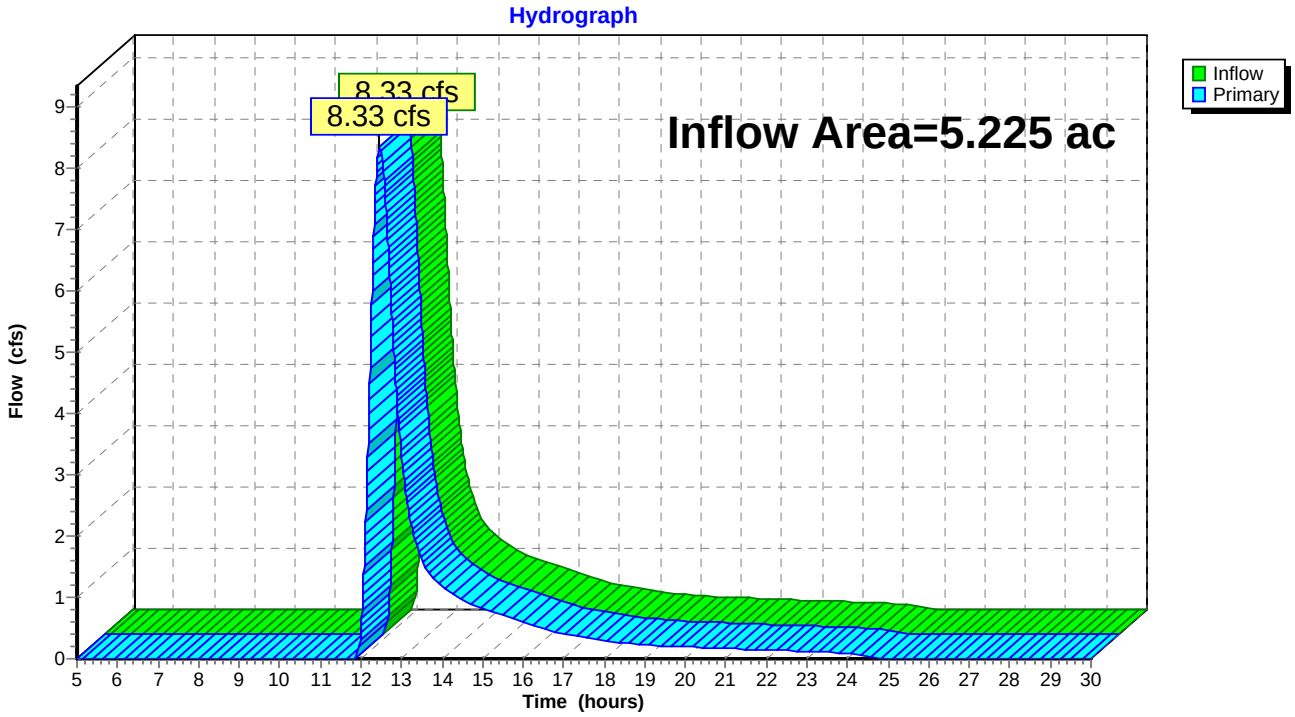


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 2.05" for 50-Year event
Inflow = 8.33 cfs @ 12.47 hrs, Volume= 0.891 af
Primary = 8.33 cfs @ 12.47 hrs, Volume= 0.891 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 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 PDA-1A: PDA-1A Runoff Area=7.248 ac 0.00% Impervious Runoff Depth=0.70"
Flow Length=364' Tc=73.7 min CN=38 Runoff=1.17 cfs 0.421 af

Subcatchment PDA-1B: PDA-1B Runoff Area=4.740 ac 0.00% Impervious Runoff Depth=0.77"
Flow Length=524' Tc=53.8 min CN=39 Runoff=1.07 cfs 0.303 af

Subcatchment PDA-2A: PDA-2A Runoff Area=3.397 ac 0.21% Impervious Runoff Depth=0.70"
Flow Length=719' Tc=92.5 min CN=38 Runoff=0.49 cfs 0.197 af

Subcatchment PDA-2B: PDA-2B Runoff Area=1.750 ac 0.00% Impervious Runoff Depth=0.77"
Flow Length=280' Tc=51.6 min CN=39 Runoff=0.40 cfs 0.112 af

Subcatchment PDA-3: PDA-3 Runoff Area=5.225 ac 14.91% Impervious Runoff Depth=3.10"
Flow Length=1,059' Tc=28.0 min CN=65 Runoff=10.95 cfs 1.351 af

Pond 1B: Infiltration Basin 1 Peak Elev=659.51' Storage=2,594 cf Inflow=1.07 cfs 0.303 af
Outflow=0.46 cfs 0.303 af

Pond 2B: Infiltration Trench 2 Peak Elev=658.37' Storage=810 cf Inflow=0.40 cfs 0.112 af
Outflow=0.19 cfs 0.112 af

Pond 3B: Infiltration Basin 3 Peak Elev=661.33' Storage=4,399 cf Inflow=10.95 cfs 1.351 af
Discarded=0.20 cfs 0.204 af Primary=10.51 cfs 1.147 af Outflow=10.70 cfs 1.351 af

Link AP-1: Western Wetlands Inflow=1.17 cfs 0.421 af
Primary=1.17 cfs 0.421 af

Link AP-2: Southern Property Line Inflow=0.49 cfs 0.197 af
Primary=0.49 cfs 0.197 af

Link AP-3: Existing Swale Inflow=10.51 cfs 1.147 af
Primary=10.51 cfs 1.147 af

Total Runoff Area = 22.360 ac Runoff Volume = 2.384 af Average Runoff Depth = 1.28"
96.48% Pervious = 21.574 ac 3.52% Impervious = 0.786 ac

Summary for Subcatchment PDA-1A: PDA-1A

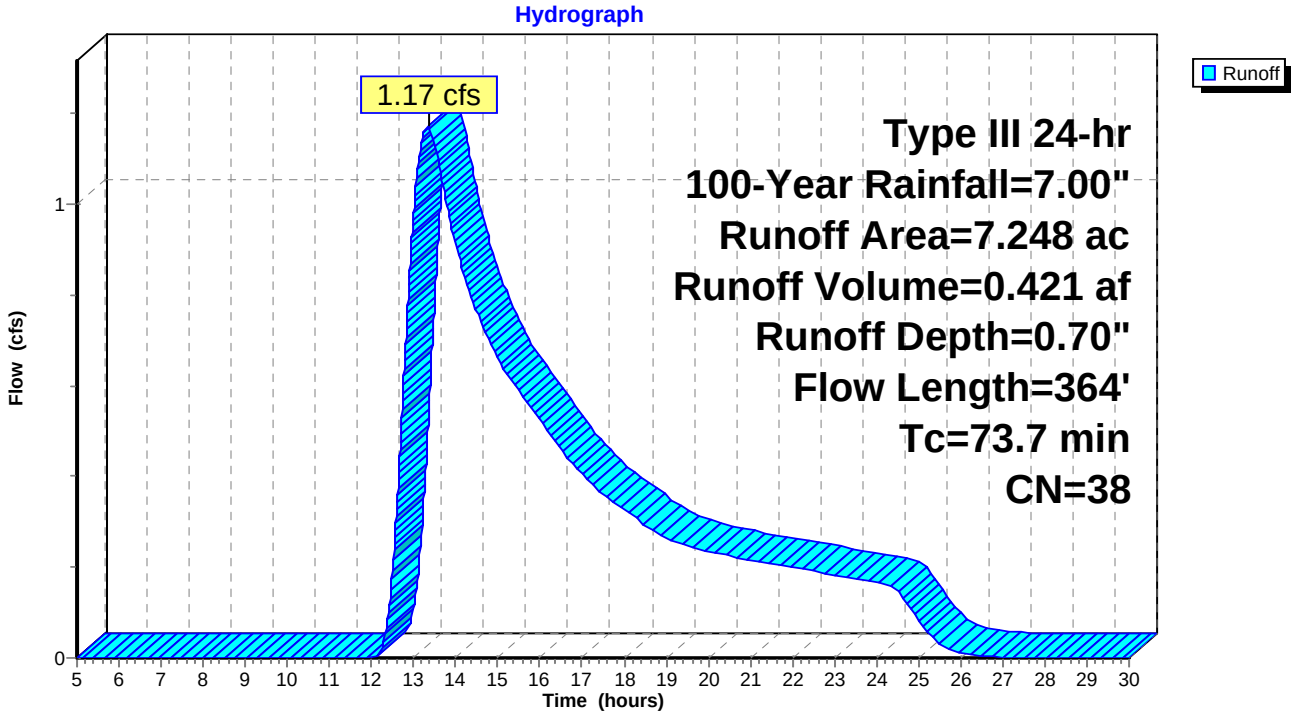
Runoff = 1.17 cfs @ 13.35 hrs, Volume= 0.421 af, Depth= 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
4.843	36	Woods, Fair, HSG A
0.179	79	Woods, Fair, HSG D
0.053	72	Dirt roads, HSG A
2.150	39	>75% Grass cover, Good, HSG A
0.023	80	>75% Grass cover, Good, HSG D
7.248	38	Weighted Average
7.248		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
8.6	164	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
73.7	364	Total			

Subcatchment PDA-1A: PDA-1A



Summary for Subcatchment PDA-1B: PDA-1B

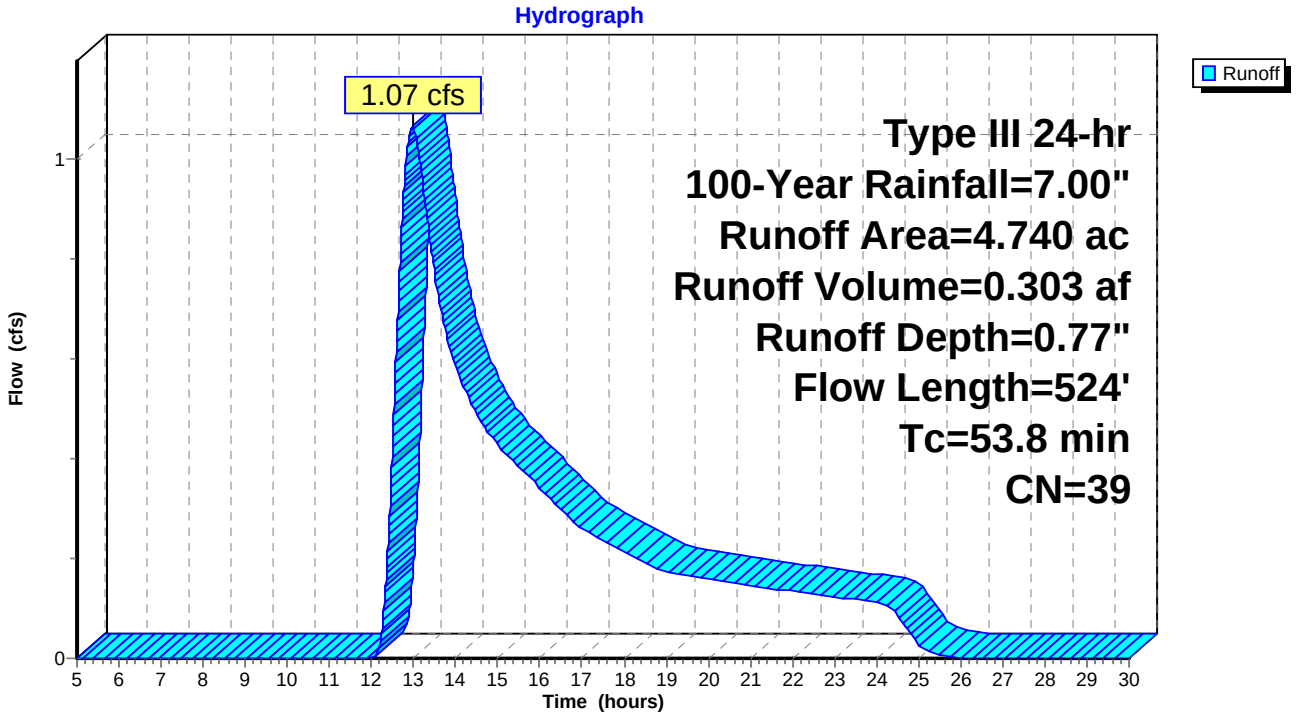
Runoff = 1.07 cfs @ 12.97 hrs, Volume= 0.303 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
4.740	39	>75% Grass cover, Good, HSG A
4.740		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.6	200	0.0055	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
12.2	324	0.0040	0.44		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
53.8	524	Total			

Subcatchment PDA-1B: PDA-1B



Summary for Subcatchment PDA-2A: PDA-2A

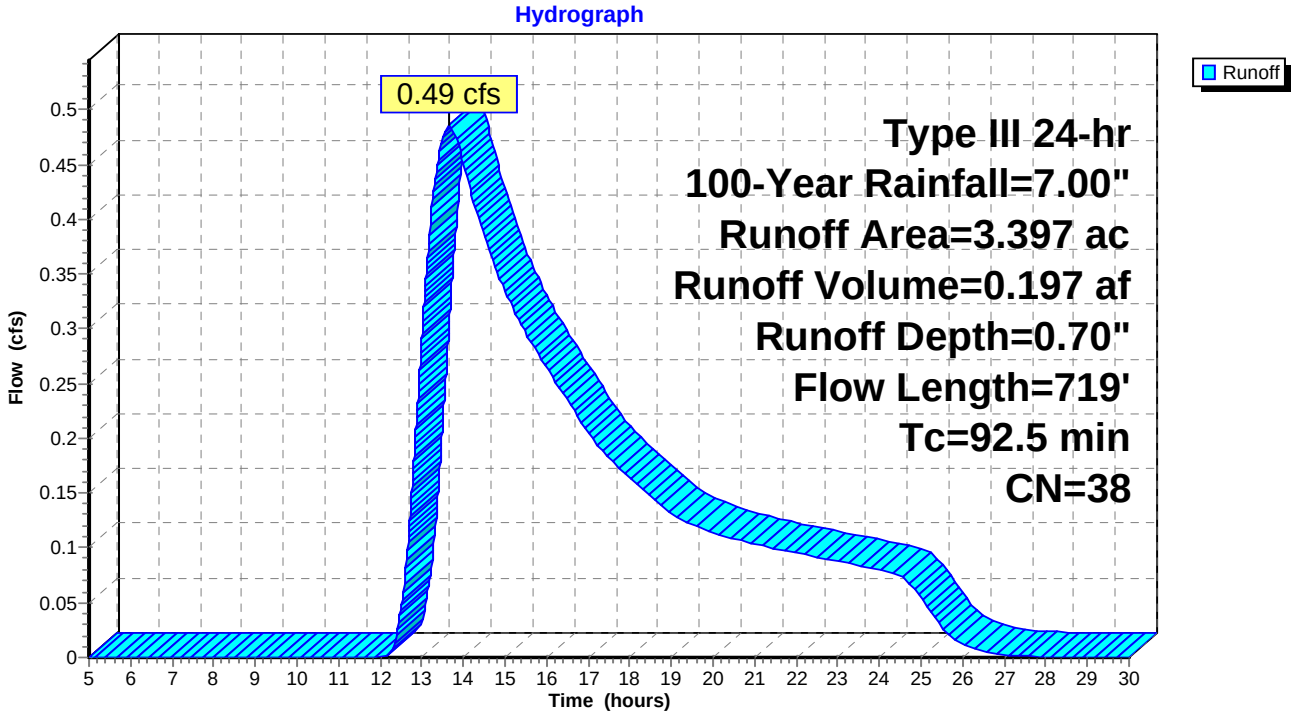
Runoff = 0.49 cfs @ 13.67 hrs, Volume= 0.197 af, Depth= 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
2.231	36	Woods, Fair, HSG A
1.029	39	>75% Grass cover, Good, HSG A
0.097	72	Dirt roads, HSG A
0.033	76	Gravel roads, HSG A
0.007	98	Paved parking, HSG A
3.397	38	Weighted Average
3.390		99.79% Pervious Area
0.007		0.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.1	200	0.0050	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.20"
27.4	519	0.0040	0.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
92.5	719	Total			

Subcatchment PDA-2A: PDA-2A



Summary for Subcatchment PDA-2B: PDA-2B

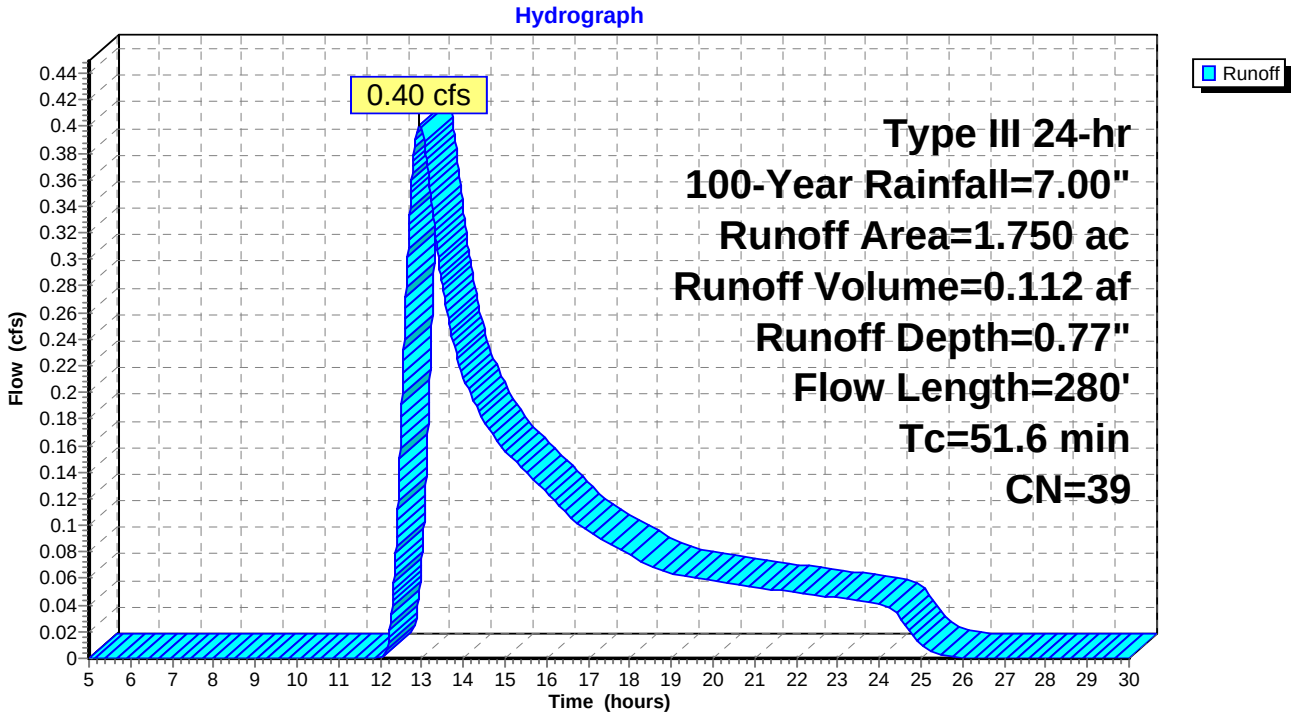
Runoff = 0.40 cfs @ 12.95 hrs, Volume= 0.112 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
1.750	39	>75% Grass cover, Good, HSG A
1.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
49.9	200	0.0035	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.20"
1.7	80	0.0129	0.80		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
51.6	280	Total			

