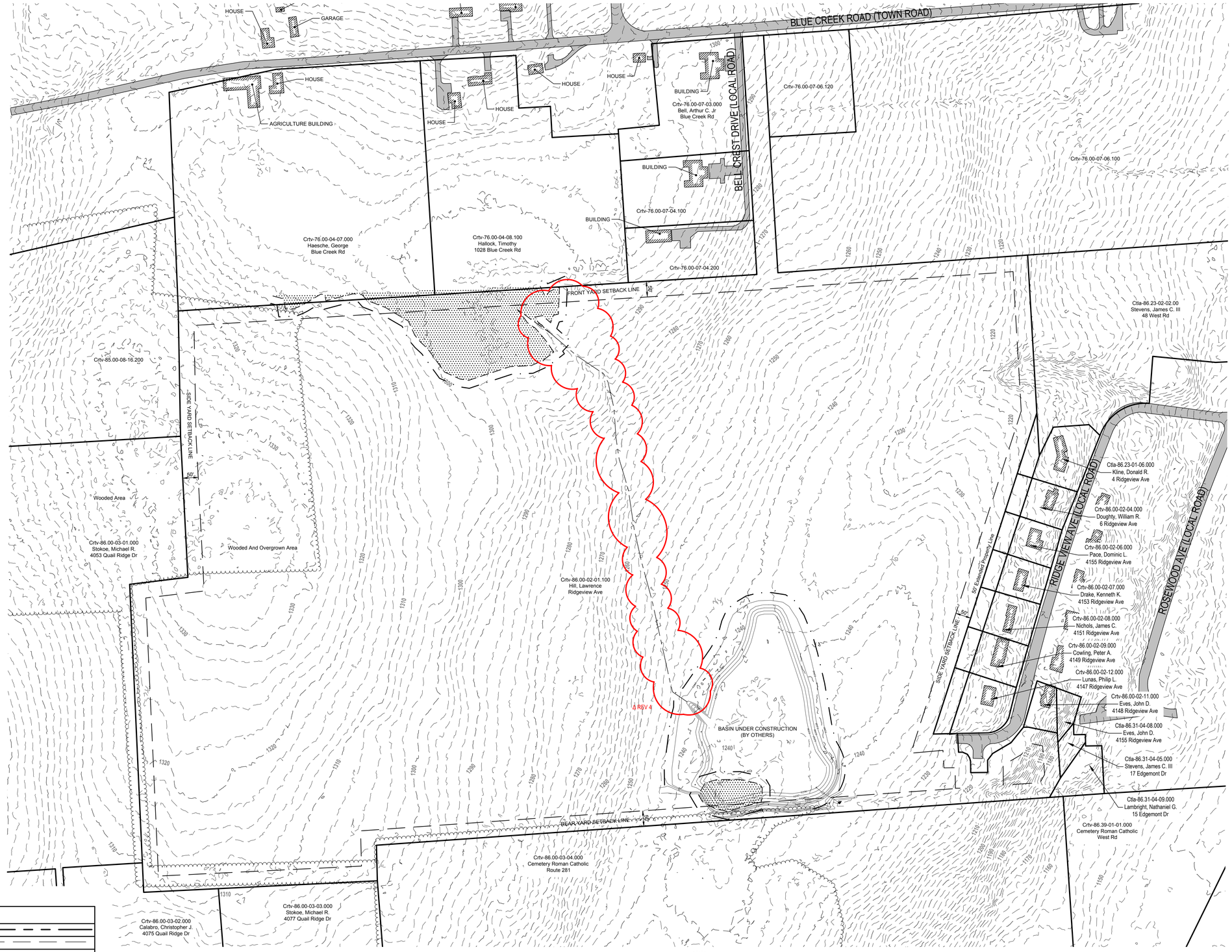

1 CVII-100 **EXISTING SITE CONDITIONS**

SCALE: 1" = 150'

NORTH

0' 75' 150' 300'

SCALE: 1"=150'

EXISTING CONDITIONS LEGEND:	
PROPERTY LINE	
SETBACK LINE	
EXISTING GROUND CONTOUR	360
WETLAND BOUNDARY	
EXISTING OVERHEAD ELECTRIC LINE	OH OH OH
EXISTING PAVEMENT AREA	
EXISTING TREE LINE	

GENERAL NOTES:

1. GROUND CONTOUR LINES SHOWN IN THIS DRAWING WERE ADDED USING INFORMATION FROM THE NEW YORK STATE CLEARING HOUSE WEBSITE.
2. PROPERTY LINES ARE APPROXIMATE AND BASED ON TAX MAP INFORMATION.
3. WETLANDS WERE RECENTLY MAPPED AND UNKNOWN TO STATE AND FEDERAL AGENCIES.

SUMMIT SOLAR

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Key Plan

NOT FOR CONSTRUCTION

No.	Revision	Date
5	Revised Tree Planting Detail	11/17/2020
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
1	Revised Solar Layout	8/17/2020
0	Original Submission	7/22/2020

Project Name

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TOWN OF CORTLANDVILLE, NEW YORK STATE

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Seal

STATE OF NEW YORK
WILLIAM C. HIGHT
73447
LICENSED PROFESSIONAL ENGINEER

Phase
PLANNING BOARD

Project No.
2020.260.001

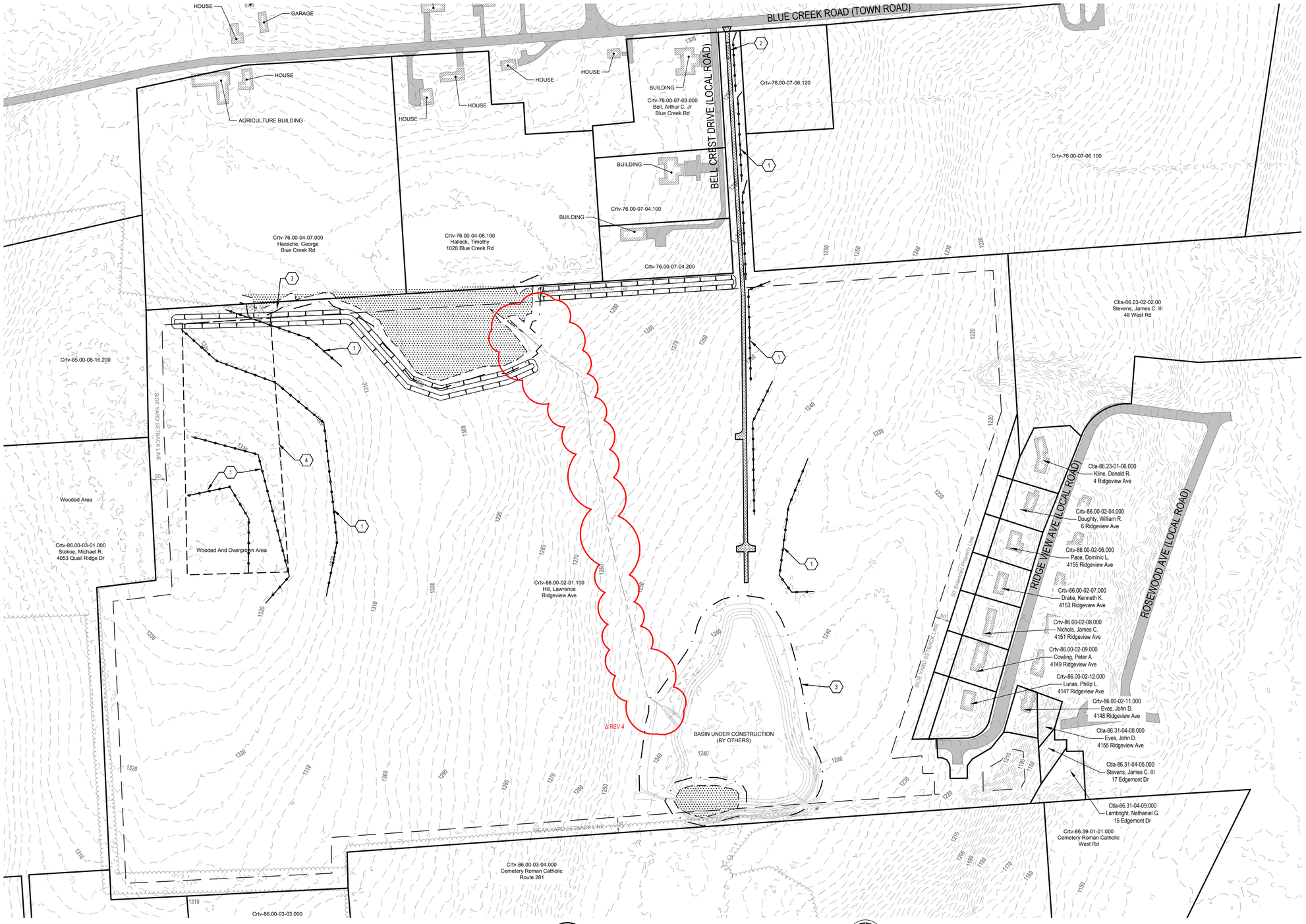
Date
2020.10.13

Drawing Title

EXISTING SITE CONDITIONS

Drawing No.

CVII-100



1 / CVII-101 **EROSION AND SEDIMENT CONTROLS PLAN**
SCALE: 1" = 150'

NORTH

EXISTING CONDITIONS LEGEND:

PROPERTY LINE	━━ ━ ━ ━━
SETBACK LINE	─── ─── ───
EXISTING GROUND CONTOUR	— — — 360 — — —
WETLAND BOUNDARY	▨
EXISTING OVERHEAD ELECTRIC LINE	— OH — OH — OH —
EXISTING PAVEMENT AREA	▭
EXISTING TREE LINE	⌒⌒⌒⌒⌒

EROSION AND SEDIMENT CONTROL LEGEND:

SILT FENCE	─▪─▪─▪─▪─
PERVIOUS ACCESS ROAD	▨
STABILIZED CONSTRUCTION ENTRANCE	▩
25' VEGETATIVE BUFFER	── · ──
CLEAR AND GRUB AREA	— — — — —

#	KEY NOTES
1	PROVIDE SILT FENCE. ADJUST AS NEEDED AS LAND CLEARING PROGRESSES, TYP. SEE DETAIL 2/CVII-301.
2	PROVIDE STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL 1/CVII-301.
3	MAINTAIN 25' VEGETATED BUFFER WITH SELECTIVE CLEARING AT WETLAND BOUNDARIES AND STORMWATER, TYP.
4	CLEARING AND GRUBBING AREA, TYP.

0' 75' 150' 300'
SCALE: 1"=150'

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No.	Revision	Date
5	Revised Tree Planting Detail	11/17/2020
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0	Original Submission	7/22/2020

Δ REV 5

Project Name

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Seal
73447

Phase
PLANNING BOARD

Project No.
2020.260.001

UNAUTHORIZED ALTERATION OF THIS DRAWING IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, SECTION 7209, SUBDIVISION 2.