Subcatchment PDA-2B: PDA-2B



Summary for Subcatchment PDA-3: PDA-3

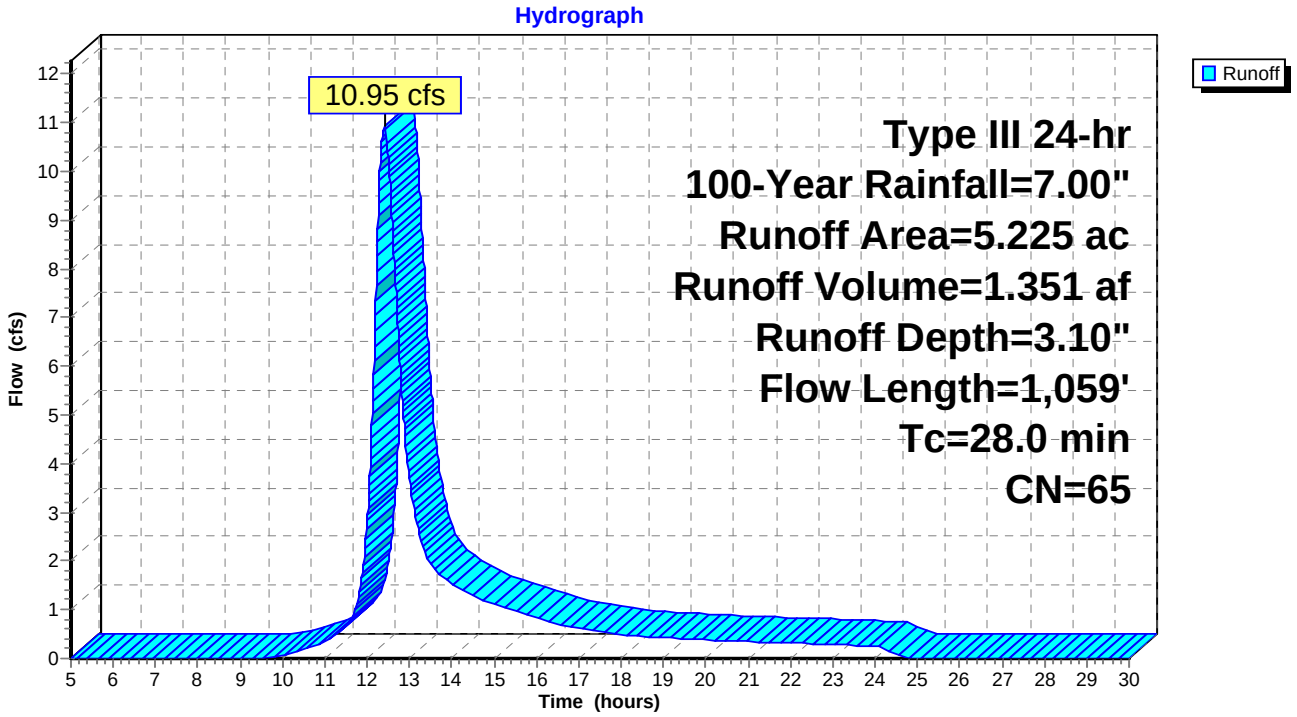
Runoff = 10.95 cfs @ 12.41 hrs, Volume= 1.351 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.00"

Area (ac)	CN	Description
1.101	39	>75% Grass cover, Good, HSG A
1.455	80	>75% Grass cover, Good, HSG D
1.129	36	Woods, Fair, HSG A
0.051	79	Woods, Fair, HSG D
0.269	72	Dirt roads, HSG A
0.378	89	Dirt roads, HSG D
0.007	98	Paved parking, HSG A
0.772	98	Paved parking, HSG D
0.053	76	Gravel roads, HSG A
0.010	91	Gravel roads, HSG D
5.225	65	Weighted Average
4.446		85.09% Pervious Area
0.779		14.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	156	0.0841	0.33		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.20"
20.1	903	0.0025	0.75		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
28.0	1,059	Total			

Subcatchment PDA-3: PDA-3



Summary for Pond 1B: Infiltration Basin 1

Inflow Area = 4.740 ac, 0.00% Impervious, Inflow Depth = 0.77" for 100-Year event
Inflow = 1.07 cfs @ 12.97 hrs, Volume= 0.303 af
Outflow = 0.46 cfs @ 14.74 hrs, Volume= 0.303 af, Atten= 57%, Lag= 105.8 min
Discarded = 0.46 cfs @ 14.74 hrs, Volume= 0.303 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 659.51' @ 14.74 hrs Surf.Area= 6,563 sf Storage= 2,594 cf

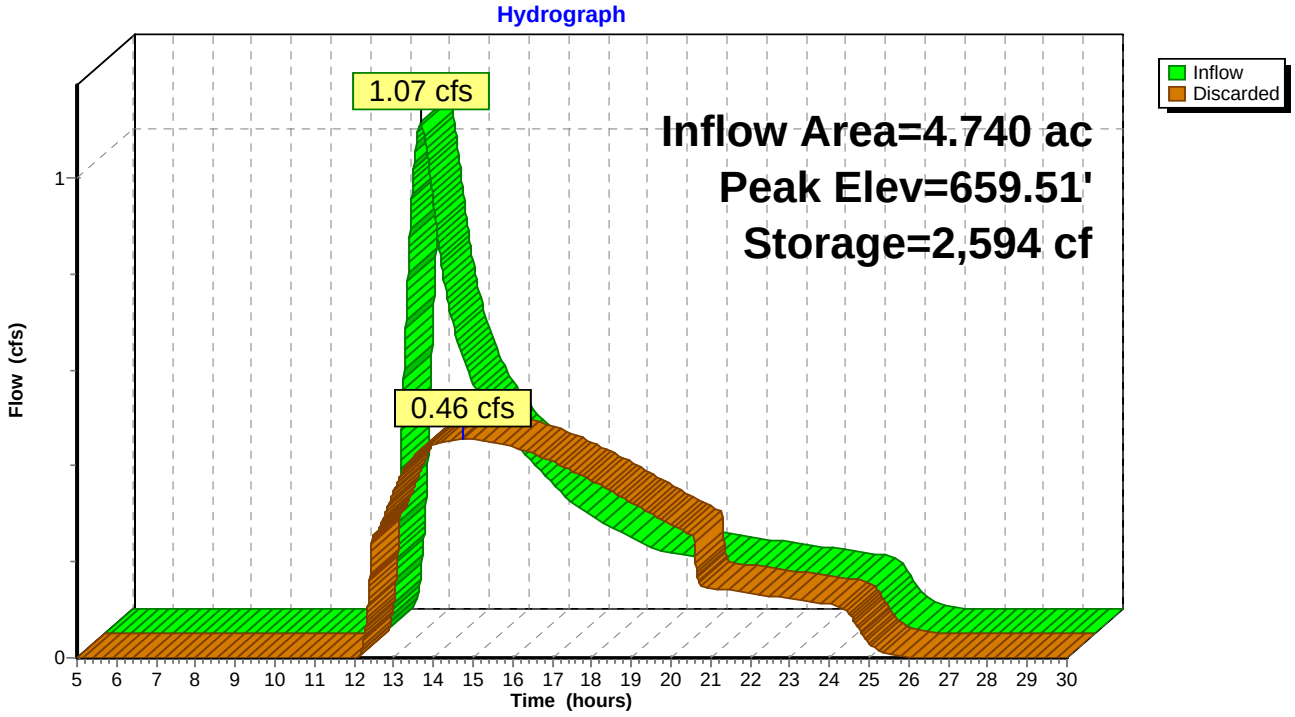
Plug-Flow detention time= 57.5 min calculated for 0.303 af (100% of inflow)
Center-of-Mass det. time= 57.5 min (1,032.6 - 975.1)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,503 cf	**5.00'W x 718.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.46 cfs @ 14.74 hrs HW=659.51' (Free Discharge)
1=Exfiltration (Controls 0.46 cfs)

Pond 1B: Infiltration Basin 1



Summary for Pond 2B: Infiltration Trench 2

Inflow Area = 1.750 ac, 0.00% Impervious, Inflow Depth = 0.77" for 100-Year event
Inflow = 0.40 cfs @ 12.95 hrs, Volume= 0.112 af
Outflow = 0.19 cfs @ 14.35 hrs, Volume= 0.112 af, Atten= 54%, Lag= 84.3 min
Discarded = 0.19 cfs @ 14.35 hrs, Volume= 0.112 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 658.37' @ 14.35 hrs Surf.Area= 2,682 sf Storage= 810 cf

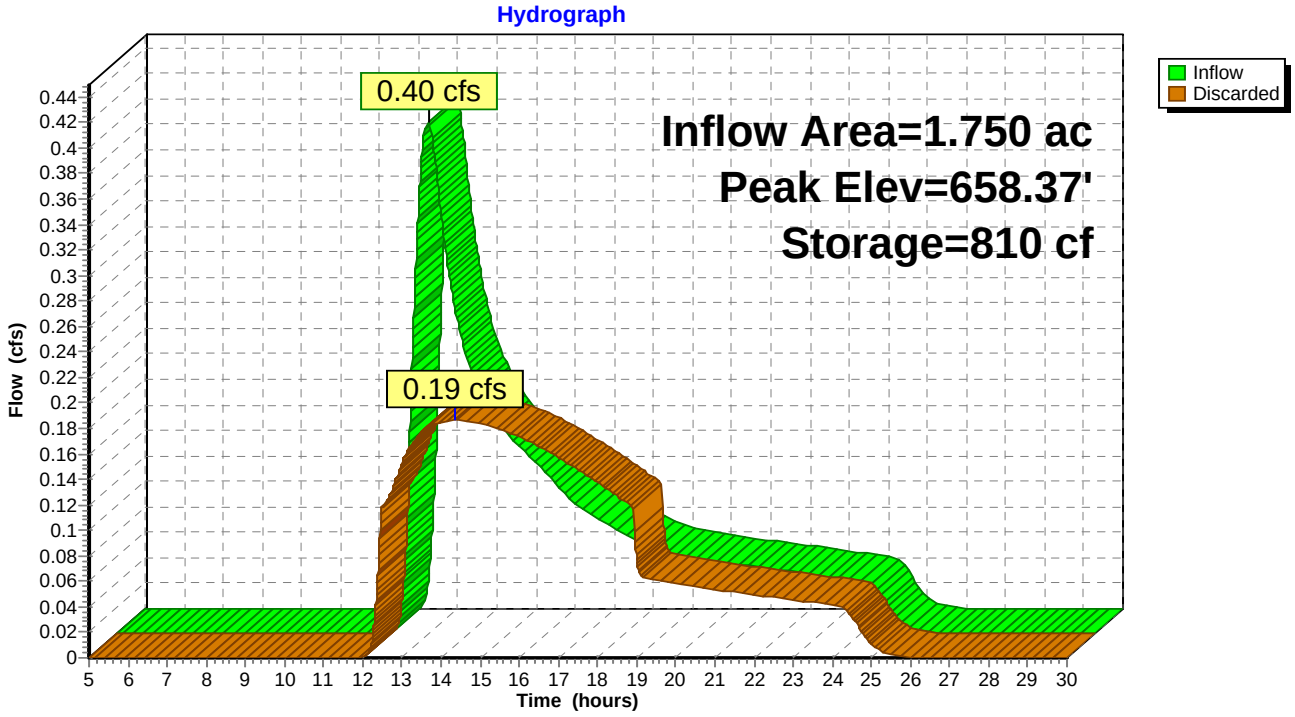
Plug-Flow detention time= 40.0 min calculated for 0.112 af (100% of inflow)
Center-of-Mass det. time= 40.0 min (1,013.1 - 973.0)

Volume	Invert	Avail.Storage	Storage Description
#1	658.00'	3,038 cf	**5.00'W x 333.00'L x 1.00'H Prismatoid Z=4.0**

Device	Routing	Invert	Outlet Devices
#1	Discarded	658.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.19 cfs @ 14.35 hrs HW=658.37' (Free Discharge)
1=Exfiltration (Controls 0.19 cfs)

Pond 2B: Infiltration Trench 2



Summary for Pond 3B: Infiltration Basin 3

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 3.10" for 100-Year event
Inflow = 10.95 cfs @ 12.41 hrs, Volume= 1.351 af
Outflow = 10.70 cfs @ 12.46 hrs, Volume= 1.351 af, Atten= 2%, Lag= 3.0 min
Discarded = 0.20 cfs @ 12.46 hrs, Volume= 0.204 af
Primary = 10.51 cfs @ 12.46 hrs, Volume= 1.147 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 661.33' @ 12.46 hrs Surf.Area= 2,817 sf Storage= 4,399 cf

Plug-Flow detention time= 32.9 min calculated for 1.350 af (100% of inflow)
Center-of-Mass det. time= 33.0 min (895.4 - 862.4)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	6,489 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

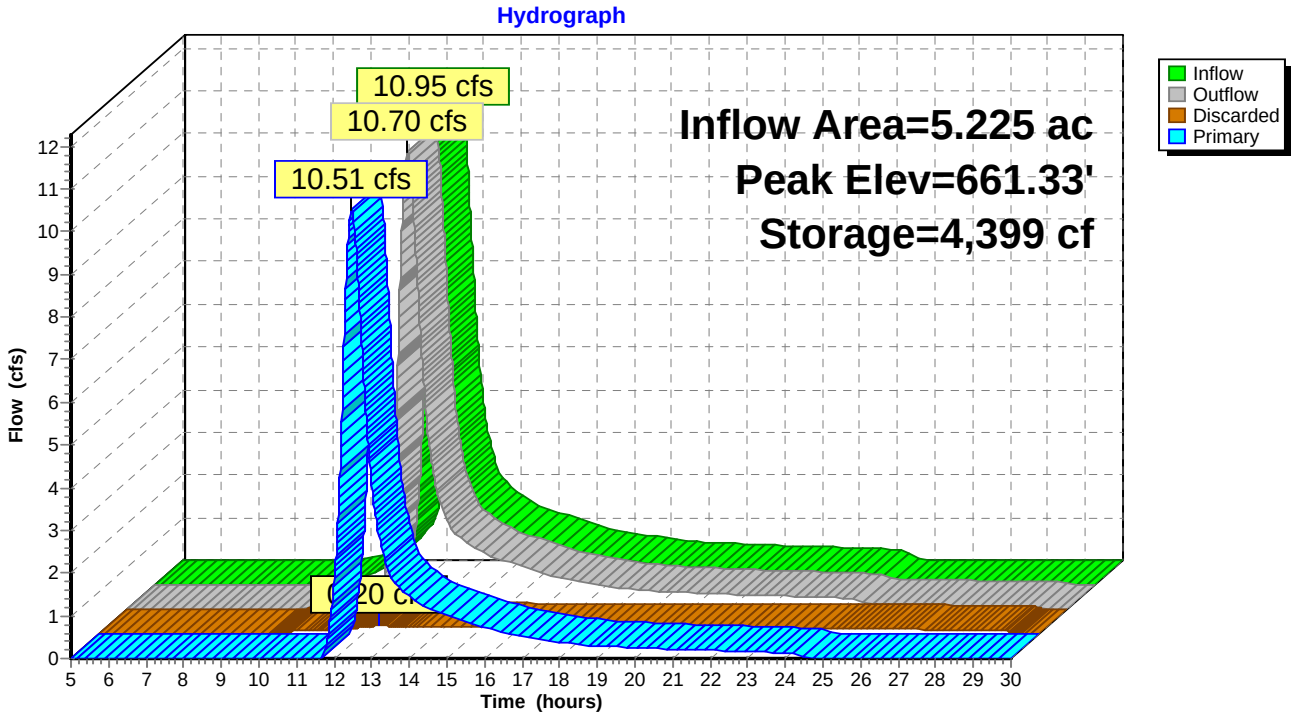
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	1,047	0	0
660.00	1,735	1,391	1,391
661.00	2,524	2,130	3,521
662.00	3,413	2,969	6,489

Device	Routing	Invert	Outlet Devices
#1	Primary	660.10'	**40.0" W x 27.0" H Ellipse Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 660.10' / 659.70' S= 0.0048 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 5.89 sf
#2	Discarded	659.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 0.00'

Discarded OutFlow Max=0.20 cfs @ 12.46 hrs HW=661.33' (Free Discharge)
↑**2=Exfiltration** (Controls 0.20 cfs)

Primary OutFlow Max=10.51 cfs @ 12.46 hrs HW=661.33' (Free Discharge)
↑**1=Culvert** (Barrel Controls 10.51 cfs @ 4.63 fps)