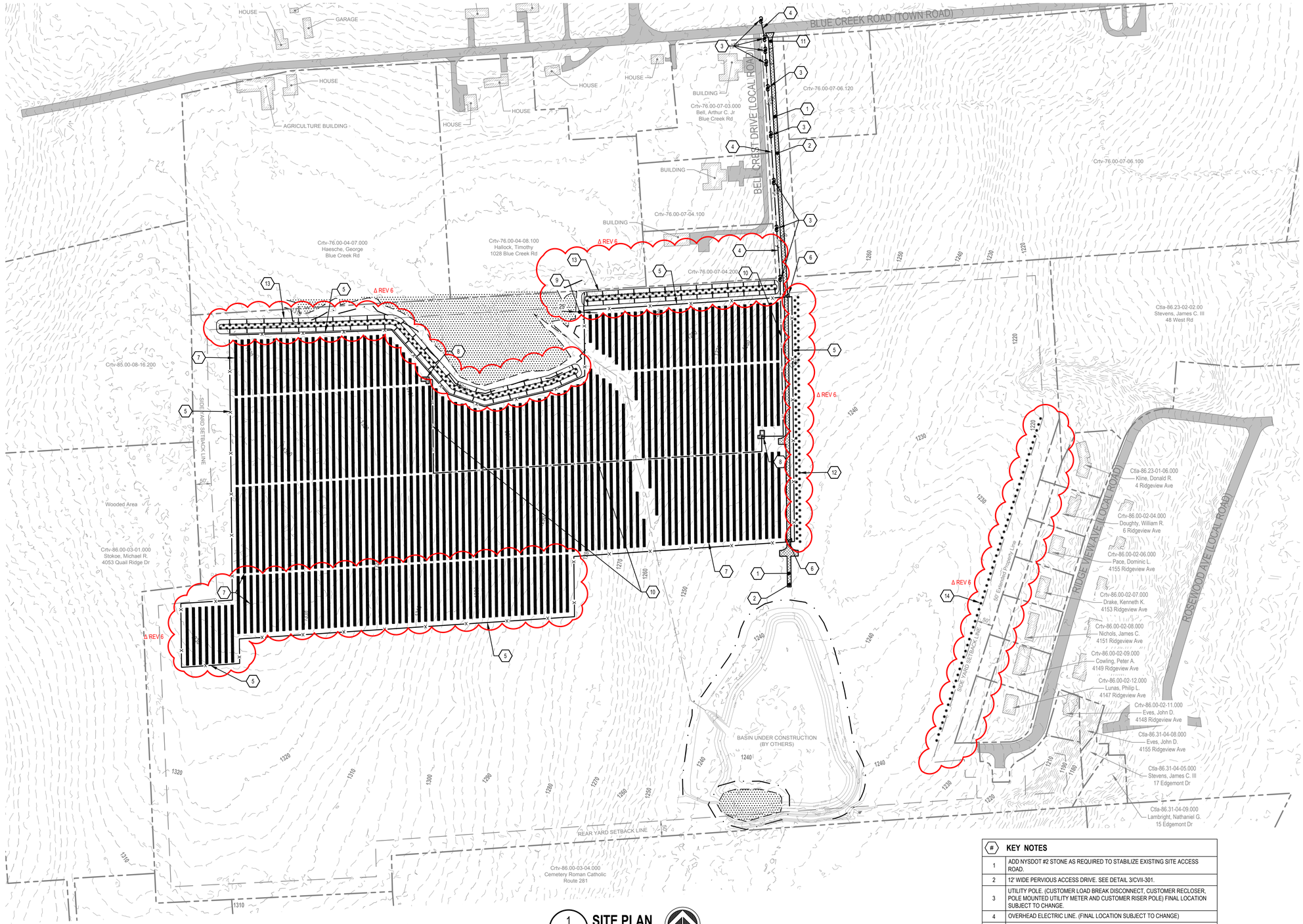
Date
2020.10.13

Drawing Title

EROSION AND SEDIMENT CONTROLS PLAN

Drawing No.

CVII-101



1 CVII-200 **SITE PLAN**
SCALE: 1" = 150'

NORTH

EXISTING CONDITIONS LEGEND:	
PROPERTY LINE	
SETBACK LINE	
EXISTING GROUND CONTOUR	360
WETLAND BOUNDARY	
EXISTING OVERHEAD ELECTRIC LINE	OH OH OH
EXISTING PAVEMENT AREA	

SITE PLAN LEGEND:	
UTILITY POLE	
OVERHEAD ELECTRIC LINE	O/H
UNDERGROUND ELECTRIC LINE	U/E
SECURITY FENCE	X
25' VEGETATIVE BUFFER	
PHOTOVOLTAIC (PV) MODULE	
GRAVEL ACCESS ROAD	
STABILIZED CONSTRUCTION ENTRANCE	

#	KEY NOTES
1	ADD NYSDOT #2 STONE AS REQUIRED TO STABILIZE EXISTING SITE ACCESS ROAD.
2	12' WIDE PERVIOUS ACCESS DRIVE. SEE DETAIL 3/CVII-301.
3	UTILITY POLE. (CUSTOMER LOAD BREAK DISCONNECT, CUSTOMER RECLOSER, POLE MOUNTED UTILITY METER AND CUSTOMER RISER POLE) FINAL LOCATION SUBJECT TO CHANGE.
4	OVERHEAD ELECTRIC LINE. (FINAL LOCATION SUBJECT TO CHANGE)
5	6' HEIGHT CHAIN LINK SECURITY FENCE WITH 12" OF 3 - STRAND BARBED WIRE. SEE DETAIL 1/CVII-300.
6	DOUBLE SWING CHAIN LINK FENCE GATE. SEE DETAIL 2/CVII-300.
7	PHOTOVOLTAIC (PV) MODULE,TYP.
8	PV INVERTER, TRANSFORMER, ENERGY STORAGE EQUIPMENT (IF APPLICABLE) AND NEUTRAL GROUND REACTOR EQUIPMENT SET ON CONCRETE PAD OR DRIVEN PILE FOUNDATION. SEE DETAIL 4/CVII-300.
9	MAINTAIN A 25' SETBACK FROM WETLANDS.
10	MEDIUM VOLTAGE UNDERGROUND ELECTRIC LINE. (FINAL LOCATION SUBJECT TO CHANGE). SEE DETAIL 3/CVII-300.
11	MINOR COMMERCIAL DRIVEWAY. SEE DETAIL 4/CVII-301.
12	VIEW MITIGATION PLANTING. SEE DETAIL 6/CVII-301.
13	VIEW MITIGATION PLANTING WITH BERM. SEE DETAIL 7/CVII-301.
14	VIEW MITIGATION PLANTING. (SINGLE ROW 10' TREES, 20' APART)

Δ REV 6

PARCEL ACREAGE:	±113.3 ACRES
PROJECT ACREAGE:	±34.6 ACRES
PROPOSED SOLAR:	19,016 PANELS

Δ REV 6

0' 75' 150' 300'
SCALE: 1"=150'

SUMMIT SOLAR

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Key Plan

NOT FOR CONSTRUCTION

No.	Revision	Date
6	Revised View Screening	12/14/2020
5	Revised Tree Planting Detail	11/17/2020
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
1	Revised Solar Layout	8/17/2020
0	Original Submission	7/22/2020

Δ REV 6

Project Name

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STATE OF NEW YORK
WILLIAM C. NIGH
73447
LICENSED PROFESSIONAL ENGINEER

Phase
PLANNING BOARD

Project No.
2020.260.001

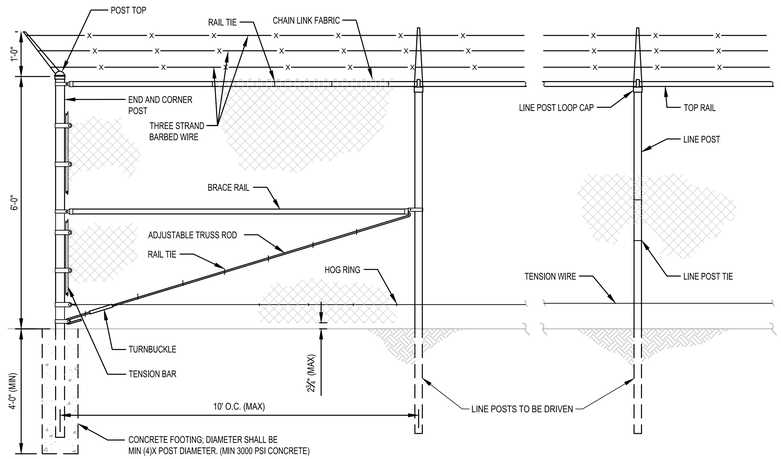
Date
2020.10.13

Drawing Title

SITE PLAN

Drawing No.

CVII-200

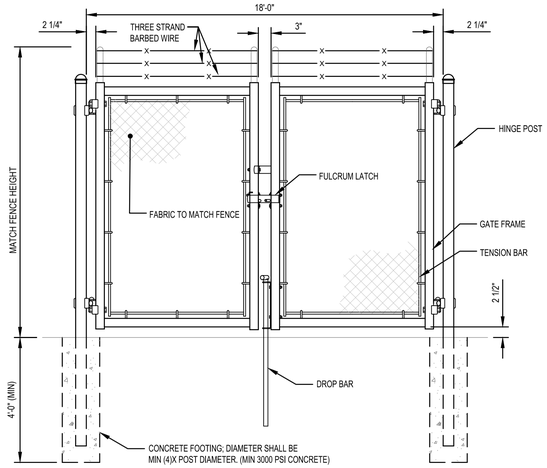


NOTE:

1. ONLY EXTERIOR CHAIN LINK FENCE LINES INCORPORATE THREE (3) LINE BARBED WIRE.

1 / CVII-300 **CHAIN LINK FENCE DETAIL**

SCALE: NONE

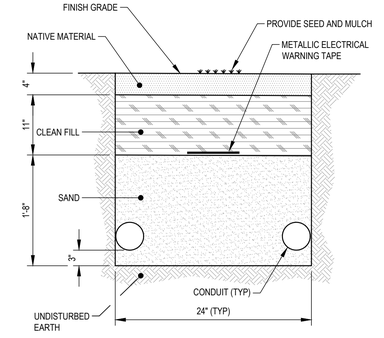


NOTE:

1. ONLY EXTERIOR CHAIN LINK FENCE GATES INCORPORATE THREE (3) LINE BARBED WIRE.

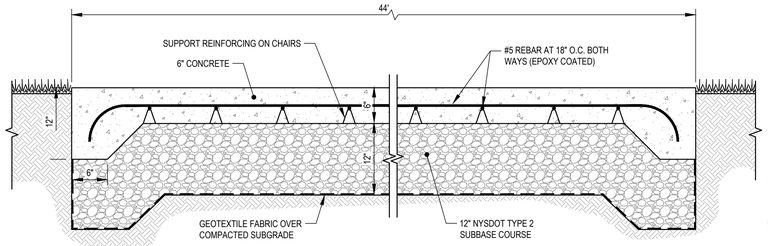
2 / CVII-300 **DOUBLE CHAIN LINK FENCE GATE DETAIL**

SCALE: NONE



3 / CVII-300 **MEDIUM VOLTAGE CABLE TRENCH DETAIL (MV)**

SCALE: NONE



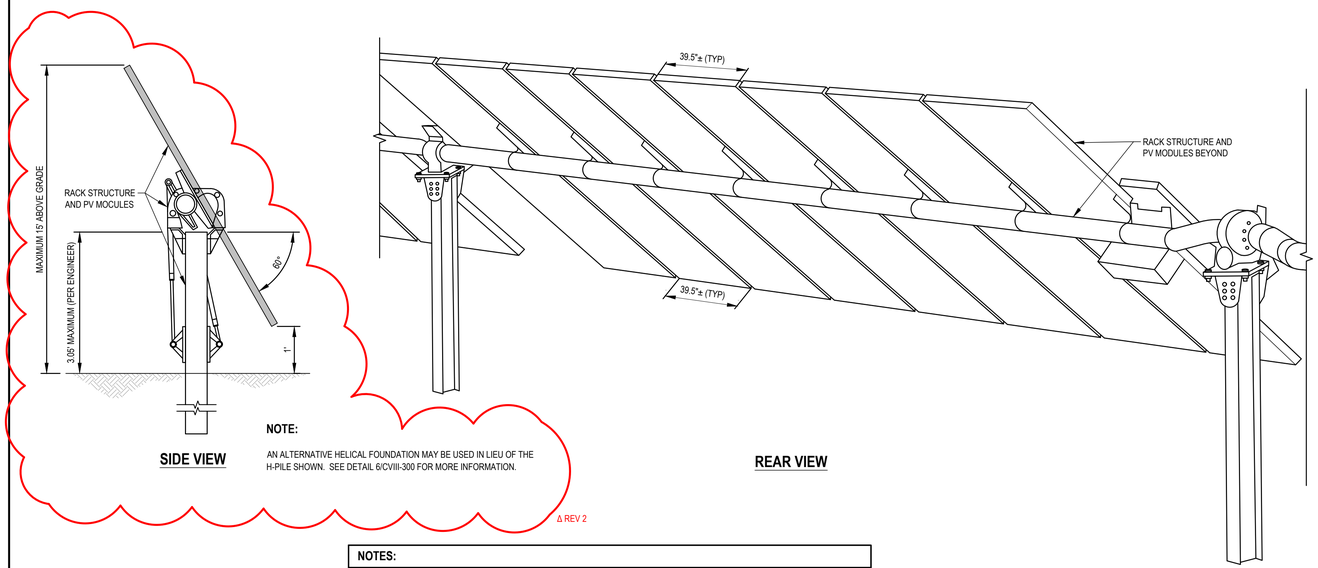
Δ REV 5

NOTE:

1. DRIVEN PILE FOUNDATIONS MAY BE USED IN LIEU OF CONCRETE EQUIPMENT PADS AS SHOWN.

5 / CVII-300 **THICKENED EDGE 6" THICK CONCRETE PAD DETAIL**

SCALE: NONE



SIDE VIEW

NOTE:

AN ALTERNATIVE HELICAL FOUNDATION MAY BE USED IN LIEU OF THE H-PILE SHOWN. SEE DETAIL 6/CVIII-300 FOR MORE INFORMATION.

REAR VIEW

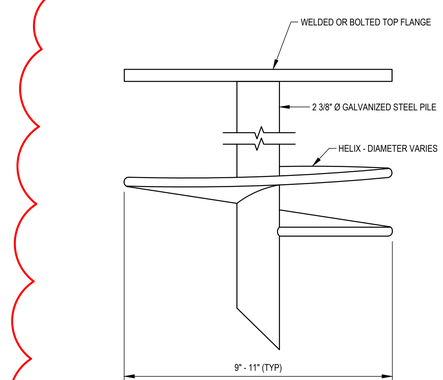
Δ REV 2

NOTES:

1. RACK STRUCTURE AND PV MODULES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL COMPONENTS MAY VARY.
2. DIMENSIONS SHOWN ARE BASED ON A 25-DEGREE (MINIMUM) SLANT ANGLE AND MAY VARY SLIGHTLY.
3. ARRAY ROW SPACING MUST ALWAYS BE EQUAL TO OR GREATER THAN ARRAY HORIZONTAL COVERAGE.
4. SUPPORTS VARY BASED ON SITE SOIL CONDITIONS AND TYPICALLY VARY IN EMBEDMENT LEGNTHS FROM 4'-0" TO 7'-0"

4 / CVII-300 **SOLAR RACKING DETAIL**

SCALE: NONE



6 / CVII-300 **ALTERNATIVE HELIX FOUNDATION DETAIL**

SCALE: NONE

Δ REV 2

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Key Plan

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No.	Revision	Date
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Seal

STATE OF NEW YORK · WILLIAM C. HIGHT · 73447 · LICENSED PROFESSIONAL ENGINEER

Phase: PLANNING BOARD

Project No.: 2020.260.001

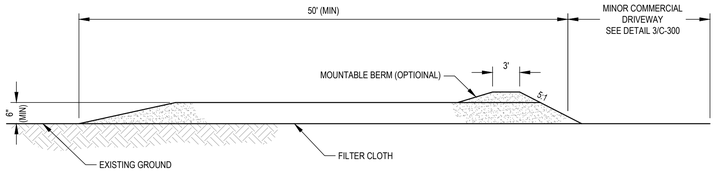
Date: 2020.10.13

Drawing Title

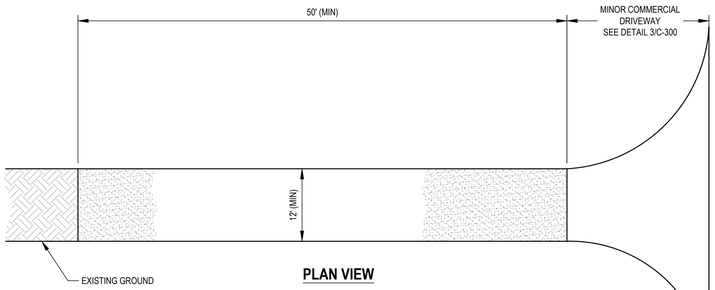
DETAILS

Drawing No.

CVII-300



PROFILE



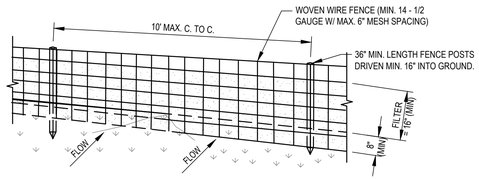
PLAN VIEW

CONSTRUCTION SPECIFICATIONS:

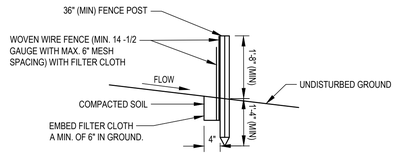
1. STONE SIZE: USE NYS DOT # 2 STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. THICKNESS: NOT LESS THAN SIX (6) INCHES.
3. TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
4. FILTER CLOTH: WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
5. SURFACE WATER: ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
7. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN DURING CONSTRUCTION.
9. CONSTRUCTION SPECIFICATIONS SUBJECT TO CHANGE PURSUANT TO NYSDOT REQUIREMENTS.

1 CVII-301 STABILIZED CONSTRUCTION ENTRANCE DETAIL

SCALE: NONE



PERSPECTIVE VIEW



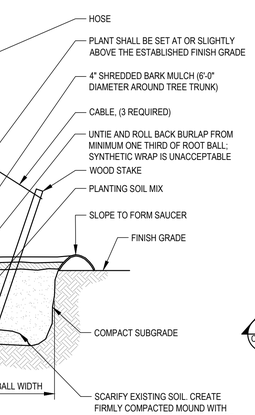
SECTION VIEW

CONSTRUCTION SPECIFICATIONS:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 -1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

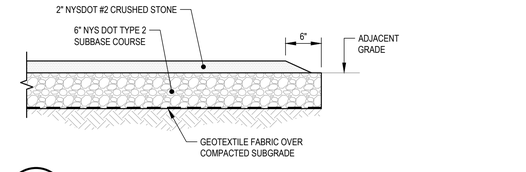
2 CVII-301 SILT FENCE DETAIL

SCALE: NONE



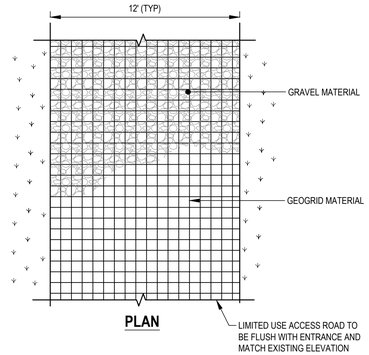
5 CVII-301 CONIFEROUS TREE PLANTING DETAIL

SCALE: NONE

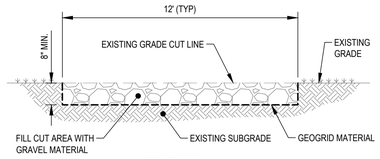


4 CVII-301 GRAVEL DRIVEWAY DETAIL

SCALE: NONE



PLAN



SECTION

LIMITED USE PERVIOUS ROAD 0% TO 10% SLOPES DETAIL

3 CVII-301

SCALE: NONE

GENERAL NOTES:

1. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
2. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY. FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
3. REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS AS DIRECTED BY THE PROJECT ENGINEER. COMPACT TO THE DEGREE OF THE NATIVE INSITU SOIL. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE
4. GRADE ROADWAY WHERE NECESSARY TO NATIVE SOIL AND DESIRED ELEVATION. MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
5. REMOVE UNSUITABLE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
6. TO ENSURE THAT SOIL IS NOT TRACKED ONTO THE LIMITED USE PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF THE LIMITED USE PERVIOUS ACCESS ROAD IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, A STANDARD NEW YORK STATE STABILIZED CONSTRUCTION ACCESS SHALL BE CONSTRUCTED AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON OR OFFSITE. MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
7. THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS WHERE UPGRADIENT SOIL DISTURBANCES (E.G CLEARING AND GRUBBING, GRADING, ETC) HAVE ACHIEVED FINAL STABILIZATION.

GEOGRID MATERIAL NOTES (0-10% SLOPES);

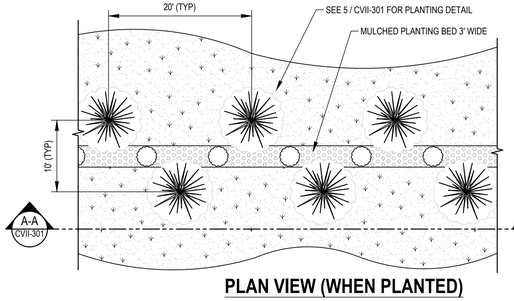
1. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF AND SPREAD WITH A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
2. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
3. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
4. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
5. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS

BASIS OF DESIGN: TENCATE MIRAFI BXG110; GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, CA (800) 685-9990, OR (706) 693-2226: WWW.MIRAFI.COM

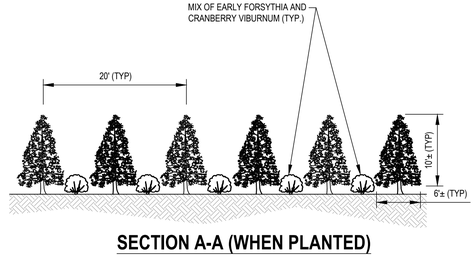
WOVEN GEOTEXTILE MATERIAL NOTES (POORLY DRAINED SOILS) :

1. SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONOE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOLS GROUP (HSG) OF C OR D OR AS SPECIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST, OR GEOTECHNICAL DATA.

BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA; (800) 685-9990 OR (706) 693-2226; WWW.MIRAFI.COM



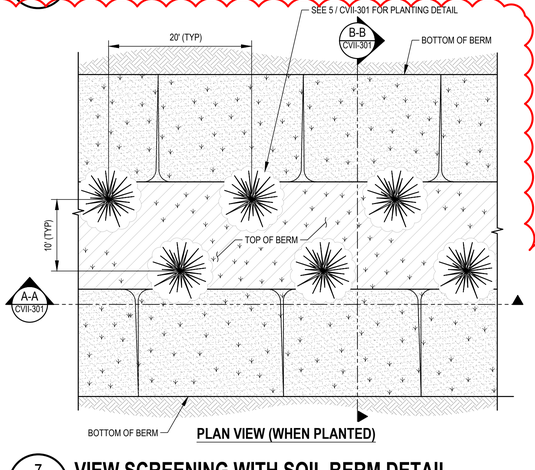
PLAN VIEW (WHEN PLANTED)



SECTION A-A (WHEN PLANTED)

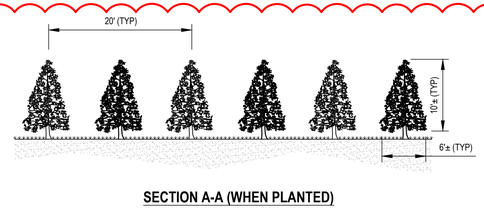
6 CVII-301 VIEW SCREENING PLANTINGS DETAIL (WHEN PLANTED) - 10' TALL PLANTINGS

SCALE: 1" = 10'

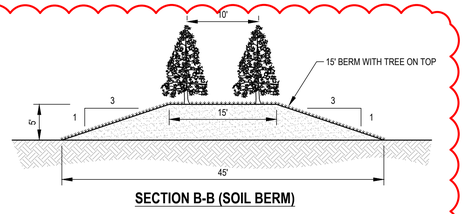


PLAN VIEW (WHEN PLANTED)

Δ REV 6



SECTION A-A (WHEN PLANTED)



SECTION B-B (SOIL BERM)

7 CVII-301 VIEW SCREENING WITH SOIL BERM DETAIL

SCALE: 1" = 10'

SUMMIT SOLAR

SSC Cortlandville II LLC
334 Arapahoe Ave
Boulder, Colorado 80302
Tel: 561.866.8234
Email: john@summitsolarcapital.com

Key Plan

NOT FOR CONSTRUCTION

Δ REV 6

No.	Revision	Date
6	Revised View Screening Detail	12/14/2020
5	Revised Tree Planting Detail	11/17/2020
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
1	Revised Solar Layout	8/17/2020
0	Original Submission	7/22/2020

Project Name

SSC CORTLANDVILLE II LLC

TOWN OF CORTLANDVILLE, NEW YORK STATE

DELTA
ENGINEERS, ARCHITECTS, & SURVEYORS
860 Hooper Road
Endwell, New York 13760
Tel: 607.231.6600
Fax: 607.231.6650
Email: mail@delta-eas.com
www.delta-eas.com

Seal

STATE OF NEW YORK · WILLIAM C. NIGH · 73447 · LICENSED PROFESSIONAL ENGINEER

Phase: PLANNING BOARD

Project No.: 2020.260.001

Date: 2020.10.13

Drawing Title

DETAILS

Drawing No.