Pond 3B: Infiltration Basin 3

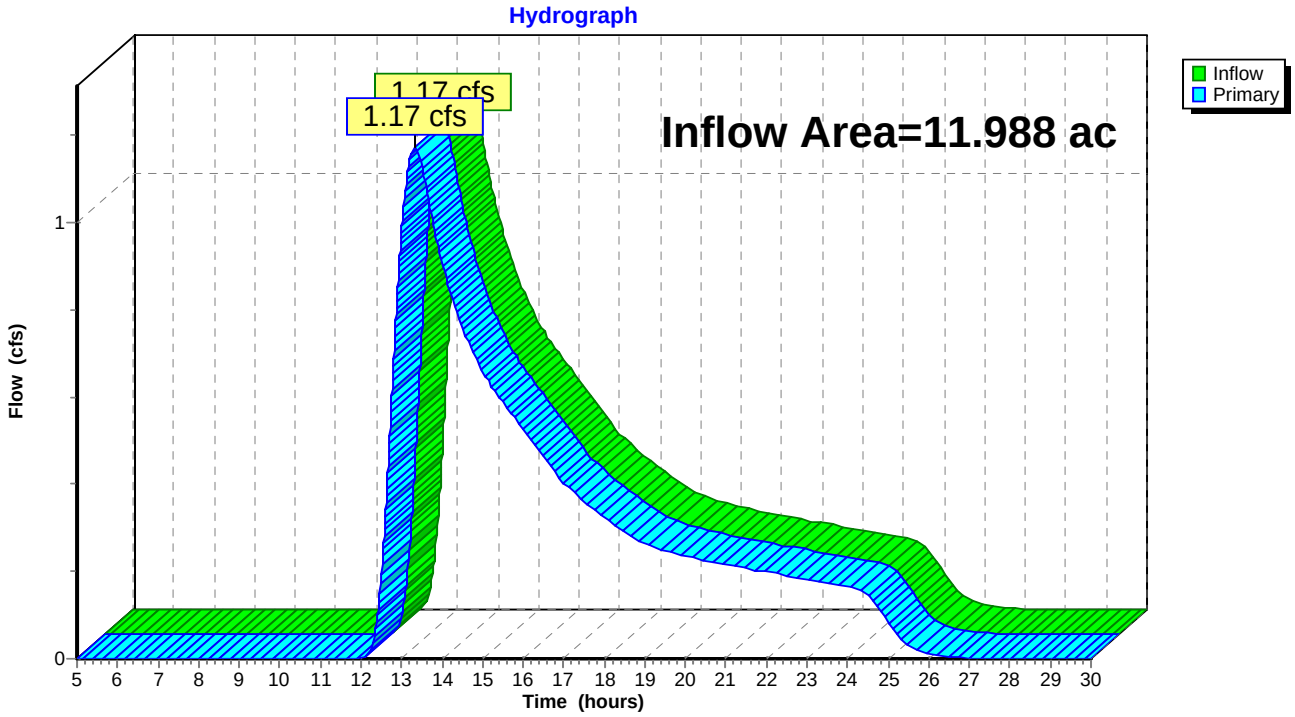


Summary for Link AP-1: Western Wetlands

Inflow Area = 11.988 ac, 0.00% Impervious, Inflow Depth = 0.42" for 100-Year event
Inflow = 1.17 cfs @ 13.35 hrs, Volume= 0.421 af
Primary = 1.17 cfs @ 13.35 hrs, Volume= 0.421 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-1: Western Wetlands

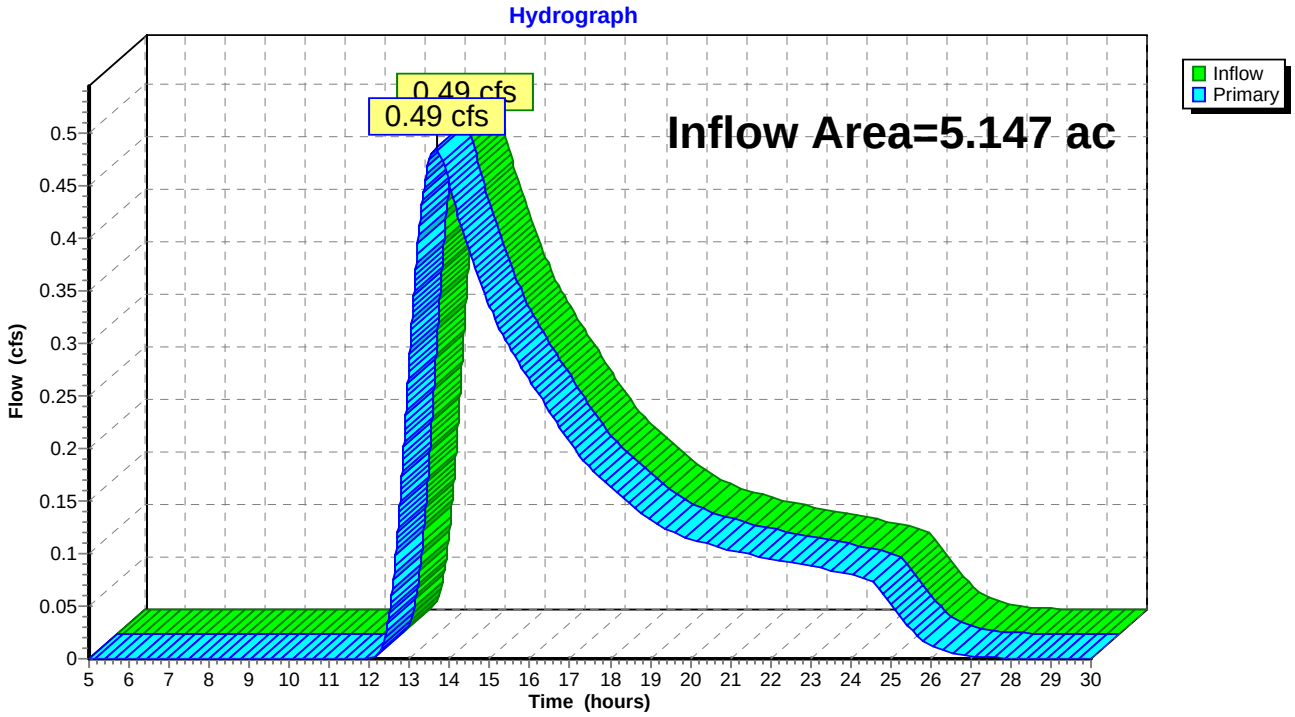


Summary for Link AP-2: Southern Property Line

Inflow Area = 5.147 ac, 0.14% Impervious, Inflow Depth = 0.46" for 100-Year event
Inflow = 0.49 cfs @ 13.67 hrs, Volume= 0.197 af
Primary = 0.49 cfs @ 13.67 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-2: Southern Property Line

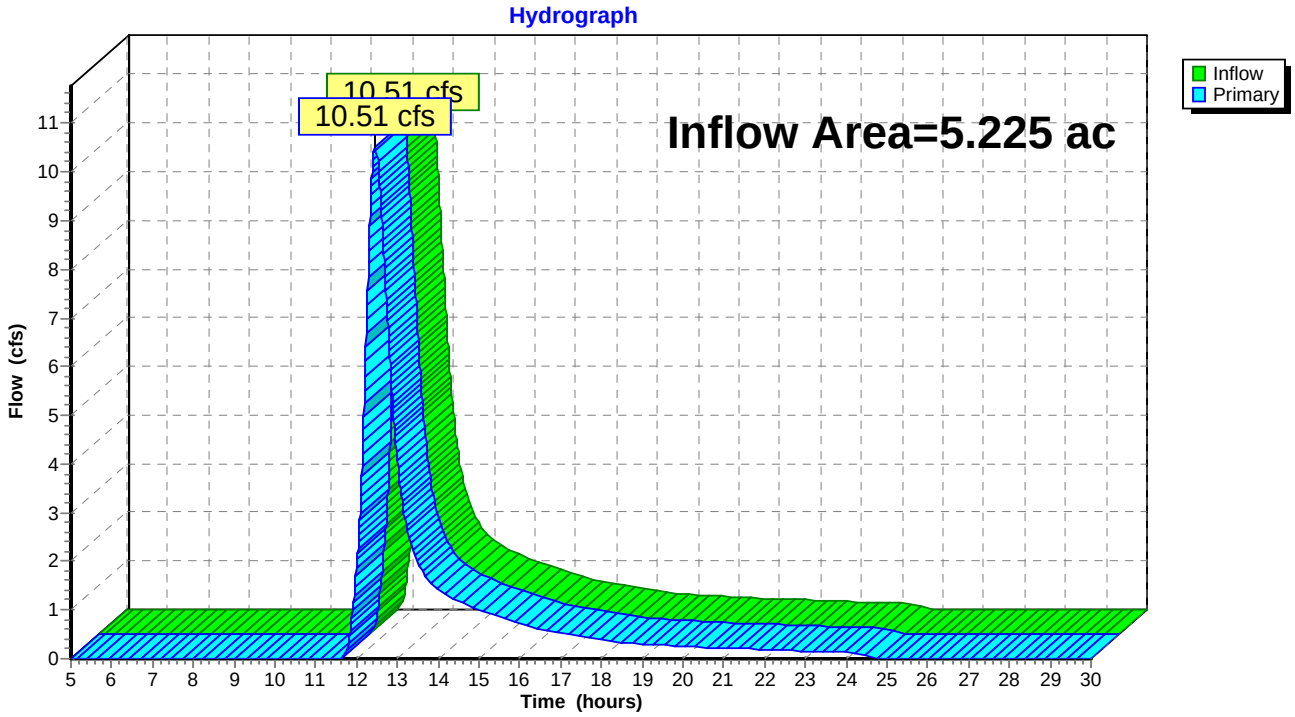


Summary for Link AP-3: Existing Swale

Inflow Area = 5.225 ac, 14.91% Impervious, Inflow Depth = 2.63" for 100-Year event
Inflow = 10.51 cfs @ 12.46 hrs, Volume= 1.147 af
Primary = 10.51 cfs @ 12.46 hrs, Volume= 1.147 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Link AP-3: Existing Swale



APPENDIX F

Water Quality Volume (WQV) Computations

Water Quality Calculations

Determine Water Quality Volume

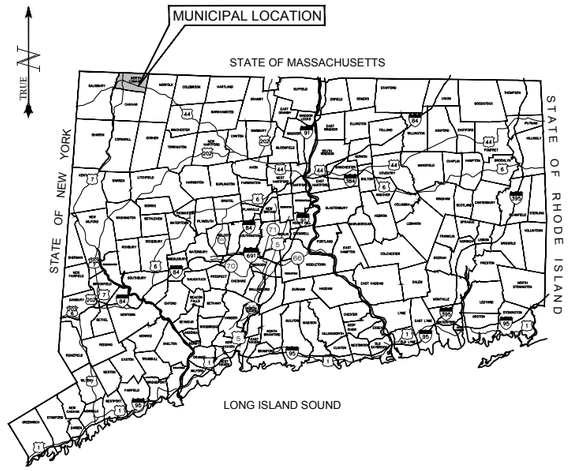
From CT 2004 Stormwater Quality Manual:

$$WQV = \frac{(1")(R)(A)}{12}$$

WQV = water quality volume (ac-ft)
R = volumetric runoff coefficient
I = percent impervious cover
A = site area in acres

$$R = 0.05 + 0.009(I)$$

Area		Total Area		Impervious Area		Impervious Cover	Volumetric Runoff Coefficient	Required Water Quality Volume (WQv)		Available Water Quality Volume (WQv)
ID		ac	ft^2	ac	ft^2	%	R	acre-feet	ft^3	ft^3
PDA-1B		4.740	206,474	0.000	0	0.00	0.050	0.020	871	6,503
PDA-2B		1.750	76,230	0.000	0	0.00	0.050	0.007	305	3,038
PDA-3		5.225	227,601	0.842	36,678	16.11	0.195	0.085	3,703	1,568
							Total:	0.112	4,879	11,109



DEVELOPMENT & MANAGEMENT PLAN

DG CONNECTICUT SOLAR, LLC

"BECTON, DICKINSON & CO."

7 GRACE WAY
NORTH CANAAN, CT 06018

DRAWING INDEX

SITE INFORMATION

SITE NAME: "BECTON, DICKINSON & CO."
PROJECT LOCATION: 7 GRACE WAY
NORTH CANAAN, CT 06018

SITE TYPE/DESCRIPTION: ADD (1) ROOF MOUNTED SOLAR PANEL ARRAY (PLANS UNDER SEPARATE COVER BY OTHERS) & (1) GROUND MOUNTED SOLAR PANEL ARRAYS (4,680 PANELS) W/ ASSOCIATED GRAVEL ACCESS DRIVES & EQUIPMENT. ADD CHAIN LINK FENCE TO SURROUND NEW FACILITY & ELECTRIC INTERCONNECTION FROM NEW FACILITY TO EXIST. ELECTRICAL GRID.

PROPERTY OWNER: BECTON, DICKINSON & COMPANY
1 BECTON DR.
FRANKLIN LAKES, NJ 07417

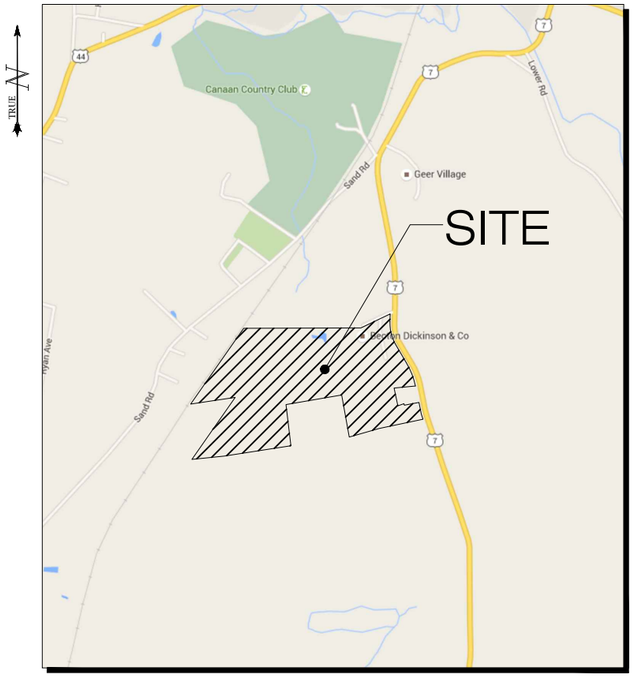
OWNER/APPLICANT: DG COMMERCIAL SOLAR, LLC
700 UNIVERSE BLVD, C1A/JB
WEST PALM BEACH, FL 33408

ENGINEER CONTACT: BRAD PARSONS
(860) 663-1697 x208

LATITUDE: 42°00'30"N
LONGITUDE: 73°20'13"W
ELEVATION: 662'± AMSL

ZONE: I-ZONE (INDUSTRIAL)
FEMA FIRM DESIGNATION: PANEL #0901490014C - ZONE X
TOTAL SITE ACREAGE: 77.13 ACRES
TOTAL DISTURBED AREA: 9.92± ACRES

LOCATION MAP

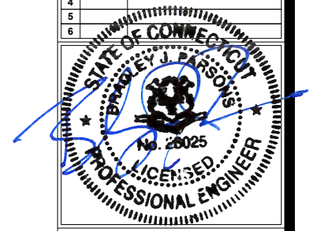


DG CONNECTICUT SOLAR, LLC
700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PUREPOWER ENGINEERING
5 MARINE VIEW PLAZA, SUITE 301
HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC		
NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		



DESIGN PROFESSIONAL OF RECORD
PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419
OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DR. FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018
APT FILING NUMBER: CT530100
DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:
TITLE SHEET & INDEX

SHEET NUMBER:
T-1

SURVEY NOTES:

1. THIS MAPPING MEETS NATIONAL MAP ACCURACY STANDARDS FOR CLASS II 40 SCALE MAPPING WITH A 2' CONTOUR INTERVAL.

2. THERE ARE GROUND NOT VISIBLE AREAS DELINEATED WITHIN THIS MAPPING PROJECT. GOLDEN AERIAL SURVEYS, INC. DOES NOT GUARANTEE ACCURACY OF ANY DATA WITHIN THESE AREAS.

3. PHOTOGRAMMETRIC MAPPING OF 73 ACRES 7 GRACE WAY - NORTH CANAAN, CT
   MAPPING SCALE: 1" = 40'
   CONTOUR INTERVAL: 2 FEET
   DATE OF PHOTOGRAPHY: 04-29-2004
   SCALE OF PHOTOGRAPHY: 1" = 500' GAS PROJECT NO. 15-088
   GOLDEN AERIAL SURVEYS, INC.
   WATERBURY, CT 06708
   PHONE: (203) 426-3322
   WWW.GOLDENAERIALSURVEYS.COM

NO	DATE	REVISION
0		
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DRIVE
FRANKLIN LAKES, NJ 07417
(201) 847-6800

SITE ADDRESS: 7 GRACE WAY
NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

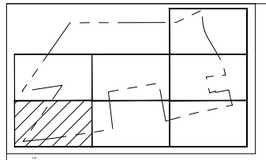
DRAWN BY: -
DATE: 01/2016
CHECKED BY: -

SHEET TITLE:

OVERALL EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-0

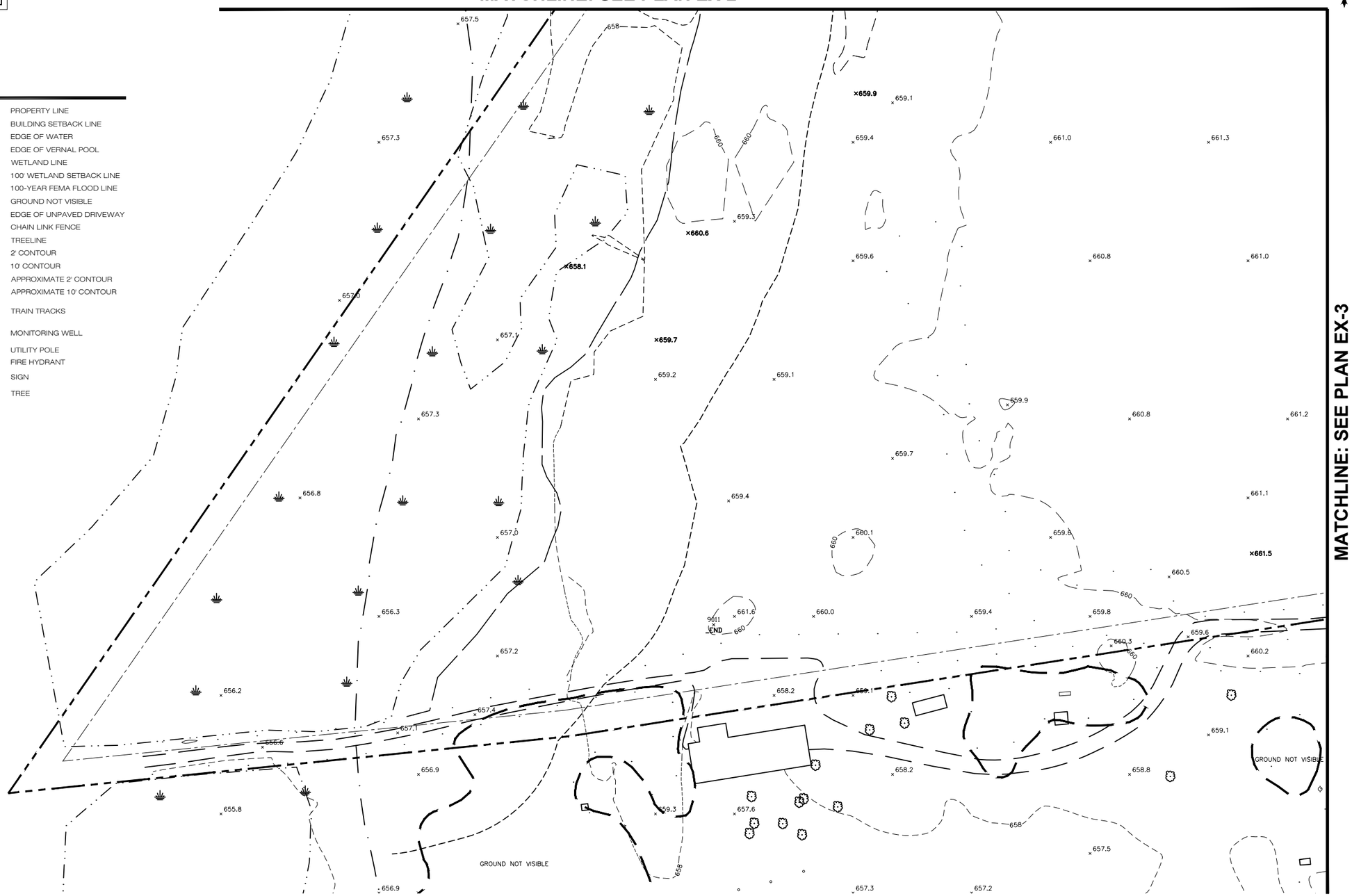


KEY PLAN

LEGEND:

- PROPERTY LINE
- BUILDING SETBACK LINE
- EDGE OF WATER
- EDGE OF VERNAL POOL
- WETLAND LINE
- 100' WETLAND SETBACK LINE
- 100-YEAR FEMA FLOOD LINE
- GROUND NOT VISIBLE
- EDGE OF UNPAVED DRIVEWAY
- CHAIN LINK FENCE
- TREELINE
- 2' CONTOUR
- 10' CONTOUR
- APPROXIMATE 2' CONTOUR
- APPROXIMATE 10' CONTOUR
- TRAIN TRACKS
- MONITORING WELL
- UTILITY POLE
- FIRE HYDRANT
- SIGN
- TREE

MATCHLINE: SEE PLAN EX-2



40 0 20 40 80

(IN FEET) 1 inch = 40 ft.