CVII-301

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: SSC Cortlandville II LLC		
Project Location (describe, and attach a general location map): 4242 Bell Crest Dr., Cortlandville, NY 13045		
Brief Description of Proposed Action (include purpose or need): Installation of a ground mounted solar facility. Project includes construction of solar arrays, transformers, inverters, stored energy system, access roads, utility poles and a perimeter security fence.		
Name of Applicant/Sponsor: SSC Cortlandville II LLC	Telephone: 480.252.5496 E-Mail: david@summitsolarcapital.com	
Address: 525 S. Flagler Dr.		
City/PO: West Palm Beach	State: FL	Zip Code: 33401
Project Contact (if not same as sponsor; give name and title/role): David Spotts	Telephone: 480.252.5496 E-Mail: david@summitsolarcapital.com	
Address: 525 S. Flagler Dr.		
City/PO: West Palm Beach	State: FL	Zip Code: 33401
Property Owner (if not same as sponsor): Lawrence Hill	Telephone: 607.745.0721 E-Mail: evergreenhills69@gmail.com	
Address: 4000 Ellwood Rd.,		
City/PO: Cincinnatus	State: NY	Zip Code: 13040

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No	Aquifer Protection District Special Permit and Highway Permit	
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Site plan review and approval, Conditional Permit, Subdivision Approval	August, 2020
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No	Cortland County Industrial Development Agency	September 2020
e. County agencies ☐Yes ☑No		
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYSERDA, DEC	Fall, 2021
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes ☑No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

Aquifer Protection District

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Parcel is zoned Agricultural

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Homer Central School District

b. What police or other public protection forces serve the project site?
New York State Police, Cortland County Sheriff

c. Which fire protection and emergency medical services serve the project site?
Cortlandville Fire Department

d. What parks serve the project site?
N/A

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Commercial solar energy production

b. a. Total acreage of the site of the proposed action? +/- 38.7 acres
b. Total acreage to be physically disturbed? +/-16.1 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? +/- 75 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Commercial
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 3
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 4 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐ Yes ☑ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 18,505 panels

ii. Dimensions (in feet) of largest proposed structure: App. 5' height; App. 4' width; and App. 6' length

iii. Approximate extent of building space to be heated or cooled: 0 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☑ No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☑ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☐No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☐Yes ☑No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐Yes ☐No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No
- Do existing lines serve the project site? ☐Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes ☐No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐Yes ☑No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes ☑No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes ☐No
- Is the project site in the existing district? ☐Yes ☐No
- Is expansion of the district needed? ☐Yes ☐No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 0.1 acres (impervious surface)

_____ Square feet or +/- 37 acres (parcel size)

ii. Describe types of new point sources. Storm water sheet flows across the property and will continue to do so, in the same drainage patterns post-construction as compared to existing drainage patterns.

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Stormwater runoff will be maintained along current drainage flow paths towards naturally occurring conveyance systems.

- If to surface waters, identify receiving water bodies or wetlands: Tributary to unnamed stream
- Will stormwater runoff flow to adjacent properties? ☑Yes ☐No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

_____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 6:00AM - 7:00PM
- Saturday: 7:00AM - 5:00PM
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 24-hr/day (equipment only)
- Saturday: 24-hr/day (equipment only)
- Sunday: 24-hr/day (equipment only)
- Holidays: 24-hr/day (equipment only)

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Pile driving activities will produce higher than ambient noise but will only be present at the initial phase of construction and last for 3-4 weeks during regular work hours. During the post-construction operations phase no audible noise above ambient noise levels will be recognized.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: The proposed project also involves the installation of vegetation which will further buffer any post-construction noise from neighboring residences.

n. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☑ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 8 tons per month (unit of time)
- Operation : _____ tons per _____ (unit of time)

32 total tons of solid waste will be generated.

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: Contractor to work with local facility to recycle materials where applicable and reasonable.
- Operation: No solid waste will be generated during the operational phase of the facility

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: Disposal will be at an approved landfill
- Operation: No solid waste will be generated during the operational phase of the facility

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

No hazardous waste will be used or generated at the site.

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☐ Commercial ☑ Residential (suburban) ☑ Rural (non-farm)
☑ Forest ☑ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

The property is generally bounded by residential on the east, forest to the west, and a mix of woods/forest/residential/agricultural to the north and south.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.2	0.3	+0.1
• Forested	11.0	5.3	-5.7
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	23.0	28.4	+5.4
• Agricultural (includes active orchards, field, greenhouse etc.)	-	-	-
• Surface water features (lakes, ponds, streams, rivers, etc.)	-	-	-
• Wetlands (freshwater or tidal)	2.8	2.8	0
• Non-vegetated (bare rock, earth or fill)	-	-	-
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

Madison Cortrland ARC, Cayuga Medial Associates PC, Family Medicine Center, Cortland Christian Academy

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☐ No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 2-4 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? 0 %

c. Predominant soil type(s) present on project site:

Lordstown-Arnot complex	38.2 %
Mardin channery silt loam	19.1 %
Erie silt loam	17.6 %

d. What is the average depth to the water table on the project site? Average: 2-6' feet

e. Drainage status of project site soils:
☐ Well Drained: 46.8 % of site
☑ Moderately Well Drained: 33.5 % of site
☐ Poorly Drained 19.7 % of site

f. Approximate proportion of proposed action site with slopes:
☐ 0-10%: 77.5 % of site
☐ 10-15%: 20.8 % of site
☐ 15% or greater: 1.7 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.
i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No
ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No
If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.
iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No
iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal waters Approximate Size 2.8
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No
If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:
i. Name of aquifer: Principal Aquifer, Primary Aquifer, Sole Source Aquifer Names: Cortland Homer Preble SSA

m. Identify the predominant wildlife species that occupy or use the project site: _____

_____ _____ _____

_____ _____ _____

n. Does the project site contain a designated significant natural community? ☐Yes ☑No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑No

If Yes:

i. Species and listing (endangered or threatened): _____

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

If Yes:

i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☑Yes ☐No

i. If Yes: acreage(s) on project site? +/- 9.8 acres within the project limits

ii. Source(s) of soil rating(s): USDA

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: Scenic Rte. 90 (1.5mi N) , Homer public water supply source (1.7mi N), Cortland City Water Works (0.9mi S)

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): NYS scenic byway, critical environmental areas

iii. Distance between project and resource: 0.9 to the closest resource miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name David Spotts Date 12.22.2020

Signature DAVID SPOTTS Title Managing Member

PRINT FORM

DELTA
ENGINEERS, ARCHITECTS, & SURVEYORS

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Endwell, NY 13760
Tel: 607.231.6600
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www.delta-eas.com

October 13, 2020

Mr. Patrick M. Snyder, Esq
70 Port Watson Street
Cortland, NY 13045

RE: SSC Cortlandville II LLC and SSC Cortlandville III LLC
Delta Project No.: 2020.260.001 and 2020.261.001

Dear Attorney Snyder:

Please accept this letter in response to your comments transmitted to David Spotts in your October 12, 2020 email to him.

Comment #1: *I would suggest that you add the number of solar panels and MW rating into the project description at the beginning.*

Response: The number of solar panels and MW rating of the facility has been added to the project description in the FEAF.

Comment #2: *Under project details, I think you should let us know what DEC guidelines you are referring to that would allow you to conclude that there is only 6.9 acres of physical disturbance involved with this project.*

Response: In recognition that the Town of Cortlandville has deemed the solar development site as a physical disturbance under SEQR, the applicant concedes this line item to the solar site area coverage comprised of roads, trenches, areas of clearing and grubbing, equipment pads, and solar arrays. This change will be made to the FEAF's for SSC Cortlandville II and SSC Cortlandville III sites.

Comment #3*: Under land uses, are you considering all of the area used for solar panels to be meadows, grasslands or brushlands? That seems hard to justify to me. It would seem that the acreages described in these 2 responses are not consistent.*

Response: The site is defined as the area generally within the limits of the site security fence. Not all of the land within the site or under solar panels is currently considered meadows, grasslands, or brushlands. The FEAF for Cortlandville II identifies 5.7 acres of the site as forested.

We appreciate the opportunity to submit this information and look forward to your feedback.

Respectfully,
DELTA ENGINEERS, ARCHITECTS, LAND SURVEYORS, & LANDSCAPE ARCHITECTS, DPC

W. Curtis Nichols, PE, LEED-AP
Sr. Project Manager

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

August 4, 2020

John L. France
Summit Solar Capital
40 Harrison Street, Suite 10B
New York, NY 10013
(via email only)

Re: NYS DEC
SSC Cortlandville II Solar/5MW/38 Acres
Cortlandville, Cortland County
20PR03822

Dear Mr. France:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation's Division for Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the OPRHP's opinion that your project will have No Impact upon historic or archaeological resources in or eligible for inclusion in the State and National Register of Historic Places.

If I can be of any further assistance, I can be reached at john.bonafide@parks.ny.gov or (518) 268-2166.

Sincerely,

John A. Bonafide
Director,
Technical Preservation Services Bureau
Agency Historic Preservation Officer

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

July 10, 2020

Mr. John L. France
40 Harrison Street
Suite 10B
New York, NY 10013

RE: Wetlands Report
Cortlandville II
SBL: 86.00-02-01.100 (partial)
Town of Cortlandville, Cortland County

Dear Mr. France,

On 7 July, 2020, a wetland delineation was conducted by Ecological Analysis (EA) staff as requested on the above referenced site. The property was walked and a field investigation was completed to determine whether there were any areas that would be within the jurisdiction of either the United States Army Corps of Engineers (USACE) and/or the New York State Department of Environmental Conservation (NYSDEC) for federally- or state-regulated wetlands.

Before conducting the field investigation, EA reviewed related aerial, soils, and wetland online remote mapping resources for the parcel. These independent mapping resources were used to identify the probable presence and approximate location of any possible wetland features on the property. This information was used to indicate any areas of the parcel where we should verify whether or not the field conditions match, or are dissimilar, from the related mapped features across the entire designated site.

As shown on the attached United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) map, there were no federal wetlands located by remote sensing on this property.

Similarly, the attached NYSDEC Environmental Resources Mapper output for the area locates no state wetlands in or near the property. This state wetlands mapper program locates the nearest known state wetland at approximately 1.9 miles to the northeast of this property.

EA's field investigations for onsite wetlands are conducted in accordance to the 2012 Interim Northcentral and Northeast Regional Supplement to the USACE 1987 Wetlands Delineation Manual and, if appropriate, in accordance with the NYSDEC 1995 Freshwater Wetlands Delineation Manual. The upland and wetland areas on the property are determined by observing the vegetation types, soil types, and hydrological conditions in accordance with the USACE field investigation guidelines. Any wetland area meeting the conditions set forth by the agencies is then flagged on its edge with pink "Wetland Delineation" flags that are numbered sequentially, and a field map representing this work is emailed to the client (or their representative) to aid any subsequent surveying of the regulated wetlands lines.

During the course of our field investigation, one wetland area was identified on the property. The wetland (Wetland 'A' as designated in this report and on any subsequent field surveys) was primarily a wet meadow that was enclosed within bordering areas of scrub-shrub and/or forested wetland habitats. Across it's extent, it's NWI classification therefore varied and transitioned from a PFO1E wetland (a palustrine deciduous forest that is seasonally flooded), to a PSS1E wetland (a palustrine deciduous scrub/shrub wetland that is seasonally flooded), to an EM2E wetland (a palustrine area of seasonal - i.e. nonpersistent - emergent vegetation that is seasonally flooded). This wetland was present along the northern edge of the property, and extended onto the abutting parcel to the north. While no surface water was present during our visit, the wetland evidenced areas of transient shallow surface water effects within their bounds, as indicated by the lingering presence of moss trim lines and sediment deposits.

A representative set of USACE Wetland Delineation Forms was filled out for Wetland 'A', which characterizes the hydrology, vegetation, and hydric soils observed within the wetland. For the wetland, a matched representative set of USACE Delineation Forms was also filled out for the adjacent nearby upland areas which are dominated by agricultural soybean fields.

Wetland/Upland Vegetation

Wetland 'A'

This wetland sustains a diverse community of overstory trees, understory bushes, and emergent vegetation that each are dominant separately within different portions of its extent. Where trees are dominant, they are represented as either mature specimens of green ash, American elm, or black willow. The scrub-shrub areas are dominated by species of willows and dogwoods, including black, Bebb, and pussy willows and silky and red osier dogwoods. The emergent wetland portion is dominated by narrowleaf cattails, reed canarygrass, wrinkleleaf goldenrod, and boneset. Other, less dominant, herbaceous vegetation observed throughout this area included, soft rush, sallow sedge, fringed sedge, creeping jenny, sensitive fern, field horsetail, and marsh fern. These are mostly consistent with plants that are recognized as wetland plant species and their abundance in Wetland 'A' passes the USACE 50/20 rule, thereby defining the area as having wetland vegetation.

Uplands – Forests and agricultural fields

The small area of forested upland on the property is confined to the northwestern portion of the site. The woods in this area are dominated in the overstory by mature, sugar maple, white ash, American elm, with a lesser presence of red maples, American basswood, hickories, black cherry, serviceberry, and red oak. The understory is composed of several bushy shrubs or smaller trees, including cockspur hawthorn, common buckthorn, bush honeysuckles (*Lonicera* spp.), brambles (*Rubus* spp.), and multiflora rose, as well as numerous saplings seeded by the overstory trees. Throughout these areas, a variety of upland plants were observed, including most commonly: mayapple, wrinkleleaf goldenrod, Canada mayflower, white avens, sulfur cinquefoil, enchanter's nightshade, and a scattering of colonies of wood ferns (*Dryopteris* spp.). All of these species listed are consistent with communities of vegetation that may typically be found in upland forests.

Most of the upland areas across the property are open fields that have been farmed lands historically. At present, during our visit, the fields were planted in crops of soybeans and oats. Adventitious plants observed along and within the areas of planted fields included numerous common weeds of agricultural fields, including: horsenettle, common sowthistle, common mallow, redroot amaranth, lambsquarters, horseweed, shepherd's purse, and velvetleaf. All of these species listed are consistent with communities of vegetation that may typically be found in cleared or cultivated upland areas.

Wetland/Upland Soils

Both the Cortland County Soil Survey and the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) online web soil surveys were reviewed to verify if there were any potential hydric (wetland) soils mapped for the property. A copy of the USDA soil report for the property is included for your use. The major soil map units as shown on the attached NRCS map are non-hydric (upland) soils. On-site soils classified as non-hydric include mapped units of: 53D (Valois-Howard complexes on 15-25 percent slopes), 63B (Mardin channery silt loams, on 3-8 percent slopes), 63C (Mardin channery silt loams, on 8-15 percent slopes), 69B (Erie silt loams, on 2-8 percent slopes), 179B (Lordstown-Arnot complexes, on 3-8 percent slopes), and, 179C (Lordstown channery silt loams, on 8-15 percent slopes.

Soil samples were taken by hand auger across portions of Wetland 'A'. All of the characteristics of the soil cores taken in the wetland areas during the field investigation were consistent with wetland soils identifiers. The major soil unit mapped in the area of Wetland 'A' is rated marginally as a upland soil and is defined by the occurrence of minor inclusions of hydric soils, including inclusions of hydric Chippewa silt loams. Chippewa silt loams are present upslope of this wetland, on off-site properties that are abutting this one. Our observations in Wetland 'A' documented the presence of very poorly drained silty clay soils throughout, observations that demonstrated the influences of persistent hydric saturation across the various portions of the flagged wetland area.

Outside of the area of Wetland 'A,' the several upland soils that are shown remotely mapped on the property by the USDA/NRCS are primarily channery silt loams. These are typically rocky well drained soils that occur on level to slightly sloping grades and they do not maintain proper hydrology to be wetland soils as they dry out during the growing season.

Wetlands Hydrology

Hydrology to Wetland 'A' is provided by direct rainfall and indirect runoff or groundwater seeps from adjacent higher terrain to the north. Our field visit identified the presence of a wetland area that is variously dominated by either forested, scrub/shrub, or emergent plant communities. The areas flagged demonstrated several characteristics of hydric soils that develop under conditions of seasonal flooding.'

Conclusions

NYSDEC regulated wetlands

There are no NYSDEC regulated wetlands on or near the property.

USACE regulated wetlands

As flagged on this property, Wetland 'A' did not have a surficial connection to a navigable water of the United States, and therefore may not be regulated by the USACE as protected waters or wetlands of the United States. However, the wetland extends offsite to adjoining properties on the north and also leads to the south towards an agricultural ditch across the lower portion of the property where such a connection may be located. Therefore, prior to any disturbance of the wetland a USACE Jurisdictional Determination should be obtained from the USACE District Office in Buffalo, NY, and, if necessary, appropriate permit(s) would need to be obtained from that same office.

Ecological Analysis is grateful for this opportunity to be of service on this project and looks forward to the opportunity to work with you in the future. Feel free to call if you have any questions or if we can be of further assistance.

Sincerely yours,

Bruce R. Friedmann

Bruce R. Friedmann
Senior Environmental Scientist
Ecological Analysis, LLC

Attachments:

USACE Wetland 'A' data sheets
USACE Upland data sheets
USFWS National Wetlands Inventory Map
NYSDEC Environmental Resource Map (TOPO/aerial)
USDA/NRCS Soil Survey Map and soils descriptions

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Cortlandville II **City/County:** Cortlandville/Cortland County **Sampling Date:** 07-Jul-20

Applicant/Owner: Summit Solar **State:** NY **Sampling Point:** Wetland A

Investigator(s): Bruce Friedman **Section, Township, Range:** S. T. R.

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0

Subregion (LRR or MLRA): LRR R **Lat.:** 42.61192 **Long.:** 76.20749 **Datum:** WGS 84

Soil Map Unit Name: 69B Erie silt loam **NWI classification:** PFO1E/SS1E/EM2E

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?**	Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○		
Wetland Hydrology Present?	Yes ◉ No ○		

Remarks: (Explain alternative procedures here or in a separate report.)

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☑ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☑ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☑ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○ No ◉	Depth (inches):	
Water Table Present?	Yes ○ No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○ No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Wetland A

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				
1. *Cornus alba*	40	☑	80.0%	FACW
2. *Salix discolor*	10	☑	20.0%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	50	= Total Cover		
Herb Stratum (Plot size: 5)				
1. *Typha angustifolia*	30	☑	65.2%	OBL
2. *Eupatorium perfoliatum*	5	☐	10.9%	FACW
3. *Carex crinita*	1	☐	2.2%	OBL
4. *Onoclea sensibilis*	5	☐	10.9%	FACW
5. *Lysimachia nummularia*	5	☐	10.9%	FACW
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	46	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	31	x 1 =	31	
FACW species	65	x 2 =	130	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	96	(A)	161	(B)

Prevalence Index = B/A = 1.677

Hydrophytic Vegetation Indicators:

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

Wetland 'A" includes relatively equal areas dominated by either forested, scrub/shrub, or emergent vegetation. The sample location chosen was centrally located, within an area of narrow leaf cattails bordering a dogwood thicket.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: Wetland A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-8	10Y 4/2		10YR 5/6	5	RM	M	Channery silt loam	
8-11	10Y 5/4		10YR 5/6	20	RM	M	Channery silt loam	
11-18	10Y 4/4		10YR 5/6	10	RM	M	Channery silt loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Plot ID: **Wetland A**

Photo Path: \\Ea-server\company\324.00000 Summit Solar - various projects

Photo File: **DSCN6614.JPG** Orientation: Northeast -facing

Lat/Long or UTM : Long/Easting: **76.20749** Lat/Northing: **42.61192**

Description:

Photo File: **DSCN6622.JPG** Orientation: North -facing

Lat/Long or UTM: Long/Easting: **76.20749** Lat/Northing: **42.61192**

Description:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Cortlandville II **City/County:** Cortlandville/Cortland County **Sampling Date:** 07-Jul-20

Applicant/Owner: Summit Solar **State:** NY **Sampling Point:** Upland

Investigator(s): Bruce Friedman **Section, Township, Range:** S. T. R.

Landform (hillslope, terrace, etc.): Undulating **Local relief (concave, convex, none):** undulating **Slope:** 5.0 % / 2.9

Subregion (LRR or MLRA): LRR R **Lat.:** 42.61003 **Long.:** 76.20688 **Datum:** WGS 84

Soil Map Unit Name: 179C Lordstown channery silt **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☑ **, Soil** ☑ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present? Yes ○ No ◉	
Wetland Hydrology Present? Yes ○ No ◉	

Remarks: (Explain alternative procedures here or in a separate report.)