TRUE NORTH

NO	DATE	REVISION
0		
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

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DRAWN BY: -

DATE: 01/2016

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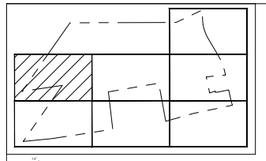
SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-1



KEY PLAN

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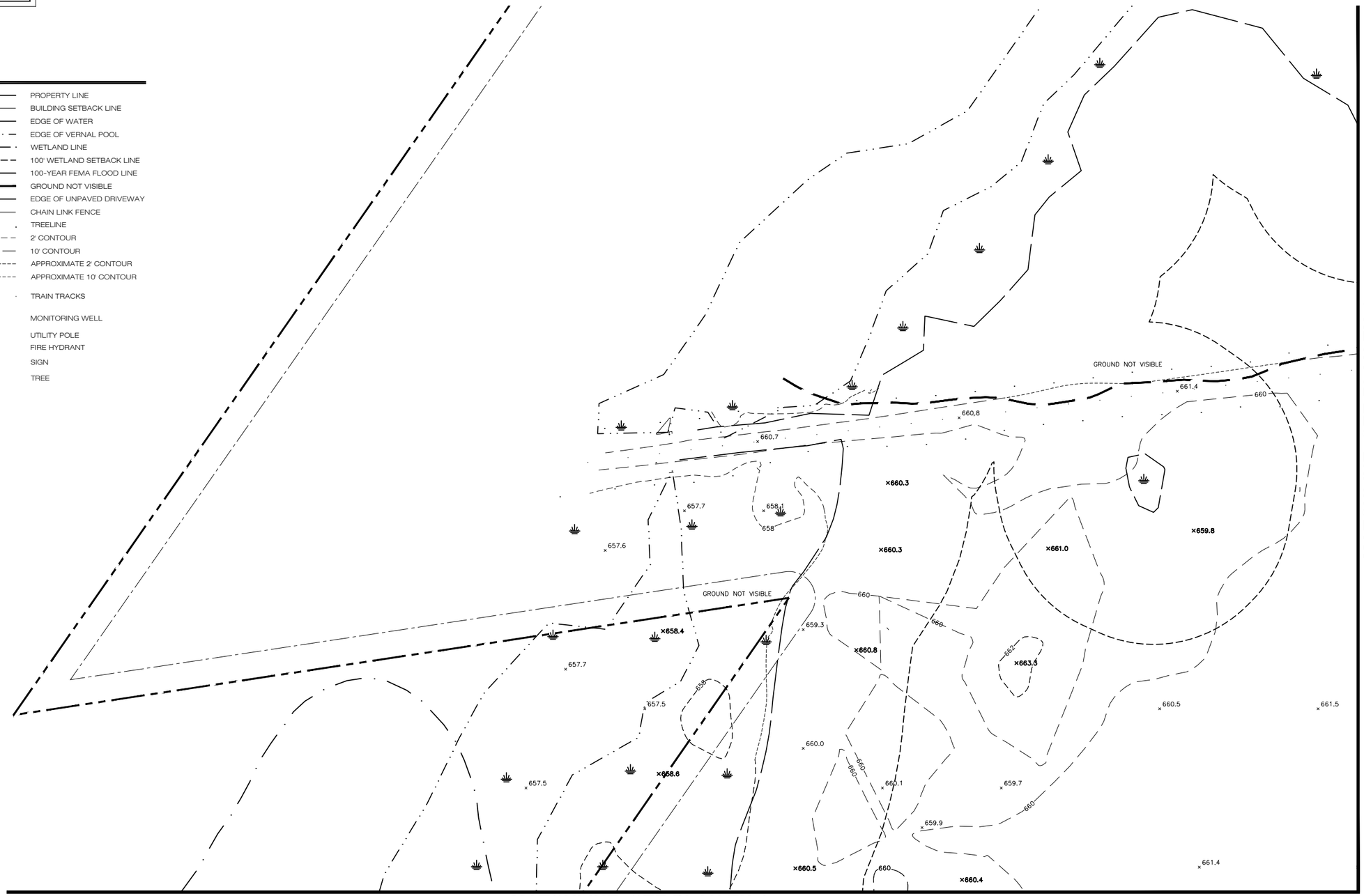

MATCHLINE: SEE PLAN EX-1

MATCHLINE: SEE PLAN EX-4

TRUE NORTH

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

NO	DATE	REVISION
0		
1		
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SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-2

KEY PLAN

MATCHLINE: SEE PLAN EX-4

MATCHLINE: SEE PLAN EX-1

MATCHLINE: SEE PLAN EX-5

POND

GROUND NOT VISIBLE

GROUND NOT VISIBLE

GROUND NOT VISIBLE

LEGEND:

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40 0 20 40 80

(IN FEET) 1 inch = 40 ft.

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DATE: 01/2016

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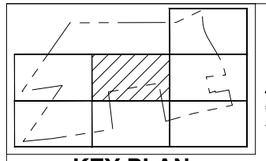
SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-3



KEY PLAN

LEGEND:

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- APPROXIMATE 10' CONTOUR
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- MONITORING WELL
- UTILITY POLE
- FIRE HYDRANT
- SIGN
- TREE

TRUE NORTH

MATCHLINE: SEE PLAN EX-2

MATCHLINE: SEE PLAN EX-6

GROUND NOT VISIBLE

BITUMINOUS

CONC.

P.I.V.

DIRT PARKING

BOULDERS

BOULDERS (TYP.)

27"x40" OVAL RCP

INV.=660.10

15"x30" OVAL RCP

INV.=660.14

18"x30" OVAL RCP

INV.=660.10

75" HDPE

INV.=660.23

GROUND NOT VISIBLE

MATCHLINE: SEE PLAN EX-3

(IN FEET) 1 inch = 40 ft.

NO	DATE	REVISION
0		
1		
2		
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4		
5		
6		

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SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: -

DATE: 01/2016

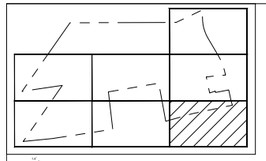
CHECKED BY: -

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-4



KEY PLAN

MATCHLINE: SEE PLAN EX-6

MATCHLINE: SEE PLAN EX-3

LEGEND:

- PROPERTY LINE
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- TREE

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

NO	DATE	REVISION
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2		
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4		
5		
6		

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DRAWN BY: -

DATE: 01/2016

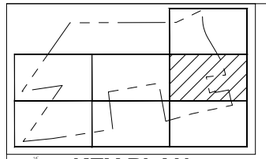
CHECKED BY: -

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-5



KEY PLAN

MATCHLINE: SEE PLAN EX-7

MATCHLINE: SEE PLAN EX-4

MATCHLINE: SEE PLAN EX-5

MANUFACTURING BUILDING
A/C UNIT
TRANSFORMER
TRANSFORMER
A/C UNIT
BIT.
CONC. WALK
TRANSFORMER
INV.=661.86
INV.=662.28
15" HDPE
INV.=661.68
INV.=661.59
10" HDPE
P.I.V.
P.I.V.
BLDG.
BIT.
A/C UNIT
SWALE
TANKS ON CONC. PAD
BLDG.
GROUND NOT VISIBLE
BIT. DRIVE
MON. WELL
BOULDERS (TYP.)
BOLLARDS
DIRT PARKING
DIRT PARKING
BOLLARDS
C.L.F.
GROUND NOT VISIBLE
BIT. DRIVE
GROUND NOT VISIBLE
BIT. DRIVE
664.7
663.1
662.7
662.5
675.4
675.1
664.2
664.5
662.9
663.9
664.7
664.4
663.6
664.2
663.6
663.7
663.6
662.4
661.9
663.1
663.3
662.9
663.3
662.6
663.8
663.2
664.6
664.6
665.1
665.3
665.2
665.3
666.7
665.9
668.5
667.5
667.2
663.6
668.9
669.2
675.2
677.2
679.3
679.4
679.4
688.3
694.7
670.9
670
680
690
662
664

LEGEND:

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- UTILITY POLE
- FIRE HYDRANT
- SIGN
- TREE

TRUE NORTH

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

NO	DATE	REVISION
0		
1		
2		
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5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

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SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: -
DATE: 01/2016
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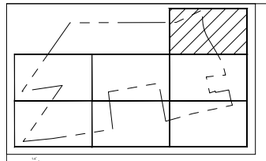
SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-6



KEY PLAN

LEGEND:

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- EDGE OF WATER
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- WETLAND LINE
- 100' WETLAND SETBACK LINE
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- APPROXIMATE 2' CONTOUR
- APPROXIMATE 10' CONTOUR
- TRAIN TRACKS
- MONITORING WELL
- UTILITY POLE
- FIRE HYDRANT
- SIGN
- TREE

MATCHLINE: SEE PLAN EX-6

(IN FEET) 1 inch = 40 ft.

NO	DATE	REVISION
0		
1		
2		
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4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: BRADLEY J. PARSONS P.E.
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DATE: 01/2016

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SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-7

TRUE N

120 0 60 120 240
(IN FEET) 1 inch = 120 ft.

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PUREPOWER ENGINEERING
5 MARINE VIEW PLAZA, SUITE 301
HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC

NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		

STATE OF CONNECTICUT
BRADLEY J. PARSONS
No. 28025
LICENSED
PROFESSIONAL ENGINEER

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON &
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1 BECTON DR.
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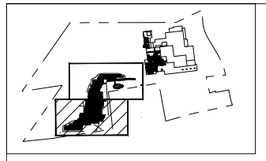
SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

SP-0



KEY PLAN

TRUE N

MATCHLINE: SEE SHEET SP-2

177'

13' TYP.

100' O.C. (TYP.)

20'

20'

GROUND NOT VISIBLE

WETLAND LIMIT (TYP.)

PROPOSED CLEARING LIMITS (TOTAL PROJECT CLEARING AREA = 9.92± ACRES 432,136± SF). CLEARING ACTIVITIES TO INCLUDE THE REMOVAL OF ALL BRUSH, TREES, & STUMPS. CLEARED MATERIAL TO BE CHIPPED, LEAVED STOCKPILED TO BE USED FOR TEMPORARY STABILIZATION. ALL DISTURBED AREAS TO BE LOAMED & SEEDED. (TYP.)

10 / DN-1 PROPOSED SNAKE COVER BOARD (TYP. 5 PL)

4 / DN-1 PROPOSED 8' HIGH CHAIN LINK FENCE (TYP.)

3 / DN-1 PROPOSED SOLAR PANEL ARRAY (TYP.) (4,680 TOTAL PANELS)

BUILDING SETBACK LINE (TYP.)

PROPERTY LINE (TYP.)

100-YEAR FEMA FLOOD LINE (TYP.)

40 0 20 40 80

(IN FEET) 1 inch = 40 ft.

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION

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STATE OF CONNECTICUT
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SITE PLAN

SHEET NUMBER:

SP-1

KEY PLAN

MATCHLINE: SEE PLAN SP-1

TRUE N

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STATE OF CONNECTICUT
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No. 26025
LICENSED
PROFESSIONAL ENGINEER

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SHEET TITLE:

SITE PLAN

SHEET NUMBER:

SP-2

TRUE N

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DATE: 11/16/17
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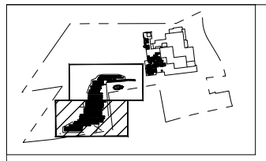
SHEET TITLE:

OVERALL GRADING & DRAINAGE PLAN

SHEET NUMBER:

GD-0



KEY PLAN

TRUE NORTH

8 DN-1 PROPOSED 5' WIDE INFILTRATION BASIN
BOTTOM ELEV. = 659.00
TOP ELEV. = 660.00

EXISTING WETLAND LIMIT (TYP.)

MATCHLINE: SEE PLAN GD-2

GRADE TO DRAIN

GRADE TO DRAIN

GRADE TO DRAIN

GRADE TO DRAIN

GROUND NOT VISIBLE

8 DN-1 PROPOSED 5' WIDE INFILTRATION BASIN
BOTTOM ELEV. = 659.00
TOP ELEV. = 660.00

100-YEAR FEMA FLOOD LINE (TYP.)

PROPERTY LINE (TYP.)

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

DG CONNECTICUT SOLAR, LLC

700 UNIVERSE BLVD. C1A/JB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
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STATE OF CONNECTICUT
BRADLEY J. PARSONS
No. 25025
LICENSED PROFESSIONAL ENGINEER

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON &
ADDRESS: COMPANY
1 BECTON DR.
FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY
NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:

GRADING & DRAINAGE PLAN

SHEET NUMBER:

GD-1

KEY PLAN

MATCHLINE: SEE PLAN GD-1

(IN FEET) 1 inch = 40 ft.

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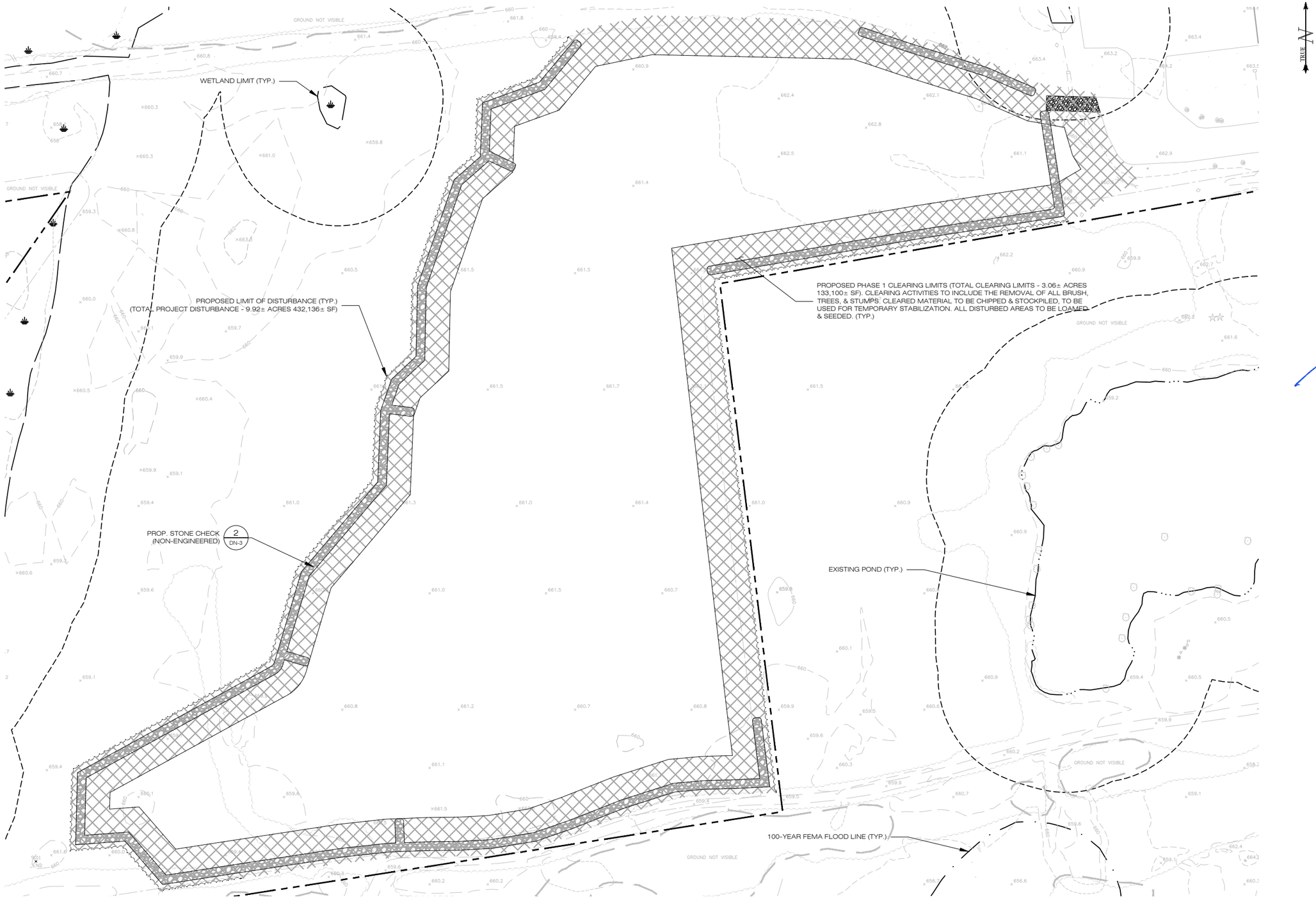
SHEET TITLE:

GRADING & DRAINAGE PLAN

SHEET NUMBER:

GD-2



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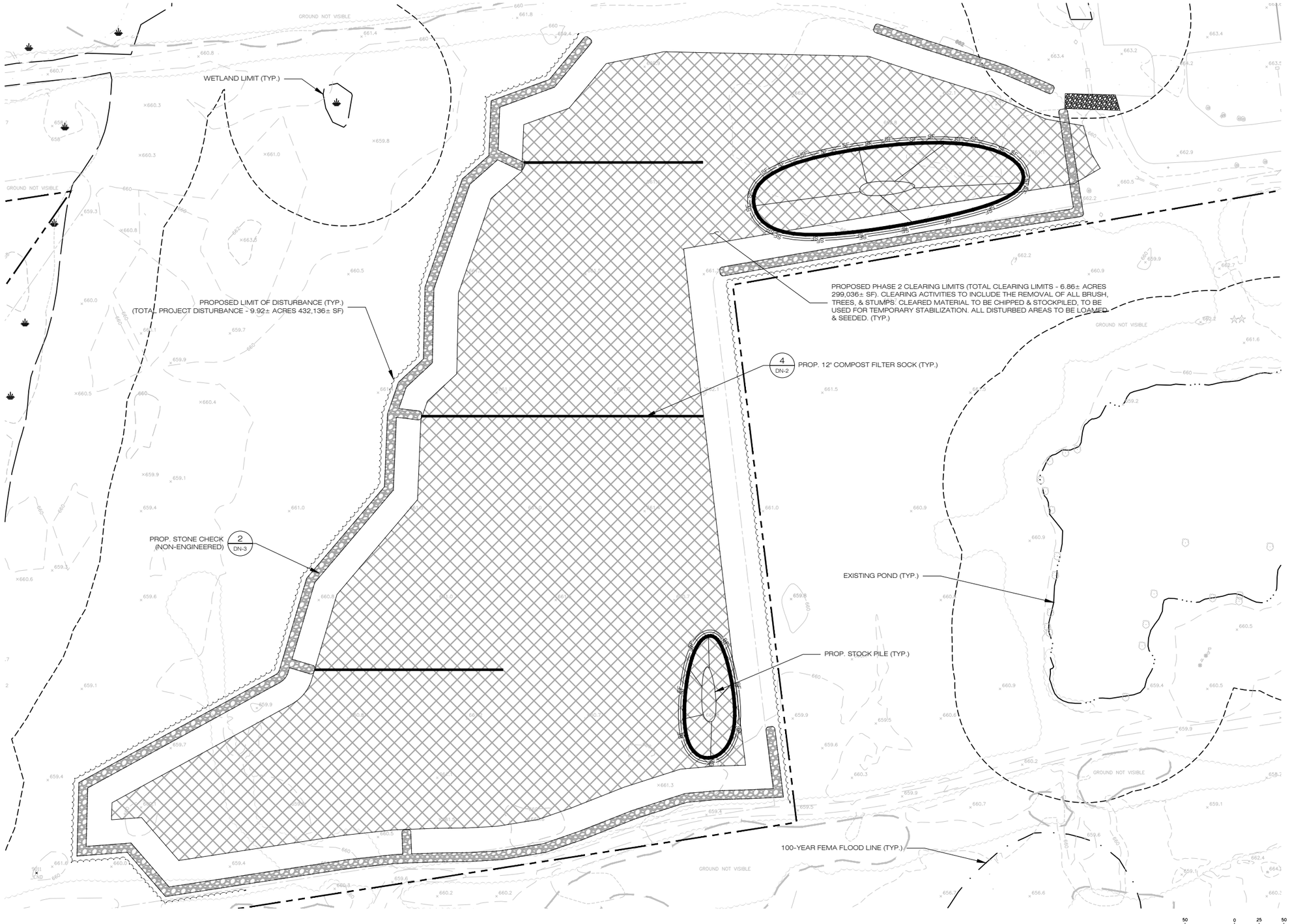
SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 1

SHEET NUMBER:

EC-1



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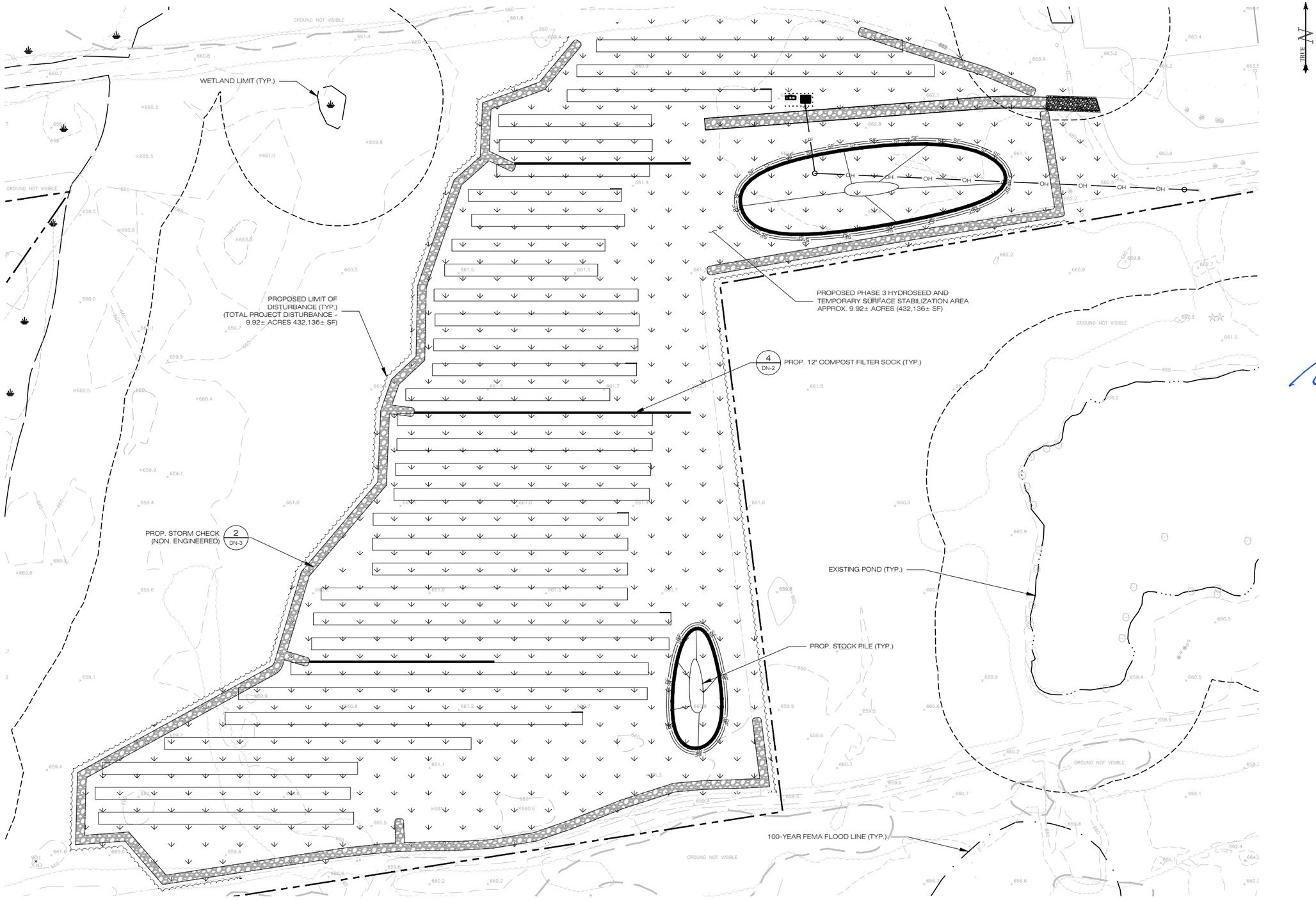
SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 2

SHEET NUMBER:

EC-2



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SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 3

SHEET NUMBER:

EC-3

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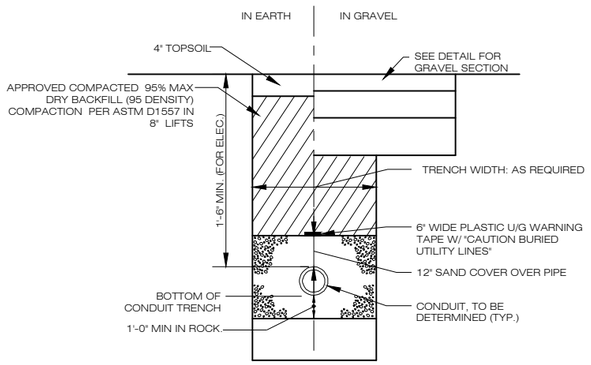
SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 4

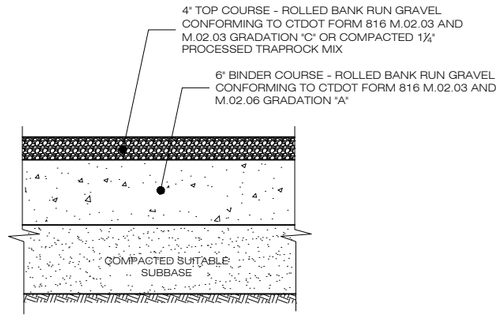
SHEET NUMBER:

EC-4



1 DN-1 ELECTRICAL TRENCH DETAIL

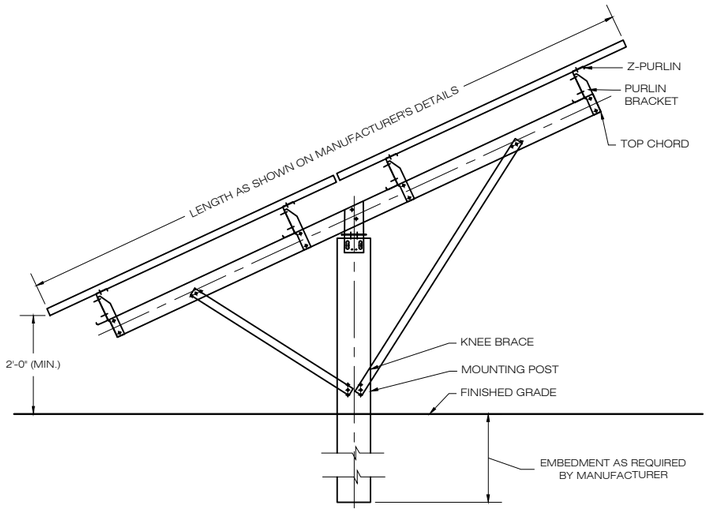
SCALE : N.T.S.



NOTES:
1. SUBBASE MAY CONSIST OF NATIVE MATERIALS IF FOUND ACCEPTABLE BY THE ENGINEER. SUBBASE TO BE COMPACTED TO 95% MAX DRY DENSITY
2. SUBBASE IS TO BE FREE FROM DEBRIS AND UNSUITABLE MATERIALS

2 DN-1 GRAVEL ACCESS DRIVE SECTION

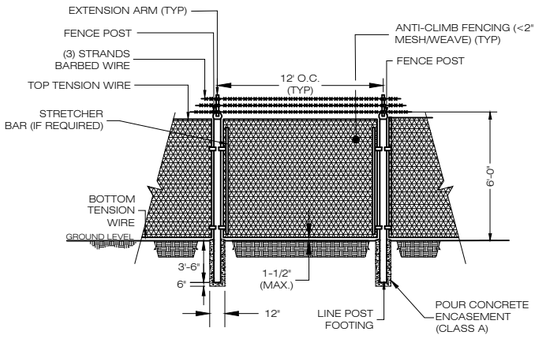
SCALE : NTS

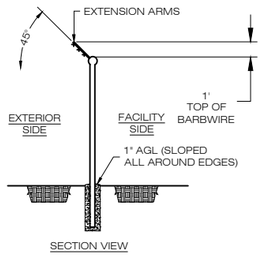


NOTES:
SEE MANUFACTURER'S DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING RACKING SYSTEM REQUIREMENTS AND INSTALLATION PROCEDURES. RACKING SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

3 DN-1 TYPICAL POST MOUNTED RACKING SYSTEM

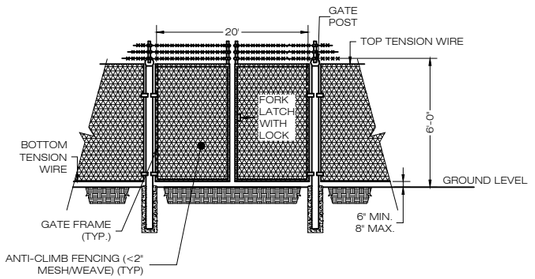
SCALE : NTS





4 DN-1 CHAIN-LINK FENCING DETAIL

SCALE : NTS



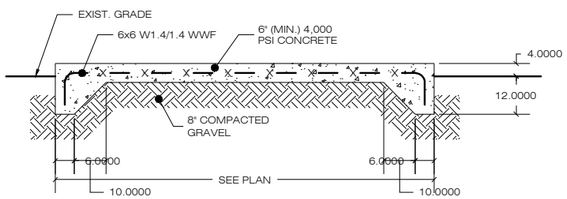
5 DN-1 FENCE & GATE DETAIL

SCALE : N.T.S.

NOTES:
SEED MIX TO BE NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR MOIST SITES ON THE BOTTOM OF THE BASIN AND NEW ENGLAND EROSION/RESTORATION MIX FOR DRY SITES ON THE SIDE SLOPES.

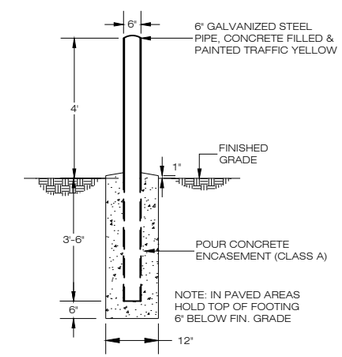
8 DN-1 GRASS LINED INFILTRATION BASIN

SCALE : NTS



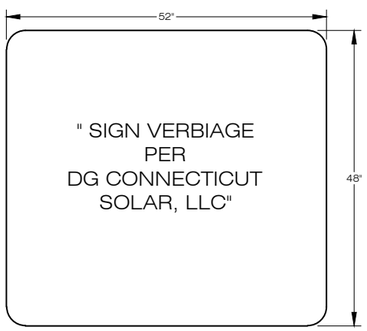
6 DN-1 CONCRETE EQUIPMENT PAD

SCALE : ½" = 1'-0"



7 DN-1 BOLLARD DETAIL

SCALE : NTS



NOTES:
1. SIGNS TO BE MOUNTED ON GATES AT ALL ENTRANCES.
2. SIGNS TO BE RATED FOR OUTDOOR ENVIRONMENTS.

9 DN-1 IDENTIFICATION SIGNAGE

SCALE : NTS

NOTES:
1. COVER BOARDS SHALL BE INSTALLED AROUND SP-1 AND SP-3 AS SHOWN ON THE SITE PLANS TO PROVIDE HABITAT FOR SMOOTH GREEN SNAKE DURING THIS SPECIES SEASONAL ACTIVE PERIOD (MAY THROUGH NOVEMBER).
2. COVER BOARDS SHALL CONSIST OF EITHER EXTERIOR-GRADE PLYWOOD (4' X 8' SHEETS) OR CORRUGATED ROOFING/SIDING PANELS OF SIMILAR SIZE.
3. THE LABEL "SNAKE COVER BOARD - DO NOT REMOVE OR DISTURB" SHALL BE PAINTED ON THE TOP SIDE OF EACH BOARD.
4. COVER BOARDS SHALL REMAIN IN PLACE FROM MAY THROUGH OCTOBER, BUT CAN BE LEFT IN PLACE THROUGHOUT THE FALL AND WINTER IF NEEDED.
5. AREAS WHERE COVER BOARDS ARE LOCATED SHALL BE MOWED NO MORE THAN ONCE PER SEASON.
6. IF MOWING OCCURS BETWEEN MAY AND OCTOBER, THE COVER BOARDS SHALL BE REMOVED A MINIMUM OF ONE DAY PRIOR TO MOWING AND RESET ONCE ALL MOWING HAS BEEN COMPLETED.

10 DN-1 SNAKE COVER BOARD

SCALE : NTS

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SHEET TITLE:
DETAIL SHEET

SHEET NUMBER:
DN-1

EROSION CONTROL NOTES

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE TOWN OF NORTH CANAAN. THE CONTRACTOR SHALL KEEP A COPY OF THE CURRENT GUIDELINES ON-SITE FOR REFERENCE DURING CONSTRUCTION. ALL SEDIMENTATION CONTROL MEASURES, INCLUDING THE CONSTRUCTION OF TEMPORARY SEDIMENTATION TRAPS/BASINS, TEMPORARY DIVERSION SWALES AND ANTI-TRACKING PADS, SHALL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING AND DEMOLITION OPERATIONS.

2. THESE DRAWINGS ARE ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL MEASURES FOR THIS SITE. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN IN A GENERAL SIZE AND LOCATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO STORM DRAINAGE SYSTEMS AND/OR WATERCOURSES. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS WHEN DIRECTED BY THE ENGINEER. SEE SEDIMENT AND EROSION CONTROL DETAILS AND SUGGESTED CONSTRUCTION SEQUENCE FOR MORE INFORMATION. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

3. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE SEDIMENT AND EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE PROPER INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED WITH CONSTRUCTION ON THE SITE OF THE REQUIREMENTS AND OBJECTIVES OF THIS PLAN, INFORMING THE GOVERNING AUTHORITY OR INLAND WETLANDS AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE SEDIMENT & EROSION CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED. COMPLY WITH REQUIREMENTS OF CGS SECTION 22A, 430B FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES AND WITH DEEP RECORD KEEPING AND INSPECTION REQUIREMENTS.