The site is a long used agricultural field, presently planted in soybeans and oats.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upland

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 5)				
1. *Glycine max*	90	☑	93.8%	UPL
2. *Solanum carolinense*	1	☐	1.0%	FACU
3. *Sonchus arvensis*	1	☐	1.0%	FACU
4. *Amaranthus retroflexus*	1	☐	1.0%	FACU
5. *Chenopodium album*	1	☐	1.0%	FACU
6. *Conyza canadensis*	1	☐	1.0%	FACU
7. *Capsella bursa-pastoris*	1	☐	1.0%	FACU
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
	96	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	6	x 4 =	24	
UPL species	90	x 5 =	450	
Column Totals:	96	(A)	474	(B)

Prevalence Index = B/A = 4.938

Hydrophytic Vegetation Indicators:

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc[2]	Texture	Remarks
0-8	10YR 4/3						Channery silt loam	
8-15	10YR 5/8						Channery silt loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils : [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **Upland**

Photo Path: \\Ea-server\company\324.00000 Summit Solar - various projects

Photo File: **DSCN6650.JPG** Orientation: Northeast -facing

Lat/Long or UTM : Long/Easting: **76.20688** Lat/Northing: **42.61003**

Description:

Photo File: **DSCN6607.JPG** Orientation: West -facing

Lat/Long or UTM: Long/Easting: **76.20688** Lat/Northing: **42.61003**

Description:

U.S. Fish and Wildlife Service

National Wetlands Inventory

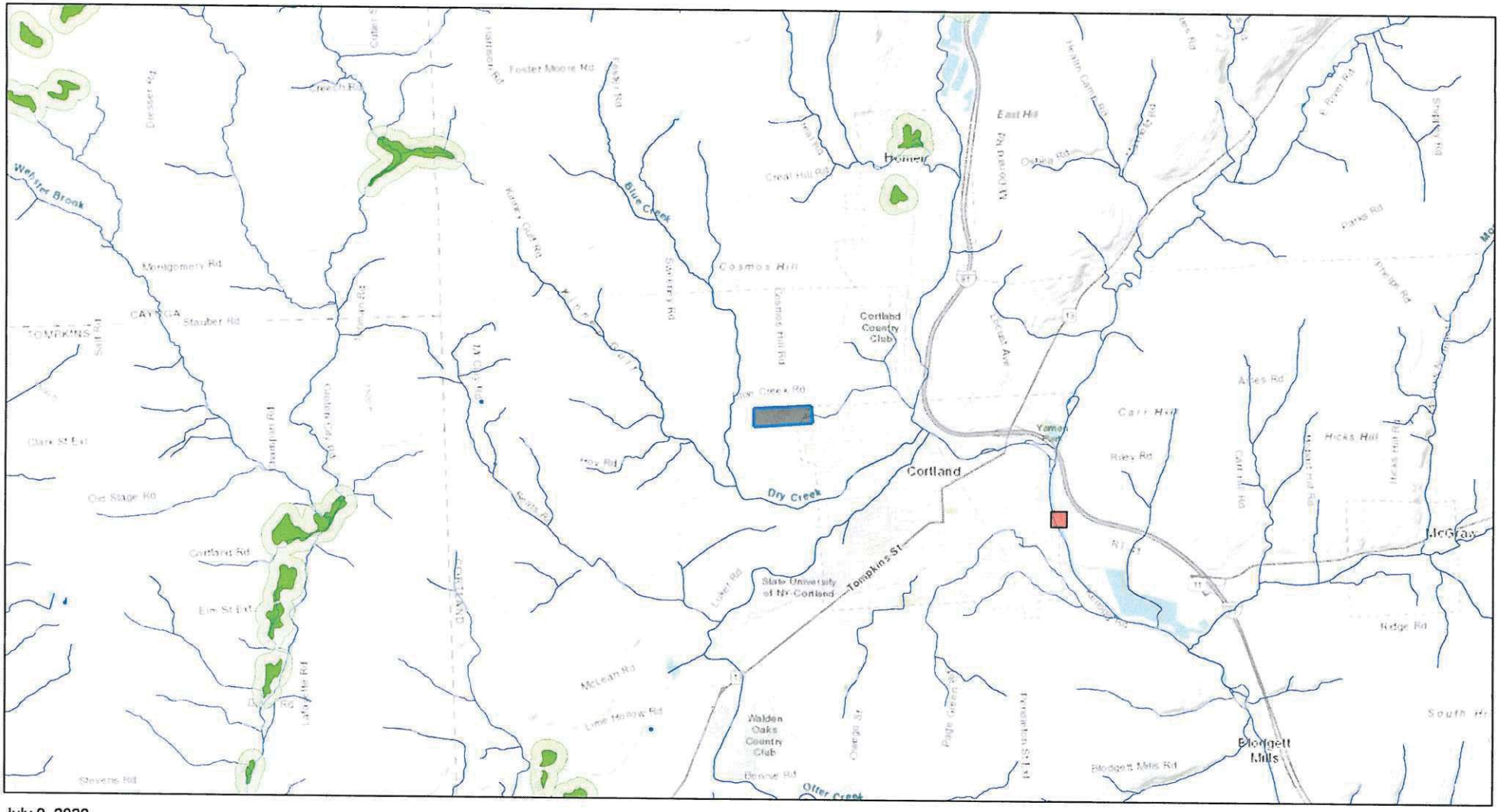
Cortlandville II

July 9, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Cortlandville II



July 9, 2020

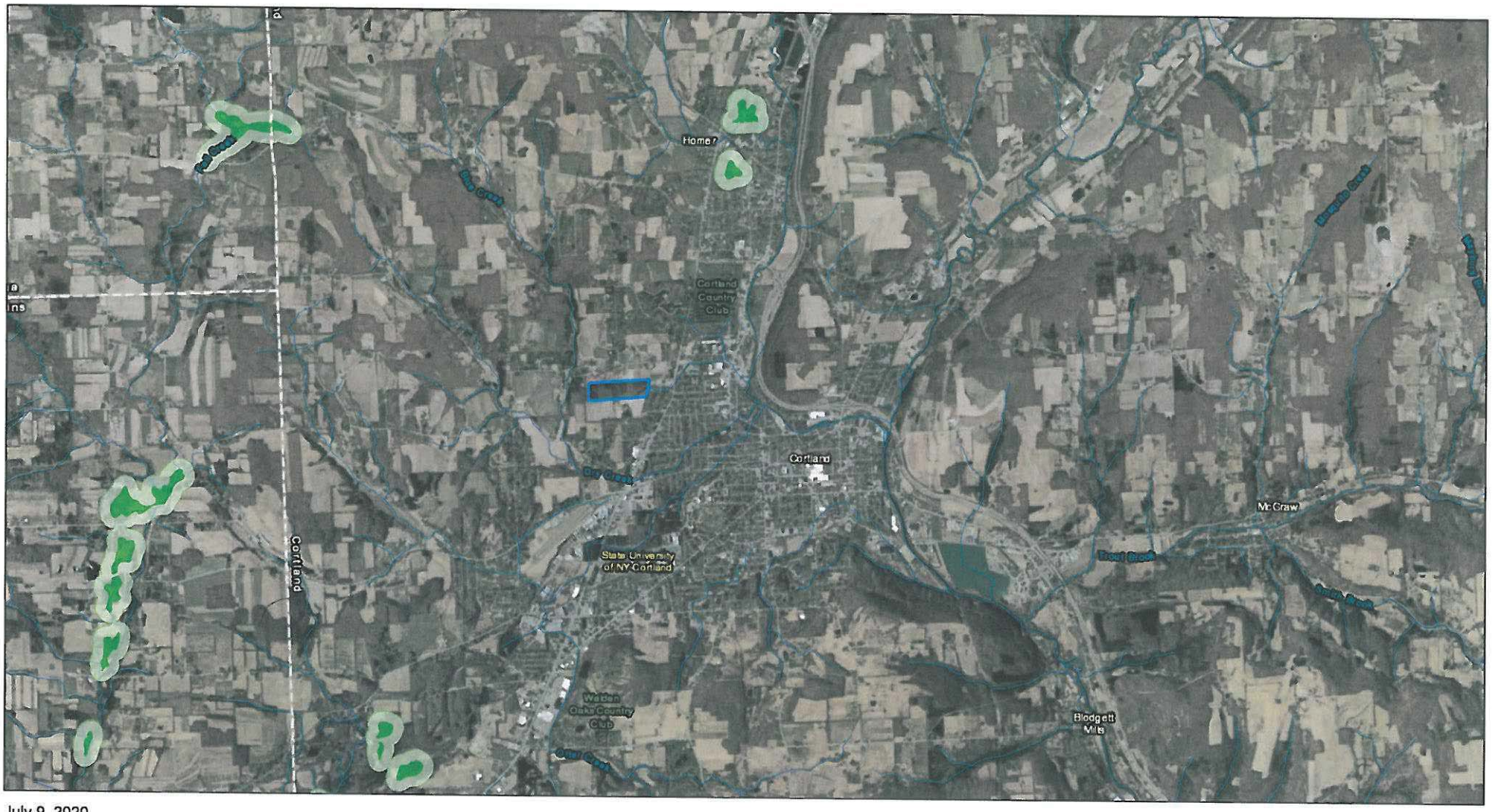
1:72,224

0 0.5 1 2 mi

0 1 2 4 km

Author: NYSDEC ENV RES mapper

Cortlandville II



July 9, 2020

State Regulated Freshwater Wetlands

State Regulated Wetland Checkzone

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Author: NYSDEC ENV RES mapper
Not a legal document

Hydric Rating by Map Unit—Cortland County, New York
(Cortlandville II)

Map Scale: 1:4,860 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Cortland County, New York
Survey Area Data: Version 19, Jun 11, 2020

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

Date(s) aerial images were photographed: Jun 18, 2011—Oct 10, 2016

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.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
53D	Valois-Howard complex, 15 to 25 percent slopes	0	1.3	2.3%
63B	Mardin channery silt loam, 3 to 8 percent slopes, slightly acid	0	20.4	36.0%
63C	Mardin channery silt loam, 8 to 15 percent slopes, slightly acid	0	13.1	23.2%
69B	Erie silt loam, 2 to 8 percent slopes	5	4.9	8.6%
179B	Lordstown-Arnot complex, 3 to 8 percent slopes	0	14.2	25.1%
179C	Lordstown channery silt loam, 8 to 15 percent slopes	0	2.7	4.8%
Totals for Area of Interest			**56.7**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Stormwater Pollution Prevention Plan (SWPPP)

For:

SSC Cortlandville II LLC
Project

4242 Bell Crest Drive
Cortlandville, NY 13045

Prepared for:

SSC Cortlandville II, LLC
334 Arapahoe Ave
Boulder, CO 80302

Prepared by:

DELTA
ENGINEERS, ARCHITECTS, & SURVEYORS

860 Hooper Road
Endwell, NY 13760
Phone: (607) 231-6600
Fax: (607) 231-6650

Delta Project No. 2020.260.001

Revised: November 17, 2020

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SSC Cortlandville II LLC
4242 Bell Crest Drive, Cortlandville, NY 13045
SWPPP Narrative Report

I. Introduction

A. SPDES General Permits for Stormwater Discharge from Construction Sites: Regulations promulgated by the NYSDEC are applicable to the discharge of stormwater from construction activities. Compliance with these regulations is generally obtained by requesting coverage under the General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) from the State of New York. A Notice of Intent (NOI) form must be submitted to the NYSDEC Bureau of Water Permits, 5 business days prior to any earth-disturbing activities. In addition, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared in accordance with the most recent version of New York State Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, The New York State Stormwater Management Design Manual (NYSSMDM) and the New York State Standards and Specifications for Erosion and Sediment Control (Blue Book). The General Permit (GP-0-20-001) is included in Appendix A of this document.

B. Regulatory Considerations for Stormwater Management at Solar Farms: The NYSDEC has provided regulatory guidance for stormwater management at Solar Farms in a Memorandum Dated April 5, 2018. Specifically, NYSDEC has authorized Solar Farms to be classified as "Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields) excluding projects that alter hydrology from pre- to post-development conditions" as listed on Table 1 of GP-0-020-001. This guidance does not include solar projects which include the construction of impervious surfaces such as access roads, transformer pads, or buildings, or solar array construction which significantly alters the hydrology of the site between pre-construction and post-construction activities.

Projects which do not meet specific parameters will fall under Table 2 requirements of GP-0-020-001 and must develop a full SWPPP which includes erosion and sediment controls along with details for Water Quality Volume/Runoff Reduction Volume, Cpv, Qp and Qf stormwater management practices.

C. General Permit: The Contractor shall manage the discharge of stormwater from the site in accordance with the conditions of the NYSDEC General Permit for Construction Activities and the following provisions of this Program. The Contractor shall be responsible for constructing the stormwater management practices in accordance with the permit. The Owner shall be responsible for providing a Qualified Professional (a person knowledgeable in the principles and practices of erosion and sediment controls, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist to conduct the inspections required by the SWPPP).

D. Notice of Intent (NOI): The Operator has petitioned the NYSDEC for the stormwater discharges during construction at this site to be covered by the SPDES General Permit for Construction Activity for the State of New York. A Notice of Intent to be covered under this permit was filed by the Operator. The NOI is included in Appendix B of this document.