4. A BOND MAY BE REQUIRED TO BE POSTED WITH THE GOVERNING AUTHORITY FOR THE EROSION CONTROL INSTALLATION AND MAINTENANCE.

5. THE CONTRACTOR SHALL APPLY THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN IN CONJUNCTION WITH CONSTRUCTION SEQUENCING, SUCH THAT ALL ACTIVE WORK ZONES ARE PROTECTED. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, SITE ENGINEER, MUNICIPAL OFFICIALS, OR ANY GOVERNING AGENCY. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED BY THE CONTRACTOR.

6. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CONSTRUCTION SO AS NOT TO DISTURB UNPROTECTED WETLAND AREAS OR SEDIMENTATION AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROLS WEEKLY AND WITHIN 24 HOURS OF A STORM WITH A RAINFALL AMOUNT OF 0.2 INCHES OR GREATER TO VERIFY THAT THE CONTROLS ARE OPERATING PROPERLY AND MAKE REPAIRS WHERE NECESSARY.

7. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (HAY BALES, SILT FENCE, JUTE MESH, ETC.) ON-SITE FOR PERIODIC MAINTENANCE AND EMERGENCY REPAIRS.

8. ALL FILL MATERIAL PLACED ADJACENT TO ANY WETLAND AREA SHALL BE GOOD QUALITY, WITH LESS THAN 5% FINES PASSING THROUGH A #200 SIEVE (BANK RUN), SHALL BE PLACED IN MAXIMUM ONE FOOT LIFTS, AND SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.

9. PROTECT EXISTING TREES THAT ARE TO BE SAVED BY FENCING AT THE DRIP LINE, OR AS DETAILED, WITH SNOW FENCE, ORANGE SAFETY FENCE, OR EQUIVALENT FENCING. ANY LIMB TRIMMING SHOULD BE DONE AFTER CONSULTATION WITH AN ARBORIST AND BEFORE CONSTRUCTION BEGINS IN THAT AREA; FENCING SHALL BE MAINTAINED AND REPAIRED DURING CONSTRUCTION.

10. ANTI-TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF ALL CONSTRUCTION. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED.

11. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SEDIMENT BARRIER UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE BARRIER. STAKED HAY BALES OR SILT FENCES SHALL ALSO BE INSTALLED AT THE DOWNHILL SIDES OF BUILDING EXCAVATIONS, DEWATERING PUMP DISCHARGES, AND MATERIAL STOCKPILES.

12. WASHOUT OF APPLICATORS, CONTAINERS, VEHICLES AND EQUIPMENT FOR CONCRETE SHALL BE CONDUCTED IN A DESIGNATED WASHOUT AREA. NO SURFACE DISCHARGE OF WASHOUT WASTEWATERS FROM THE AREA WILL BE ALLOWED. ALL CONCRETE WASHWATER WILL BE DIRECTED INTO A CONTAINER OR PIT SUCH THAT NO OVERFLOWS CAN OCCUR. WASHOUT SHALL BE CONDUCTED IN AN ENTIRELY SELF-CONTAINED SYSTEM AND WILL BE CLEARLY DESIGNED AND FLAGGED OR SIGNED WHERE NECESSARY. THE WASHOUT AREA SHALL BE LOCATED OUTSIDE OF ANY BUFFERS AND AT LEAST 50 FEET FROM ANY STREAM, WETLAND OR OTHER SENSITIVE WATER OR NATURAL RESOURCES AS DETERMINED OR DESIGNATED BY THE ENGINEER.

13. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING. ALL EARTH STOCKPILES SHALL HAVE HAY BALES OR SILT FENCE AROUND THE LIMIT OF PILE. PILES SHALL BE TEMPORARILY SEEDED IF PILE IS TO REMAIN IN PLACE AND UNDISTURBED FOR MORE THAN 30 DAYS.

14. NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS, JUTE MESH AND VEGETATION. ALL SLOPES SHALL BE SEEDED, AND THE ROAD SHOULDER AND BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.

15. DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE SUCH AS TEMPORARY SEDIMENT TRAPS OR GRASS FILTERS WITHIN THE APPROVED LIMIT OF DISTURBANCE. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE ENGINEER.

16. BLOCK THE OPEN UPSTREAM ENDS OF DETENTION BASIN/SEDIMENT TRAP OUTLET CONTROL ORIFICES UNTIL SITE IS STABILIZED AND BLOCK END OF STORM DRAINS IN EXPOSED TRENCHES WITH BOARDS AND SANDBAGS AT THE END OF EACH WORKING DAY WHEN RAIN IS EXPECTED.

17. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. PROPER SANITARY FACILITIES SHALL BE MAINTAINED ON-SITE AT ALL TIMES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE/CONTAINMENT.

18. MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE. MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE HAY AT A RATE OF 2 TONS PER ACRE. IF NECESSARY, REPLACE LOOSE HAY ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, ISLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.

19. SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAYS DAMP. CALCIUM CHLORIDE MAY ALSO BE APPLIED TO ACCESS ROADS. DUMP TRUCK LOADS EXITING THE SITE SHALL BE COVERED.

20. TURF ESTABLISHMENT SHALL BE PERFORMED OVER ALL DISTURBED SOIL, UNLESS THE AREA IS UNDER ACTIVE CONSTRUCTION, IT IS COVERED IN STONE OR SCHEDULED FOR PAVING WITHIN 30 DAYS. TEMPORARY SEEDING OR NON-LIVING SOIL PROTECTION OF ALL EXPOSED SOILS AND SLOPES SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.

21. IF CONSTRUCTION ACTIVITIES ARE COMPLETE OR HAVE BEEN TEMPORARILY HALTED FOR 7 DAYS, STABILIZATION ACTIVITIES WILL BE IMPLEMENTED WITHIN 3 DAYS.

22. TWO WEEKS BEFORE THE FALL SEEDING SEASON BEGINS (AUGUST 15 TO OCTOBER 15), THE CONTRACTOR SHALL SCHEDULE A MEETING WITH NORTH CANAAN STAFF TO DISCUSS STABILIZING THE SITE FOR WINTER MONTHS. MEASURES SUCH AS MULCHING AND/OR SEEDING MAY BE REQUIRED.

23. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP PARKING LOTS, CLEAN THE STORM DRAINAGE SYSTEMS AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS ONCE THE SITE IS FULLY STABILIZED AND APPROVAL HAS BEEN RECEIVED FROM TOWN OF NORTH CANAAN AND/OR ENGINEER.

24. SEEDING MIXTURES:
   A. NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR MOIST SITES SPREAD AT A RATE OF 35 LBS PER ACRE:VIRGIINIA WILD RYE, (ELYMUS VIRGINICUS), CREEPING RED FESCUE, (FESTUCA RUBRA), LITTLE BLUESTEM,(SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM, (ANDROPOGON GERARDII), FOX SEDGE, (CAREX VULPINOIDEA), SWITCH GRASS, (PANICUM VIRGATUM), ROUGH BENTGRASS, (AGROSTIS SCABRA), NEW ENGLAND ASTER, (ASTER NOVAE-ANGLIAE), BONESET, (EUPATORIUM PERFOLIATUM), GRASS LEAVED GOLDENROD, (EUTHAMIA GRAMINIFOLIA), GREEN BULRUSH, (SCIRPUS ATROVIRENS), BLUE VERVAIN, (VERBENA HASTATA), SOFT RUSH, (JUNCUS EFFUSUS), WOOL GRASS, (SCIRPUS CYPERINUS).
   B. NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES SPREAD AT A RATE OF 35 LBS PER ACRE: CREEPING RED FESCUE, (FESTUCA RUBRA), CANADA WILD RYE, (ELYMUS CANADENSIS), ANNUAL RYEGRASS, (LOLIUM MULTIFLORUM), PERENNIAL RYEGRASS, (LOLIUM PERENNE), BLUE GRAMA, (BOUTELOUA GRACILIS), LITTLE BLUESTEM, (SCHIZACHYRIUM SCOPARIUM), INDIAN GRASS, (SORGHASTRUM NUTANS), ROUGH BENTGRASS, (AGROSTIS SCABRA), UPLAND BENTGRASS, (AGROSTIS PERENNANS).

SEDIMENT & EROSION CONTROL NARRATIVE

1. THE PROJECT INCLUDES THE CLEARING OF APPROXIMATELY 9.92± ACRES OF EXISTING WOODLAND AREA FOR THE INSTALLATION OF A GROUND MOUNTED SOLAR PANEL FACILITY WITH ASSOCIATED EQUIPMENT. ALL CLEARED AREAS ARE TO BE SEEDED AND STABILIZED PRIOR TO THE INSTALLATION OF THE PROPOSED PANELS. ALL RUNOFF FROM THE CLEARED AREAS WILL BE COLLECTED WITHIN SHALLOW INFILTRATION BASINS WHICH WILL INFILTRATE THE RUNOFF INTO THE GROUND. WETLANDS ARE LOCATED TO THE WEST OF THE PROPOSED PROJECT AREA AND A SMALL POND IS LOCATED OFFSITE BETWEEN THE TWO SOLAR PANEL ARRAY SITES.

   THE PROPOSED PROJECT INVOLVES THE FOLLOWING CONSTRUCTION:
   A. CONSTRUCTION OF 4,680 GROUND MOUNTED SOLAR PANELS AND ASSOCIATED EQUIPMENT.
   B. CONSTRUCTION OF GRAVEL ACCESS DRIVES.
   C. CONSTRUCTION OF SHALLOW INFILTRATION BASINS TO COLLECT STORMWATER RUNOFF.
   D. CONSTRUCTION OF A CHAIN LINK FENCE SURROUNDING THE SOLAR PANEL FACILITY.
   E. THE STABILIZATION OF PERVIOUS DISTURBED AREAS WITH PERMANENT GRASS AND LANDSCAPING TREATMENTS.

2. FOR THIS PROJECT, THERE ARE APPROXIMATELY 9.92± ACRES OF THE SITE BEING DISTURBED AND THE IMPERVIOUS AREA OF THE SITE HAS BEEN INCREASED BY A TOTAL OF 0.014 ACRES.

3. THE PROJECT SITE, AS MAPPED IN THE SOIL SURVEY OF LITCHFIELD COUNTY (SCS, 1966), CONTAINS TYPE A AND TYPE D SOILS. A GEOTECHNICAL ENGINEERING REPORT HAS BEEN COMPLETED BY WELTI GEOTECHNICAL, P.C DATED OCTOBER 12, 2017.

4. THE PROJECT AREA WAS FOUND TO CONTAIN A BROAD COMPLEX OF WETLANDS THAT INCLUDES THE NORTHERLY EXTENT OF A LARGE WETLAND SYSTEM LOCALLY KNOWN AS ROBBINS SWAMP. ROBBINS SWAMP SURROUNDS SWAMP BROOK WHICH DRAINS TO THE HOLLENBECK RIVER (THE ON-SITE PORTION OF THIS AREA IS IDENTIFIED AS WETLAND 1). ROBBINS SWAMP REPRESENTS A REGIONALLY IMPORTANT WETLAND SYSTEM WHICH SUPPORTS A NUMBER OF RARE WETLAND-DEPENDENT SPECIES. TWO OTHER WETLAND AREAS WERE IDENTIFIED DURING THE SURVEY (IDENTIFIED AS WETLANDS 2 AND 3). WETLAND 2 IS A SMALL ISOLATED FORESTED WETLAND POCKET LOCATED EAST OF WETLAND 1, JUST SOUTH OF AN EXISTING RAIL LINE ON THE SITE. WETLAND 3 IS LOCATED IN THE SOUTHEAST CORNER OF THE SITE AND CONSISTS OF TWO DEPRESSIONAL WETLAND POCKETS THAT GENERALLY DRAIN EAST AND SOUTH AND ARE CONFINED BY AN EXISTING PAVED ACCESS ROAD AND ROUTE 7.

5. IT WILL BE IMPORTANT THAT THE EXISTING WETLAND RESOURCE AREAS BE PROTECTED DURING AND AFTER CONSTRUCTION FROM SEDIMENTATION AND POLLUTANTS TO THE EXTENT POSSIBLE. CUT AND FILL SLOPES WILL NEED TO BE STABILIZED BY VEGETATION, RIPRAP OR EROSION CONTROL GEOTEXTILES AS SOON AS POSSIBLE TO MINIMIZE SLOPE EROSION. ALL CUT AND FILL SLOPES 3:1 OR LESS WILL BE SEEDED, FERTILIZED AND MULCHED FOR TEMPORARY AND PERMANENT STABILIZATION. TOPSOIL AND EXCAVATED MATERIAL STOCKPILE AREAS MUST BE CONTAINED BY SILT FENCE AND HAY BALES AND STABILIZED BY VEGETATION IF LEFT UNDISTURBED FOR MORE THAN 30 DAYS. DEWATERING WASTEWATER FROM TRENCHING OPERATIONS SHALL BE ADDRESSED DURING CONSTRUCTION. ALL WATER FROM DEWATERING OPERATIONS SHALL BE DIRECTED TO DEWATERING PUMP SETTLING BASINS. CONSTRUCTION NEAR WETLANDS SHALL BE ISOLATED BY USE OF CONSTRUCTION FENCING OR A COFFERDAM AND THE TEMPORARY DISTURBED AREA SHALL BE KEPT TO A MINIMUM. WORK IN HIGH GROUNDWATER AREAS SHALL BE SCHEDULED, WHEN POSSIBLE, SO IT CAN BE COMPLETED IN A DRY PERIOD AND IN THE SHORTEST TIME POSSIBLE.

6. IT IS ANTICIPATED THAT CONSTRUCTION WILL BE COMPLETED IN APPROXIMATELY 8 MONTHS.

7. REFER TO THE CONSTRUCTION SEQUENCING AND EROSION AND SEDIMENTATION NOTES FOR INFORMATION REGARDING SEQUENCING OF MAJOR OPERATIONS IN THE ON-SITE CONSTRUCTION PHASES.

8. STORMWATER MANAGEMENT DESIGN CRITERIA UTILIZES THE APPLICABLE SECTIONS OF THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL TO THE EXTENT POSSIBLE AND PRACTICABLE FOR THIS PROJECT ON THIS SITE. EROSION AND SEDIMENTATION MEASURES ARE BASED UPON ENGINEERING PRACTICE, JUDGEMENT AND THE APPLICABLE SECTIONS OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

9. DETAILS FOR THE TYPICAL STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION MEASURES ARE SHOWN ON PLAN SHEET DN-1 AND DN-2, OR PROVIDED AS SEPARATE SUPPORT DOCUMENTATION FOR REVIEW IN THIS PLAN.

10. CONSERVATION PRACTICES TO BE USED DURING CONSTRUCTION AREA:
    A. STAGED CONSTRUCTION;
    B. MINIMIZE THE DISTURBED AREAS DURING CONSTRUCTION;
    C. STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE WITH TEMPORARY OR PERMANENT MEASURES;
    D. MINIMIZE IMPERVIOUS AREAS;
    E. UTILIZE APPROPRIATE CONSTRUCTION EROSION AND SEDIMENTATION MEASURES.

11. THE FOLLOWING SEPARATE DOCUMENTS ARE TO BE CONSIDERED A PART OF THE EROSION AND SEDIMENTATION PLAN:
    A. STORMWATER MANAGEMENT REPORT FOR EXISTING AND PROPOSED PEAK FLOWS.
    B. DESIGN CALCULATIONS FOR TEMPORARY SEDIMENT TRAPS DURING PHASED CONSTRUCTION.
    C. DESIGN CALCULATIONS FOR STORMWATER QUALITY.

SUGGESTED CONSTRUCTION SEQUENCE

THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION ACTIVITIES IS PROJECTED BASED UPON ENGINEERING JUDGEMENT AND BEST MANAGEMENT PRACTICES. THE CONTRACTOR MAY ELECT TO ALTER THE SEQUENCING TO BEST MEET THE CONSTRUCTION SCHEDULE, THE EXISTING SITE ACTIVITIES AND WEATHER CONDITIONS.

1. CONTACT THE OWNER TO SCHEDULE A PRE-CONSTRUCTION MEETING. PHYSICALLY FLAG THE LIMITS OF CLEARING IN THE FIELD AS NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.

2. CONDUCT A PRE-CONSTRUCTION MEETING TO DISCUSS THE PROPOSED WORK AND EROSION AND SEDIMENTATION CONTROL MEASURES. THE MEETING SHOULD BE ATTENDED BY THE OWNER, THE OWNER REPRESENTATIVE(S), THE GENERAL CONTRACTOR, DESIGNATED SUB-CONTRACTORS AND THE PERSON, OR PERSONS, RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF THE EROSION AND SEDIMENTATION MEASURES. THE CONSTRUCTION PROCEDURES FOR THE ENTIRE PROJECT SHALL BE REVIEWED AT THIS MEETING.

3. NOTIFY THE OWNER AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT. NOTIFY CALL BEFORE YOU DIG AT 1-800-922-4455.

PHASE 1

4. REMOVE EXISTING IMPROVEMENTS AS NECESSARY AND PROVIDE MINIMAL CLEARING AND GRUBBING TO INSTALL THE REQUIRED CONSTRUCTION ENTRANCES.

5. CLEAR AND GRUB PHASE 1 LIMITS AS REQUIRED, TO INSTALL THE PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AND, IF APPLICABLE, TREE PROTECTION. ALL WETLAND AREAS SHALL BE PROTECTED BEFORE MAJOR CONSTRUCTION BEGINS.

6. INSTALL PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLANS.

PHASE 2

7. PERFORM THE REMAINING CLEARING AND GRUBBING AS NECESSARY. REMOVE CUT WOOD AND STUMPS. CHIP BRUSH AND SLASH AND STOCKPILE FOR FUTURE USE. REMOVE AND DISPOSE OF DEMOLITION DEBRIS OFF-SITE.

PHASE 3

8. TEMPORARILY SEED AND PROVIDE TEMPORARY SOIL PROTECTION FOR ALL DISTURBED AREAS NOT UNDER CONSTRUCTION FOR THIRTY (30) DAYS OR MORE.