E. Requirements for the Contractor and Sub-Contractor: The contractor shall prepare a SWPPP Ledger as part of this project. The SWPPP Ledger shall include regulatory information pertinent to the implementation of the SWPPP such as; provide a "Contractor's Certification Log", identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the Contractor and all Subcontractors, who will implement the measures identified in the SWPPP. The Responsible Persons identified in the Contractor's Certification Log shall sign a "Contractor's Certification", verifying they have been instructed and fully understand the requirements for the NYSDEC and SWPPP. This certification must be signed, by a fully qualified individual on behalf of each entity, prior to the beginning of any construction activities and shall be filed in the project's SWPPP Ledger. The Contractor's Certification is included in Appendix F of this document.

The SWPPP Ledger is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the project, shall be readily available upon request by the NOI Permittee's personnel or New York State Department of Environmental Conservation or any other agency with regulatory authority over stormwater issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document.

The SWPPP Ledger shall be provided on site including tabbed and indexed for the following sections:

- Table of Contents
- Written SWPPP
- Erosion and Sediment Control Plan(s)
- Signed New York State DEC Notice of Intent
- Signed Authorization Designation
- Contractor's/Subcontractor's Certification Log
- Inspection Report
- Stabilization Schedule
- Implementation Schedule
- Status Report
- Project Rainfall Log
- Final Stabilization/Termination Checklist

F. Stormwater Pollution Prevention Plan Location Requirements: The SWPPP Ledger is meant to be maintained at the Project Site at all times throughout the project, shall be readily available upon request by the Operator's personnel, NYSDEC, or any other agency with regulatory authority over stormwater issues, and shall be kept on-site until final stabilization of the site has been achieved and permit coverage has been terminated by the filing of the Notice of Termination (NOT). The NOT has been included in Appendix C of this document. Upon Owner/Operator receiving a permit identification number in a form of a letter, a copy of it shall be placed with the SWPPP on the Project Site.

The NOI, SWPPP, and inspection reports required by the General Permit are public documents that the owner or operator must make available for review and copying by any

person within 5 business days of the owner or operator receiving a written request by any such person to review the NOI, SWPPP, or inspection reports. Copying of documents will be done at the requester's expense.

G. Inspections and Record Keeping: Inspections shall be performed by the Operator's Qualified Professional at least once every 7 calendar days for sites with on-going earth disturbance. For sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown), and temporary stabilization measures have been applied to all disturbed areas, the qualified professional shall conduct site inspections at least once every 30 calendar days. The Construction Stormwater Inspection forms have been included in Appendix G and Appendix H of this document.

The Operator shall retain copies of the SWPPP, all reports and data for a minimum of 5 years after the project is complete.

H. SWPPP Modifications: The SWPPP is meant to be updated and kept current and amended whenever the design, construction operation, or maintenance of the site changes in a way which significantly affects the potential for the discharge of pollutants or when the plan proves to be ineffective in eliminating or significantly minimizing pollutant discharges. Any such changes to the SWPPP must be made in writing within 7 days of the date such modification or amendment is made. Modifications to the SWPPP shall be recorded in Appendix L.

I. Final Stabilization and Termination of Permit Coverage: A site can be considered for final stabilization when all soil disturbing activities have been completed. Including a uniform perennial vegetative cover with a density of 85% for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established. Also, the facility no longer discharges stormwater associated with construction activities. A final inspection is conducted by the Operator's Qualified Professional prior to filing the Notice of Termination (NOT) to certify that the site has undergone final stabilization. The NOT can then be filed by the Operator with NYSDEC. This filing terminates coverage under the General Permit and terminates the Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including the periodic inspections, must be continued until the NOT is filed.

J. SWPPP Implementation Responsibilities: Implementation of the Erosion and Sediment Control Plan will be by the Contractor as indicated in the contract documents; and as required by the General Permit. A Contractor Certification document is included in this report and shall be signed and certified by all contractors involved in earth disturbance activities including subcontractors and utility owners. The entity under contract for the installation and maintenance of these facilities shall be responsible for their maintenance and operation.

II. Project Description

A. Location of the Project:

Delta Engineers, Architects, Land Surveyors & Landscape Architects was contracted by SSC Cortlandville II, LLC, for the development of a Stormwater Pollution Prevention Plan (SWPPP) for the new solar site, located at 4242 Bell Crest Drive in the Town of Cortlandville, Cortland County, New York. Delta was also retained by SSC Cortlandville III, LLC at 4240 Bell Crest Drive for the development of a SWPPP immediately adjacent to this project. The analyses for both sites were combined and used as the basis for this SWPPP. The adjacent projects are located on the south side of Blue Creek road; as shown in Figure 1 - Project Location Map. The GPS Coordinates are shown in Table 1 below. The project site does not fall within the boundaries of a municipal separate storm sewer system (MS4).

GPS Coordinates	
LATITUTE	42°36'45.49" N
LONGITUDE	76°12'14.46" W

Table 1 – Location Table

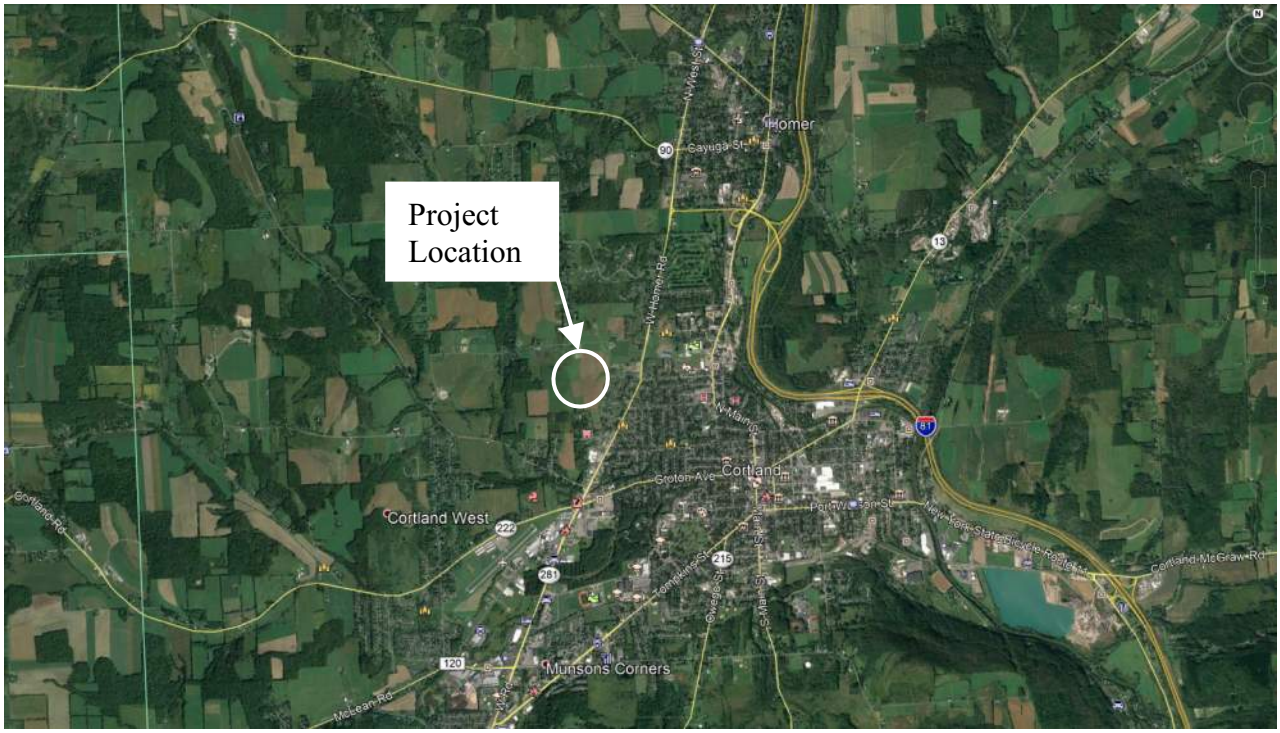

Figure 1 - Project Location Map

B. Owner/Operator's Name and Address:

The Owner/Operator of the site is SSC Cortlandville II, LLC. The contact person for this project is John Switzer, who can be reached by phone at (561)866-8234; by mail at 334 Arapahoe Ave, Boulder, CO 80302, and by e-mail at john@summitsolarcapital.com.

C. Project Description:

1. Project Description:

The proposed project consists of the development of a ground mounted solar array farm at the existing 75± acre site, located on Bell Crest Drive in the Town of Cortlandville, Cortland County, New York. The total area of site disturbances is 16.1± acres, which requires permitting under GP-0-20-001. The proposed site improvements are centered around the construction of a solar farm. The improvements involve the construction of multiple solar panel arrays, new concrete transformer pads, a gravel access road, and minor site grading, clearing and grubbing. The existing site primarily consists of farmland and wooded areas.

The area impacted by this project is comprised of 34.6± acres of land, within a 6' high security fence.

The proposed project consists of a parcel of land on the south side of Blue Creek Road, approximately 1,500 feet west of Ridgeview Ave and at the southern end of Blue Creek Road. The existing site generally drains from the northwest to the southeast. Within the overall project site limits, stormwater flows overland to a small unnamed creak that eventually flows into the Tioughnioga River. Existing ground surface slopes across the project site limits range from approximately 1 to 10 percent. The project improvements may alter existing grades in some limited areas, however the overall impacts of the grading are anticipated to be negligible. Much of the qualified ground disturbance will be associated with the building of the multiple concrete equipment pads and the gravel access road improvements.

2. Site Soils:

Site soils are as identified by the USDA National Cooperative Soil Survey's "Websoil Survey" for Cortland County, New York. As defined by the drainage area of the site, 1.2% of the site soils are hydrologic soil group (HSG) B, 45.7% of the site soils are hydrologic soil group (HSG) C, 53.1% of the site soils are hydrologic soil group (HSG) D. See Appendix D for the Custom Soil Resource Report for this site in Cortland County. The following soil type and hydrologic group are present within the project limits:

Soil Type	Soil Map Unit Symbol	Hydrologic Soil Group (HSG)	Texture	Erosion Hazard Rating
Valois-Howard Complex	53D	B	Gravelly silt loam / Very gravelly loam	Severe
Mardin Channery Silt Loam, 0 to 8% Slopes	63B	D	Channery silt loam	Slight
Mardin Channery Silt Loam, 8 to 15% Slopes	63C	D	Channery silt loam	Moderate
Erie Silt Loam	69B	D	Channery silt loam	Moderate
Chippewa Silt Lam	77A	D	Channery silt loam	Slight
Lordstown Channery Silt Loam	171D	C	Channery silt loam	Severe
Lordstown-Arnot Complex	179B	C	Very channery silt loam	Slight
Lordstown Channery Silt Loam	179C	C	Very channery silt loam	Moderate