9. INSTALL ELECTRICAL CONDUIT.

10. EXCAVATE AND ROUGH GRADE SITE, GRAVEL ACCESS DRIVES, AND CONCRETE EQUIPMENT PADS.

11. INSTALL GROUND MOUNTED SOLAR PANELS.

12. INSTALL INFILTRATION BASINS AS SHOWN ON THE GRADING AND DRAINAGE PLAN.

13. INSTALL FINAL GRAVEL COURSE ON ALL GRAVEL ACCESS DRIVES.

14. FINE GRADE, RAKE, SEED AND MULCH ALL REMAINING DISTURBED AREAS.

15. REMOVE AND STOCKPILE TOPSOIL TO ITS DESIGNATED AREA AS REQUIRED FOR INSTALLATION OF COMPOST FILTER SOCKS. PROVIDE EROSION AND SEDIMENTATION CONTROL MEASURES AROUND THE STOCKPILE. TEMPORARILY SEED THE STOCKPILE WHEN STOCKPILING IS COMPLETED OR IF IT WILL NOT BE DISTURBED FOR THIRTY (30) DAYS OR MORE.

PHASE 4

16. AFTER THE SITE IS STABILIZED AND WITH THE APPROVAL OF THE OWNER, REMOVE PERIMETER EROSION AND SEDIMENTATION CONTROLS.

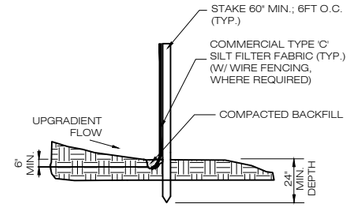
17. INSTALL PERIMETER CHAIN LINK FENCE AND INFILTRATION BASINS AS SHOWN ON THE PLANS.

18. ALL POST-CONSTRUCTION STORMWATER STRUCTURES SHALL BE CLEANED OF CONSTRUCTION SEDIMENT AND ANY REMAINING SILT FENCES SHALL BE REMOVED PRIOR TO THE FILING OF THE "NOTICE OF TERMINATION FORM".

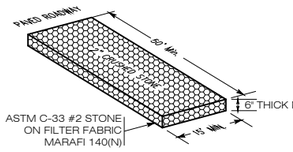
19. PERFORM PROJECT CLEANUP

CONSTRUCTION OPERATION AND MAINTENANCE PLAN - BY CONTRACTOR

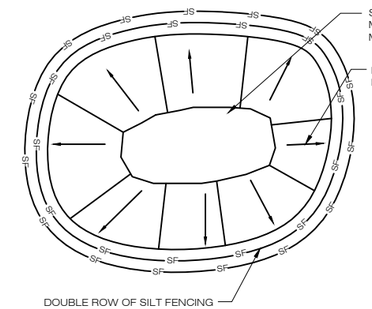
E&S MEASURE	INSPECTION SCHEDULE	MAINTENANCE REQUIRED
CONSTRUCTION ENTRANCE	DAILY	PLACE ADDITIONAL STONE, EXTEND THE LENGTH OR REMOVE AND REPLACE THE STONE. CLEAN PAVED SURFACES OF TRACKED SEDIMENT.
STONE CHECK (NON ENGINEERED)	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE BALE.
COMPOST FILTER SOCK	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
SILT FENCE	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
TOPSOIL/BORROW STOCKPILES	DAILY	REPAIR/REPLACE SEDIMENT BARRIERS AS NECESSARY.
TEMPORARY SOIL PROTECTION	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR ERODED OR BARE AREAS IMMEDIATELY. RESEED AND MULCH.



1 DN-2 **SILT FENCE DETAIL**
SCALE : NTS



2 DN-2 **CONSTRUCTION ENTRANCE DETAIL**
SCALE : NTS



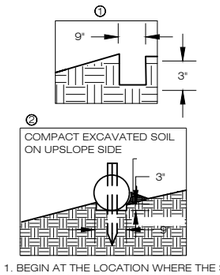
NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

3 DN-2 **MATERIALS STOCKPILE DETAIL**
SCALE : NTS



1. BEGIN AT THE LOCATION WHERE THE SOCK IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE SOCK IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE SOCK ON THE UPHILL SIDE. SOCKS SHALL BE INSTALLED IN 60 FT CONTINUOUS LENGTHS WITH ADJACENT SOCKS TIGHTLY ABUT. EVERY 60 FT THE SOCK ROW SHALL BE SPACED 12 INCHES CLEAR, END TO END, FOR AMPHIBIAN AND REPTILE TRAVEL. THE OPEN SPACES SHALL BE STAGGERED MID LENGTH OF THE NEXT DOWN GRADIENT SOCK.
3. SECURE THE SOCK WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 -1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE SOCK LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE SOCK. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

4 DN-2 **COMPOST FILTER SOCK SEDIMENTATION CONTROL BARRIER**
SCALE : NTS

DG CONNECTICUT SOLAR, LLC
700 UNIVERSE BLVD. C1AJB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
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PUREPOWER ENGINEERING
5 MARINE VIEW PLAZA, SUITE 301
HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC

NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD
PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & CO.
ADDRESS: COMPANY 1 BECTON DR. FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.
SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:
SEDIMENTATION & EROSION CONTROL NOTES & DETAIL SHEET

SHEET NUMBER:
DN-2

SITE PLAN NOTES

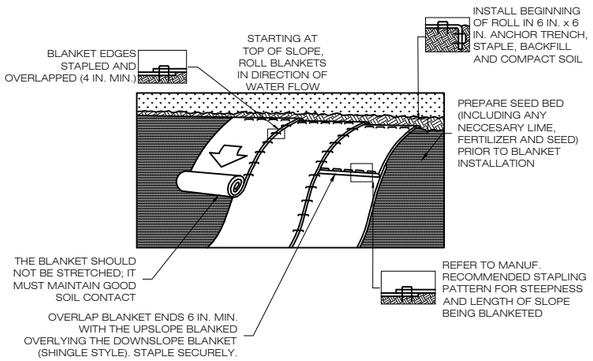
1. ALL CONSTRUCTION SHALL COMPLY WITH OWNER STANDARDS, TOWN OF NORTH CANAAN STANDARDS, CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS IN THE ABOVE REFERENCED INCREASING HIERARCHY. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.
2. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL TOWN OF NORTH CANAAN CONSTRUCTION PERMITS, INCLUDING CONNECTICUT DOT PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
3. REFER TO PLANS, DETAILS AND REPORTS PREPARED BY ALL-POINTS TECHNOLOGY CORPORATION FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE ENGINEER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO BIDDING/CONSTRUCTION. ANY CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CONFIRMED WITH THE OWNERS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS PER PLANS AND SPECIFICATIONS TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
5. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDED SEQUENCE OF CONSTRUCTION NOTES PROVIDED ON THE EROSION CONTROL PLAN OR SUBMIT AN ALTERNATE PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.
6. SHOULD ANY UNKNOWN OR INCORRECTLY LOCATED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE CIVIL ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
7. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS, EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND THE LOCAL MUNICIPALITY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
8. THE CONTRACT LIMIT IS THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE CONTRACT DRAWINGS.
9. THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID FOR BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE ENGINEER.
11. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.
12. THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OF PERSONNEL OR TO SUPERVISE SAFETY AND DO NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
13. THE CONTRACTOR SHALL COMPLY WITH OSHA CFR 29 PART 1926 FOR EXCAVATION TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
14. EXISTING TOPOGRAPHY IS BASED ON THE DRAWING TITLED **"EXISTING CONDITIONS PLAN"** SCALE: 1"=40', DATED 02-15-16 BY "GOLDEN AERIAL SURVEYS, INC"
15. ALTERNATIVE METHODS AND PRODUCTS, OTHER THAN THOSE SPECIFIED, MAY BE USED IF REVIEWED AND APPROVED BY THE OWNER, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION DURING THE BIDDING/CONSTRUCTION PROCESS.
16. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" 72 HOURS BEFORE COMMENCEMENT OF WORK AT "1-800-922-4455" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
17. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF SECTION 22a-174-18(b)(3)(c) OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES THAT LIMIT IDLING OF MOBILE SOURCES TO THREE MINUTES.
18. THE CONTRACTOR SHALL USE OFF-ROAD CONSTRUCTION EQUIPMENT THAT MEETS THE LATEST EPA OR CALIFORNIA AIR RESOURCES BOARD OF STANDARDS. IF NOT ABLE TO MEET THESE, THE CONTRACTORS EQUIPMENT SHALL HAVE THE BEST AVAILABLE CONTROLS ON DIESEL EMISSIONS INCLUDING BUT NOT LIMITED TO RETRO-FITTING WITH DIESEL OXIDATION CATALYSTS PARTICULATE FILTERS AND USE OF ULTRA LOW SULFUR FUEL.
19. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
20. A SOUTHWESTERN PORTION OF THE EXISTING PROPERTY IS LOCATED WITHIN A FEMA DESIGNATED FLOOD HAZARD AREA HOWEVER THE PROJECT AREA IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD HAZARD AREA.
21. THERE ARE WETLANDS LOCATED ON THE SITE AS INDICATED ON THE PLANS. WELTAND BOUNDARIES WERE FLAGGED AND LOCATED BY ALL-POINTS TECHNOLOGY LICENSED SENIOR WETLANDS SCIENTIST.

GRADING AND DRAINAGE NOTES

1. THIS GRADING AND DRAINAGE DRAWINGS ARE INTENDED TO DESCRIBE GRADING AND DRAINAGE ONLY. REFER TO SITE PLAN FOR GENERAL INFORMATION, AND DETAIL SHEETS FOR DETAILS.
2. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON THE DRAWINGS. REFER TO EROSION CONTROL PLAN FOR LIMIT OF DISTURBANCE AND EROSION CONTROL NOTES.
3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR USE IN FINAL LANDSCAPING.
4. VERTICAL DATUM IS NGV DATUM 88.
5. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD AND APPROVED BY THE TOWN OF CANAAN AGENT PRIOR TO THE START OF WORK ON THE SITE.
6. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLANDS IN ACCORDANCE WITH THE REGULATIONS 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT POLLUTION CONTROL MANUAL. IN ADDITION, THE CONTRACTOR SHALL STRICTLY ADHERE TO THE "EROSION CONTROL PLAN" CONTAINED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE TO POST ALL BONDS AS REQUIRED BY THE LOCAL MUNICIPALITIES WHICH WOULD GUARANTEE THE PROPER IMPLEMENTATION OF THE PLAN.
7. ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS FOR EARTHWORK AND STORM DRAINAGE WORK, SHALL CONFORM TO THE SPECIFICATIONS AND DETAILS AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS MANUAL. OTHERWISE THIS WORK SHALL CONFORM TO THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION AND PROJECT GEOTECHNICAL REPORT IF THERE IS NO PROJECT SPECIFICATIONS MANUAL. ALL FILL MATERIAL UNDER STRUCTURES AND PAVED AREAS SHALL BE PER THE ABOVE STATED APPLICABLE SPECIFICATIONS, AND/OR PROJECT GEOTECHNICAL REPORT, AND SHALL BE PLACED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. MATERIAL SHALL BE COMPACTED IN 6" LIFTS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557 AT 95% PERCENT OF OPTIMUM MOISTURE CONTENT.
8. ALL DISTURBANCE INCURRED TO PUBLIC, MUNICIPAL, COUNTY, STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF NORTH CANAAN AND STATE OF CONNECTICUT.
9. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.

UTILITIES NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE TOWN OF NORTH CANAAN TO SECURE CONSTRUCTION PERMITS AND FOR PAYMENT OF FEES FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES.
2. THIS PLAN DETAILS SITE INSTALLED PIPES UP TO THE PROPOSED FENCE LINE. REFER TO DRAWINGS BY OWNER FOR INTERCONNECTION TO EXISTING ELECTRICAL GRID. SITE CONTRACTOR SHALL SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY AT BUILDING CONNECTION POINT OR AT EXISTING UTILITY OR PIPE CONNECTION POINT. THESE DETAILS ARE NOT INCLUDED IN THE THIS DEVELOPMENT AND MANAGEMENT PLANS.
3. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE PROPOSED SANITARY SEWERS AND WHERE PROPOSED STORM PIPING WILL CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT OF ANY DISCOVERED OR UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED SANITARY SEWERS, STORM PIPING AND UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
4. UTILITY CONNECTION DESIGN AS REFLECTED ON THE PLAN MAY CHANGE SUBJECT TO UTILITY PROVIDER AND GOVERNING AUTHORITY STAFF REVIEW.
5. THE CONTRACTOR SHALL ENSURE THAT ALL UTILITY PROVIDERS AND GOVERNING AUTHORITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL PERFORM PROPER COORDINATION WITH THE RESPECTIVE UTILITY PROVIDER.
6. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY PROVIDERS FOR SERVICE INSTALLATIONS AND CONNECTIONS. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY PROVIDERS AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATIONS MANUAL AND/OR GENERAL CONDITIONS OF THE CONTRACT.
7. ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT. AFTER UTILITY INSTALLATION IS COMPLETED, THE CONTRACTOR SHALL INSTALL TEMPORARY AND/OR PERMANENT PAVEMENT REPAIR AS DETAILED ON THE DRAWINGS OR AS REQUIRED BY THE OWNER HAVING JURISDICTION.
8. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
9. RELOCATION OF UTILITY PROVIDER FACILITIES, SUCH AS POLES, SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY PROVIDER.
10. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN 8" LIFTS ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED PER THE TRENCH DETAILS AND IN AREAS OF ROCK EXCAVATION.
11. CONTRACTOR TO PROVIDE STEEL SLEEVES AND ANNULAR SPACE SAND FILL FOR UTILITY PIPE AND CONDUIT CONNECTIONS UNDER FOOTINGS.
12. BUILDING UTILITY PENETRATIONS AND LOCATIONS ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND SHALL BE VERIFIED WITH THE BUILDING MEP DRAWINGS AND WITH THE OWNER'S CONSTRUCTION MANAGER.
13. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION FOR APPROVAL PRIOR TO BACKFILLING, IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROVIDER REQUIREMENTS.
14. A ONE-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN WATER, GAS, ELECTRICAL, AND TELEPHONE LINES AND STORM PIPING SHALL BE PROVIDED. A SIX-INCH MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN STORM PIPING AND SANITARY SEWER. A 6-INCH TO 18-INCH VERTICAL CLEARANCE BETWEEN SANITARY SEWER PIPING AND STORM PIPING SHALL REQUIRE CONCRETE ENCASEMENT OF THE PROPOSED SANITARY PIPING.
15. SITE CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC., AS REQUIRED FOR PIPE CONNECTIONS TO BUILDING STUB OUTS, INCLUDING ROOF/FOOTING DRAIN CONNECTIONS TO ROOF LEADERS AND TO STORM DRAINAGE SYSTEM.
16. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION, TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE OWNER AND TOWN OF NORTH CANAAN.
17. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY, AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE INCLUDING SERVICES. CONTACT "CALL BEFORE YOU DIG" AT (800) 922-4455 72 HOURS PRIOR TO CONSTRUCTION AND VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY AND STORM DRAINAGE LOCATIONS. THE CONTRACTOR SHALL EMPLOY THE USE OF A UTILITY LOCATING COMPANY TO PROVIDE SUBSURFACE UTILITY ENGINEERING CONSISTING OF DESIGNATING UTILITIES AND STORM PIPING ON PRIVATE PROPERTY WITHIN THE CONTRACT LIMIT AND CONSISTING OF DESIGNATING AND LOCATING WHERE PROPOSED UTILITIES AND STORM PIPING CROSS EXISTING UTILITIES AND STORM PIPING WITHIN THE CONTRACT LIMITS.
18. THE CONTRACTOR SHALL ARRANGE AND COORDINATE WITH UTILITY PROVIDERS FOR WORK TO BE PERFORMED BY UTILITY PROVIDERS. THE CONTRACTOR SHALL PAY ALL UTILITY FEES UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATION MANUAL AND GENERAL CONDITIONS, AND REPAIR PAVEMENTS AS NECESSARY.
19. ELECTRIC SERVICES SHALL BE INSTALLED UNDERGROUND. THE CONTRACTOR SHALL PROVIDE AND INSTALL AND BACKFILL PVC CONDUITS FOR ELECTRIC SERVICE. REFER TO ELECTRICAL PLANS AND WIRE SCHEDULE FOR ACTUAL NUMBER AND LOCATION OF CONDUITS. SERVICES MAY BE INSTALLED IN A COMMON TRENCH WITH 12" CLEAR SPACE BETWEEN. MINIMUM COVER IS 36" ON ELECTRIC CONDUITS. SERVICES SHALL BE MARKED WITH MAGNETIC LOCATOR TAPE AND SHALL BE BEDDED, INSTALLED, AND BACKFILLED IN ACCORDANCE WITH ELECTRIC UTILITY PROVIDER COMPANY STANDARDS. GALVANIZED STEEL ELECTRICAL CONDUIT SHALL BE USED AT POLE AND TRANSFORMER LOCATIONS. INSTALL HANDHOLES AS REQUIRED TO FACILITATE INSTALLATION AND AS REQUIRED BY UTILITY PROVIDER. INSTALL CONCRETE ENCASEMENT ON PRIMARY ELECTRIC CONDUITS IF REQUIRED BY ELECTRIC PROVIDER.
20. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE OWNER, ENGINEER, AND APPROPRIATE REGULATORY AGENCIES PRIOR TO INSTALLATION.
21. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE OWNERS, THE CIVIL ENGINEER, UTILITY PROVIDERS AND GOVERNING AUTHORITIES.



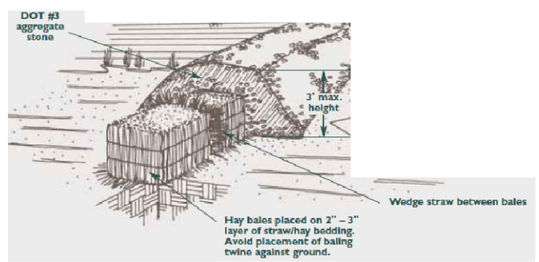
SEQUENCE OF CONSTRUCTION

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPS), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPS IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPS EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPS BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPS.
3. ROLL THE RECPS DOWN HORIZONTALLY ACROSS THE SLOPE. RECPS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL RECPS MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON THE RECPS TYPE.
5. CONSECUTIVE RECPS SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPS WIDTH.

NOTES:

1. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
3. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
4. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

1 DN-3 EROSION CONTROL BLANKET STEEP SLOPES
SCALE : N.T.S.



2 DN-3 TYPICAL STONE CHECK (NON-ENGINEERED)
SCALE : NTS

DG CONNECTICUT SOLAR, LLC
700 UNIVERSE BLVD. C1AJB
WEST PALM BEACH, FL 33408

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
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PUREPOWER ENGINEERING
5 MARINE VIEW PLAZA, SUITE 301
HOBOKEN, NJ 07030
(201) 687-9975 x102
www.PurePower.com

CSC

NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
2		
3		
4		
5		
6		

STATE OF CONNECTICUT · BRADLEY J. PARSONS · No. 25025 · LICENSED PROFESSIONAL ENGINEER

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: BECTON, DICKINSON & COMPANY
ADDRESS: 1 BECTON DR. FRANKLIN LAKES, NJ 07417

BECTON, DICKINSON & CO.

SITE ADDRESS: 7 GRACE WAY NORTH CANAAN, CT 06018

APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17
CHECKED BY: BJP

SHEET TITLE:
NOTES & SPECIFICATIONS

SHEET NUMBER:
DN-3

ENVIRONMENTAL NOTES

RARE SPECIES PROTECTION PROGRAM

BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE, ALL STATE SPECIAL CONCERN SPECIES AFFORDED PROTECTION UNDER THE CONNECTICUT ENDANGERED SPECIES ACT, ARE KNOWN TO OCCUR WITHIN THE VICINITY OF THE SITE. THE FOLLOWING PROTECTIVE MEASURES SATISFY REQUIREMENTS FROM THE CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION ("CTDEEP") WILDLIFE DIVISION AND FOLLOW PROTOCOLS DEVELOPED FROM PREVIOUS RARE SPECIES CONSULTATIONS AND STATE-APPROVED PROTECTION PLANS. THIS PROTECTION PLAN IS VALID FOR ONE YEAR FROM THE DATE OF CTDEEP'S LETTER, AT WHICH POINT IF CONSTRUCTION HAS NOT BEEN INITIATED A NEW NATURAL DIVERSITY DATA BASE REVIEW REQUEST FROM CTDEEP IS REQUIRED.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENT FOR IMPLEMENTATION OF THESE PROTECTIVE MEASURES AND THE EDUCATION OF ITS EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE. THE RARE SPECIES PROTECTION PLAN SHALL BE IMPLEMENTED IF WORK WILL OCCUR DURING THE SALAMANDERS AND TURTLES' ACTIVE PERIODS (MARCH 1 TO NOVEMBER 15). ALL-POINTS TECHNOLOGY CORPORATION, P.C. ("APT") WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT THESE PROTECTION MEASURES ARE IMPLEMENTED PROPERLY AND WILL PROVIDE AN EDUCATION SESSION ON RARE SPECIES THAT MAY BE ENCOUNTERED AND THE PROJECT'S PROXIMITY TO SENSITIVE WILDLIFE HABITAT RESOURCES PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR ENVIRONMENTAL SCIENTIST AT APT, AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED BY PHONE AT (860) 663-1697 EXT. 201 OR VIA EMAIL AT DGUSTAFSON@ALLPOINTSTECH.COM.

THE PROPOSED PROTECTION PROGRAM CONSISTS OF SEVERAL COMPONENTS: EDUCATION OF ALL CONTRACTORS AND SUB-CONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; PROTECTIVE MEASURES; PERIODIC INSPECTION OF THE CONSTRUCTION PROJECT; AND, REPORTING.

1. SALAMANDER TREE CLEARING RESTRICTION

a. IN ORDER TO MINIMIZE IMPACTS ON SALAMANDERS, TREE CLEARING SHALL OCCUR BETWEEN NOVEMBER 15TH THROUGH FEBRUARY 1ST.

b. IF TREE CLEARING IS NOT PERFORMED DURING THE NOVEMBER 15TH THROUGH FEBRUARY 1ST PERIOD, SWEEPS OF THE ENTIRE CONSTRUCTION AREA SHALL BE PERFORMED BY THE ENVIRONMENTAL MONITOR DURING THE MORNING PRIOR TO EACH DAY'S TREE CLEARING ACTIVITIES. SALAMANDER SWEEPS SHALL BE PERFORMED ON A DAILY BASIS UNTIL TREE CLEARING ACTIVITIES HAVE BEEN COMPLETED.

2. ISOLATION MEASURES & SEDIMENTATION AND EROSION CONTROLS

a. PLASTIC NETTING USED IN A VARIETY OF EROSION CONTROL PRODUCTS (I.E., EROSION CONTROL BLANKETS, FIBER ROLLS [SOCKS], REINFORCED SILT FENCE) HAS BEEN FOUND TO ENTANGLE WILDLIFE, INCLUDING REPTILES, AMPHIBIANS, BIRDS AND SMALL MAMMALS, BUT PARTICULARLY SNAKES. NO PERMANENT EROSION CONTROL PRODUCTS OR REINFORCED SILT FENCE WILL BE USED ON THE SOLARCITY CORPORATION PROJECT. TEMPORARY EROSION CONTROL PRODUCTS WILL USE EITHER EROSION CONTROL BLANKETS AND FIBER ROLLS COMPOSED OF PROCESSED FIBERS MECHANICALLY BOUND TOGETHER TO FORM A CONTINUOUS MATRIX (NETLESS) OR NETTING COMPOSED OF PLANAR WOVEN NATURAL BIODEGRADABLE FIBER TO AVOID/MINIMIZE WILDLIFE ENTANGLEMENT.

b. INSTALLATION OF SEDIMENTATION AND EROSION CONTROLS, REQUIRED FOR EROSION CONTROL COMPLIANCE AND CREATION OF A BARRIER TO POSSIBLE MIGRATING/DISPERSING SALAMANDERS AND TURTLES, SHALL BE PERFORMED BY THE CONTRACTOR FOLLOWING CLEARING ACTIVITIES AND PRIOR TO ANY EARTHWORK. THE ENVIRONMENTAL MONITOR WILL INSPECT THE WORK ZONE AREA PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION TO ENSURE THE AREA IS FREE OF SALAMANDERS AND TURTLES AND DOCUMENT BARRIERS HAVE BEEN SATISFACTORILY INSTALLED. THE INTENT OF THE BARRIER IS TO SEGREGATE THE MAJORITY OF THE WORK ZONE AND ISOLATE IT FROM FORAGING/MIGRATING/DISPERSING SALAMANDERS, TURTLES, SNAKES AND OTHER HERPETOFAUNA. OFTENTIMES COMPLETE ISOLATION OF A WORK ZONE IS NOT FEASIBLE DUE TO ACCESSIBILITY NEEDS AND LOCATIONS OF STAGING/MATERIAL STORAGE AREAS, ETC. IF COMPLETE ISOLATION OF THE WORK ZONE IS NOT PRACTICAL, THEY WILL BE POSITIONED TO DEFLECT MIGRATING/DISPERSAL ROUTES AWAY FROM THE WORK ZONE TO MINIMIZE POTENTIAL ENCOUNTERS WITH SALAMANDERS, TURTLES, SNAKES AND OTHER HERPETOFAUNA.

c. THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS FOR TEARS OR BREECHES AND ACCUMULATION LEVELS OF SEDIMENT, PARTICULARLY FOLLOWING STORM EVENTS THAT GENERATE A DISCHARGE. APT WILL PROVIDE PERIODIC INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES ONLY AS IT PERTAINS TO PROTECTION OF RARE SPECIES. THIRD PARTY MONITORING OF SEDIMENTATION AND EROSION CONTROLS WILL BE PERFORMED BY OTHER PARTIES, AS NECESSARY, UNDER APPLICABLE LOCAL, STATE AND/OR FEDERAL REGULATIONS.

d. THE EXTENT OF THE SEDIMENTATION AND EROSION CONTROLS WILL BE AS SHOWN ON THE SITE PLANS. THE CONTRACTOR SHALL HAVE ADDITIONAL SEDIMENTATION AND EROSION CONTROLS STOCKPILED ON SITE SHOULD FIELD OR CONSTRUCTION CONDITIONS WARRANT EXTENDING THE CONTROLS AS DIRECTED BY APT.

e. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED OUTSIDE OF THE SEDIMENTATION AND EROSION CONTROLS WITHIN 100 FEET OF WETLANDS OR WATERCOURSES.

f. ALL SEDIMENTATION AND EROSION CONTROLS SHALL BE REMOVED WITHIN 30 DAYS OF COMPLETION OF WORK AND PERMANENT STABILIZATION OF SITE SOILS SO THAT REPTILE AND AMPHIBIAN MOVEMENT BETWEEN UPLANDS AND WETLANDS IS NOT RESTRICTED.

3. CONTRACTOR EDUCATION

a. PRIOR TO WORK ON SITE, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRE-CONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF AN INTRODUCTORY MEETING WITH APT PROVIDING PHOTOS OF BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE EMPHASIZING THE NON-AGGRESSIVE NATURE OF THESE SPECIES, THE ABSENCE OF NEED TO DESTROY ANIMALS THAT MIGHT BE ENCOUNTERED AND THE NEED TO FOLLOW PROTECTIVE MEASURES AS DESCRIBED IN SECTION 5 BELOW. WORKERS WILL ALSO BE PROVIDED INFORMATION REGARDING THE IDENTIFICATION OF OTHER SALAMANDERS, TURTLES, SNAKES AND COMMON HERPETOFAUNA SPECIES THAT COULD BE ENCOUNTERED.

b. THE EDUCATION SESSION WILL ALSO FOCUS ON MEANS TO DISCRIMINATE BETWEEN THE SPECIES OF CONCERN AND OTHER NATIVE SPECIES TO AVOID UNNECESSARY "FALSE ALARMS". ENCOUNTERS WITH ANY SPECIES OF SALAMANDERS, TURTLES OR SNAKES WILL BE DOCUMENTED.

c. THE CONTRACTOR WILL BE PROVIDED WITH CELL PHONE AND EMAIL CONTACTS FOR THE APT ENVIRONMENTAL MONITOR TO IMMEDIATELY REPORT ANY ENCOUNTERS WITH BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE. EDUCATIONAL POSTER MATERIALS WILL BE PROVIDED BY APT AND DISPLAYED ON THE JOB SITE TO MAINTAIN WORKER AWARENESS AS THE PROJECT PROGRESSES.

4. PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION

a. CERTAIN PRECAUTIONS ARE NECESSARY TO STORE PETROLEUM MATERIALS, REFUEL AND CONTAIN AND PROPERLY CLEAN UP ANY INADVERTENT FUEL OR PETROLEUM (I.E., OIL, HYDRAULIC FLUID, ETC.) SPILL TO AVOID POSSIBLE IMPACT TO NEARBY HABITATS.

b. A SPILL CONTAINMENT KIT CONSISTING OF A SUFFICIENT SUPPLY OF ABSORBENT PADS AND ABSORBENT MATERIAL WILL BE MAINTAINED BY THE CONTRACTOR AT THE CONSTRUCTION SITE THROUGHOUT THE DURATION OF THE PROJECT. IN ADDITION, A WASTE DRUM WILL BE KEPT ON SITE TO CONTAIN ANY USED ABSORBENT PADS/MATERIAL FOR PROPER AND TIMELY DISPOSAL OFF SITE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

c. THE FOLLOWING PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING RESTRICTIONS AND SPILL RESPONSE PROCEDURES WILL BE ADHERED TO BY THE CONTRACTOR.

i. PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING

1. REFUELING OF VEHICLES OR MACHINERY SHALL OCCUR A MINIMUM OF 100 FEET FROM WETLANDS OR WATERCOURSES AND SHALL TAKE PLACE ON AN IMPERVIOUS PAD WITH SECONDARY CONTAINMENT DESIGNED TO CONTAIN FUELS.
2. ANY FUEL OR HAZARDOUS MATERIALS THAT MUST BE KEPT ON SITE SHALL BE STORED ON AN IMPERVIOUS SURFACE UTILIZING SECONDARY CONTAINMENT A MINIMUM OF 100 FEET FROM WETLANDS OR WATERCOURSES.

ii. INITIAL SPILL RESPONSE PROCEDURES

1. STOP OPERATIONS AND SHUT OFF EQUIPMENT.
2. REMOVE ANY SOURCES OF SPARK OR FLAME.
3. CONTAIN THE SOURCE OF THE SPILL.
4. DETERMINE THE APPROXIMATE VOLUME OF THE SPILL.
5. IDENTIFY THE LOCATION OF NATURAL FLOW PATHS TO PREVENT THE RELEASE OF THE SPILL TO SENSITIVE NEARBY WATERWAYS OR WETLANDS.
6. ENSURE THAT FELLOW WORKERS ARE NOTIFIED OF THE SPILL.

iii. SPILL CLEAN UP & CONTAINMENT

1. OBTAIN SPILL RESPONSE MATERIALS FROM THE ON-SITE SPILL RESPONSE KIT. PLACE ABSORBENT MATERIALS DIRECTLY ON THE RELEASE AREA.
2. LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.
3. ISOLATE AND ELIMINATE THE SPILL SOURCE.
4. CONTACT THE APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
5. CONTACT A DISPOSAL COMPANY TO PROPERLY DISPOSE OF CONTAMINATED MATERIALS.

iv. REPORTING

1. COMPLETE AN INCIDENT REPORT.
2. SUBMIT A COMPLETED INCIDENT REPORT TO THE TOWN OF CHESHIRE.

5. RARE SPECIES PROTECTIVE MEASURES

a. PRIOR TO THE START OF CONSTRUCTION EACH DAY, THE CONTRACTOR SHALL SEARCH THE ENTIRE WORK AREA FOR SALAMANDERS AND TURTLES.

b. IF A SALAMANDER OR TURTLE IS FOUND, IT SHALL BE IMMEDIATELY MOVED, UNHARMED, AND PLACED JUST OUTSIDE OF THE ISOLATION BARRIER IN THE SAME APPROXIMATE DIRECTION IT WAS HEADING. TURTLES SHOULD BE HANDLED BY CAREFULLY GRASPED IN BOTH HANDS, ONE ON EACH SIDE OF THE SHELL, BETWEEN THE TURTLE'S FORELIMBS AND THE HIND LIMBS. SALAMANDERS HAVE SOFT, DELICATE SKIN AND SHOULD BE HANDLED GENTLY WITH A CLEAN DAMP PLASTIC BAG OR CLEAN WET HANDS.

c. SPECIAL CARE SHALL BE TAKEN BY THE CONTRACTOR DURING EARLY MORNING AND EVENING HOURS SO THAT POSSIBLE BASKING OR FORAGING TURTLES ARE NOT HARMED BY CONSTRUCTION ACTIVITIES.

6. HERBICIDE AND PESTICIDE RESTRICTIONS

a. THE USE OF HERBICIDES AND PESTICIDES AT THE PROPOSED SOLAR FACILITY SHALL BE AVOIDED WHEN POSSIBLE. IN THE EVENT HERBICIDES AND/OR PESTICIDES ARE REQUIRED AT THE PROPOSED FACILITY, THEIR USE WILL BE USED IN ACCORDANCE WITH INTEGRATED PEST MANAGEMENT ("IPM") PRINCIPLES WITH PARTICULAR ATTENTION TO MINIMIZE APPLICATIONS WITHIN 100 FEET OF WETLAND OR WATERCOURSE RESOURCES. NO APPLICATIONS OF HERBICIDES OR PESTICIDES ARE ALLOWED WITHIN ACTUAL WETLAND OR WATERCOURSE RESOURCES.

7. REPORTING

a. DAILY COMPLIANCE MONITORING REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) DOCUMENTING EACH APT INSPECTION WILL BE SUBMITTED BY APT TO SOLARCITY CORPORATION FOR COMPLIANCE VERIFICATION. ANY OBSERVATIONS OF SALAMANDERS OR TURTLES WILL BE INCLUDED IN THE REPORTS.

b. FOLLOWING COMPLETION OF THE CONSTRUCTION PROJECT, APT WILL PROVIDE A COMPLIANCE MONITORING SUMMARY REPORT TO SOLARCITY CORPORATION DOCUMENTING IMPLEMENTATION OF THE RARE SPECIES PROTECTION PROGRAM, MONITORING AND ANY SPECIES OBSERVATIONS. SOLARCITY CORPORATION WILL PROVIDE A COPY OF THE COMPLIANCE MONITORING SUMMARY REPORT TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION.

c. ANY OBSERVATIONS OF BLUE-SPOTTED SALAMANDER COMPLEX, SPOTTED TURTLE AND WOOD TURTLE WILL BE REPORTED TO CTDEEP BY APT, WITH PHOTO-DOCUMENTATION (IF POSSIBLE) AND WITH SPECIFIC INFORMATION ON THE LOCATION AND DISPOSITION OF THE ANIMAL.

SMOOTH GREEN SNAKE HABITAT ENHANCEMENT: COVER BOARD GUIDELINES

1. COVER BOARDS SHALL BE INSTALLED AROUND SP-1 AND SP-3 AS SHOWN ON THE SITE PLANS TO PROVIDE HABITAT FOR SMOOTH GREEN SNAKE DURING THIS SPECIES SEASONAL ACTIVE PERIOD (MAY THROUGH NOVEMBER).
2. COVER BOARDS SHALL CONSIST OF EITHER EXTERIOR-GRADE PLYWOOD (4' X 8' SHEETS) OR CORRUGATED ROOFING/SIDING PANELS OF SIMILAR SIZE.
3. THE LABEL "SNAKE COVER BOARD - DO NOT REMOVE OR DISTURB" SHALL BE PAINTED ON THE TOP SIDE OF EACH BOARD.
4. COVER BOARDS SHALL REMAIN IN PLACE FROM MAY THROUGH OCTOBER, BUT CAN BE LEFT IN PLACE THROUGHOUT THE FALL AND WINTER IF NEEDED.
5. AREAS WHERE COVER BOARDS ARE LOCATED SHALL BE MOWED NO MORE THAN ONCE PER SEASON.
6. IF MOWING OCCURS BETWEEN MAY AND OCTOBER, THE COVER BOARDS SHALL BE REMOVED A MINIMUM OF ONE DAY PRIOR TO MOWING AND RESET ONCE ALL MOWING HAS BEEN COMPLETED.

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NO	DATE	REVISION
0	11/16/17	FOR REVIEW: BJP
1	11/17/17	CSC D&M PLAN: BJP
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DESIGN PROFESSIONAL OF RECORD

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APT FILING NUMBER: CT530100

DRAWN BY: ELZ
DATE: 11/16/17 CHECKED BY: BJP

SHEET TITLE:

ENVIRONMENTAL NOTES & SPECIFICATIONS

SHEET NUMBER:

DN-4