Table 2 – Soil Types

The erosion factor, K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

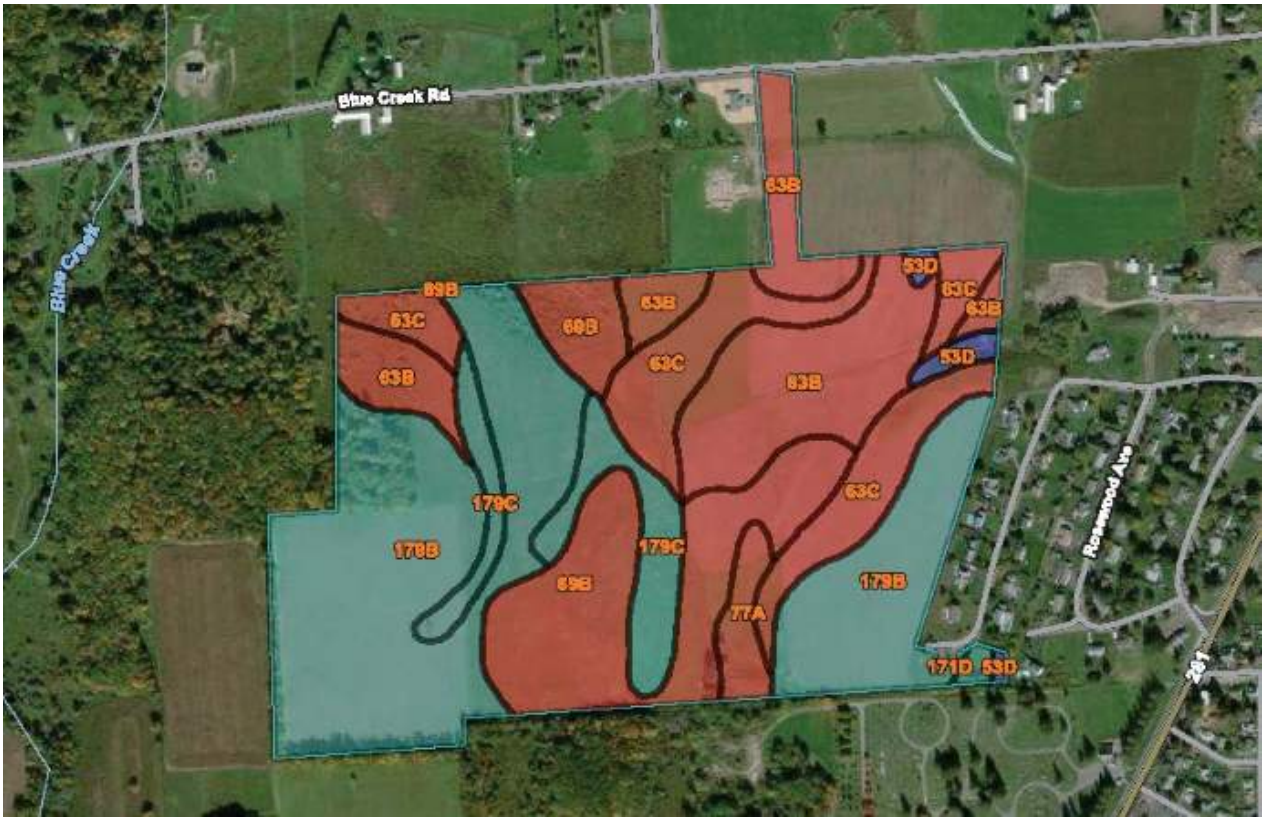

Figure 2 - Project Soils Map

D. New York State Office of Parks, Recreation and Historic Preservation Requirements:

Per the NYS Office of Parks, Recreation and Historical Preservation (OPRHP) CRIS mapping, the project site does not fall within an archeo-sensitive area. A letter from the NYS Office of Parks, Recreation and Historical Preservation (OPRHP) concludes that no properties, including archaeological and/or historic resources listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project. The OPRHP letter is included in Appendix I which documents this determination.

E. Sequence of Major Activities:

Refer to Chapter VI, Section A herein.

III. Planned Erosion and Sediment Control Practices

A. Erosion Control Plan:

Erosion control measures will be installed prior to any earth moving activities. Individual measures will be installed at all collection points. An erosion control plan has been developed in accordance with the NYSDEC's technical standards which are contained in the "New York Standards and Specifications for Erosion and Sediment Control". The plan contains provisions for any changes in localized drainage patterns that may occur during various construction stages. The erosion control plan limits the amount of area exposed prior to stabilization, diverts drainage runoff from adjacent areas away from and around the construction site area, and employs various sediment control methods, including but not limited to silt fence and sediment traps. See the Plans and Details in Appendix M.

All material removed from the site during construction activities shall be protected against migration by the use of silt fence, seed, mulch, or tarps.

Any area which will remain in a disturbed condition for more than fourteen (14) days, shall be seeded at a rate of 30 pounds of seed per acre with annual ryegrass and mulched with hay or straw at 2 tons per acre. As soon as practical upon completion of grading, all disturbed surfaces shall be seeded and mulched. Grass stabilization specifications are included herein in Section VII.

B. Erosion and Sediment Control Stabilization Practices:

Temporary stabilization practices for this site include but are not limited to:

1. Land clearing activities shall be done only in areas where potential shade on the solar arrays exists, or in limited areas within the array layout. Stabilization shall progress as earthwork is undertaken.
2. Permanent grading, seeding, and mulching.
3. Maintenance of stream buffers.

C. Erosion and Sediment Control Structural Practices:

Structural practices for this site include but are not limited to:

1. Perimeter protection using silt fence
2. Stabilized construction entrance

D. Applicable Standard Sheets and Details:

Dimensions and installation details for the applicable erosion and sediment control measures are shown in the Plans and Details in Appendix M.

E. Erosion and Sediment Control Maintenance/Inspection Procedures:

The following inspection and maintenance practices shall be used to maintain erosion and sediment controls and stabilization measures.

1. For construction sites where soil disturbance activities are on-going, the qualified inspector shall conduct a site inspection at least once every seven (7) calendar days.
2. For construction sites where soil disturbance activities are on-going and the Owner/Operator has received authorization in accordance with Part II.C.2.3 of GP-0-20-001 to disturb greater than five (5) acres of soil at any one time, the qualified inspector shall conduct at least two (2) site inspections every seven (7) calendar days. When performing two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.
3. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days. The Owner/Operator shall notify the Regional Office stormwater contact person in writing prior to reducing the frequency of inspections.
4. For construction sites where soil disturbance activities have been shut down with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The Owner/Operator shall notify the NYDEC Regional Office stormwater contact person in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the Owner/Operator shall have the qualified inspector perform a final inspection and certify that all disturbed areas have achieved final stabilization, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the Notice of Termination (NOT). The Owner/Operator shall then submit the completed NOT form to NYSDEC.
5. All measures shall be maintained in good working order. If repairs are found to be necessary, they shall be initiated within 24 hours of report.
6. The thickness of rock construction entrances shall be constantly maintained to the specified dimensions by topdressing with gravel. A stockpile of gravel material shall be maintained on the site for this purpose.
7. Silt fences shall be inspected for proper toe-in depth, depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.
8. Built-up sediment shall be removed from silt fences when it has reached one-third the height of the fence.
9. Temporary and permanent seeding and all stabilization measures will be inspected for bare spots, washouts, and healthy growth.

10. Personnel selected for the maintenance responsibilities shall be trained in all the maintenance practices necessary for keeping the erosion and sediment controls that are used on-site in good working order. They shall also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms.
11. Disturbed areas and materials storage areas shall be inspected for evidence of or potential for pollutants entering stormwater systems.
12. Report to NYSDEC within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event.
13. The qualified inspector shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and or address the following:
    a. Date and time of inspection.
    b. Name and title of person(s) performing the inspection.
    c. A description of the weather and soil conditions at the time of the inspections.
    d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems and overland flow.
    e. Identification of all erosion and sediment control practices that need repair and maintenance.
    f. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced.
    g. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection.
    h. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards.
    i. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).
    j. Provide digital photographs of site conditions and deficiencies.

14. All inspection reports shall be signed by the qualified inspector. The inspection reports shall be maintained on site with the SWPPP.

IV. Other Controls

A. Waste Disposal/Housekeeping:

1. Solid Waste:

All waste materials will be collected and stored in a securely lidded metal dumpster that complies with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as necessary and the trash shall be hauled to a landfill approved by New York State. No construction materials shall be buried on site. All personnel shall be instructed regarding the correct procedures for waste disposal. The Operator shall be responsible for seeing that these procedures are followed.

2. Off-Site Vehicle Tracking of Sediments:

Stabilized construction entrances shall be provided to help reduce vehicle tracking of sediments. The paved roadways adjacent to the site entrances shall be inspected daily and all sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

B. Sanitary Waste:

All sanitary waste will be collected from the portable units as necessary, by a licensed portable facility provider, in complete compliance with local and state regulation.

C. Hazardous Substances and Hazardous Waste:

1. In order to minimize the potential for a spill of hazardous materials to come into contact with stormwater, the following steps shall be implemented.
    a. All materials with hazardous properties (including but not limited to: pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, solvents, soil stabilization additives, and concrete curing compounds, etc.) will be stored in a secure location, under cover, when not in use.
    b. The minimum practical quantity of all such materials shall be kept on the job site.
    c. A spill control containment kit shall be provided at the storage site.
    d. All of the product in a container shall be used before the container is disposed of. All such containers shall be triple rinsed with water prior to disposal. The rinse water used in these containers shall be disposed of in a manner in compliance with state and federal regulations and shall not be allowed to mix with stormwater discharges.
    e. All products shall be stored and used from the original container with the original product label.

f. All products shall be used in strict compliance with the instructions on the product label.
g. The disposal of excess or used products shall be in strict compliance with instructions on the label.

D. Contaminated Soils:

1. Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities shall be reported in accordance with applicable state and federal regulations.

2. With the exception of immediate spill response measures, contractor shall not disturb contaminated soils unless directed by the Owner/Operator.

E. Pollution Prevention Measures:

1. Materials Covered – The following materials or substances with known hazardous properties are expected to be present onsite during construction:

a. Concrete
b. Detergents
c. Paints
d. Paint Solvents
e. Concrete Additives
f. Petroleum Based Products
g. Cleaning Solvents

2. Material Management Practices – The following are the material management practices that shall be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

a. Good Housekeeping:
    1. An effort shall be made to store only enough of a product required to do the job.
    2. All materials onsite shall be stored in a neat, orderly manner and, if possible, under a roof or other enclosure.
    3. Products shall be kept in their original containers with the original manufacturer's label in legible condition.
    4. Substances shall not be mixed with one another unless recommended by the manufacturer.
    5. All of a product shall be used up before disposing of the container.
    6. Manufacturer's recommendations for proper use and disposal shall be followed.
b. Hazardous Products – These practices will be used to reduce the risks associated with hazardous materials.
    1. Products shall be kept in original containers with the original labels in legible condition.
    2. Original labels and safety data sheets (SDS's) shall be procured and used for each material.

3. If surplus product must be disposed of, manufacturers or local/state/federal recommended methods for disposal shall be followed.
4. A spill control and containment kit shall be provided at the storage site.
5. All of the product in a container shall be used before the container is disposed of. All such containers shall be triple rinsed with water prior to disposal. The rinse water used in these containers shall be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater.

c. Product Specific Practices – The following product specific practices shall be followed at the site.
   1. Petroleum Products: All onsite vehicles shall be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any petroleum storage tanks used onsite shall have a dike or berm containment structure constructed around it to contain any spills which may occur. Any asphalt substances used onsite shall be applied according to manufacturer's recommendations.
   2. Fertilizers: Fertilizers shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to stormwater. Storage shall be in a covered shed. The contents of any partially used bags of fertilizer shall be transferred to a sealable plastic bin to avoid spills.
   3. Paints, Paint Solvents, and Cleaning Solvents: All containers shall be tightly sealed and stored when not in use. Excess paint and solvents shall not be discharged to the storm sewer system but shall be disposed of according to the manufacturer's instructions or state and federal regulations.
   4. Concrete Disposal: All concrete debris shall be stored in a centralized location on the project site and disposed of according to the state and federal regulations. Concrete truck washout shall be collected in an approved outside facility.

d. Spill Prevention Practices – The following practices shall be followed for spill prevention and cleanup.
   1. Manufacturer's recommended methods for spill cleanup shall be clearly posted and site personnel shall be trained regarding these procedures and the location of the information and cleanup supplies.
   2. Materials and equipment necessary for spill cleanup shall be kept in the material storage area onsite in the spill control and containment kit.
   3. The spill area shall be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.
   4. All spills shall be cleaned up immediately after discovery.

5. Spills of toxic or hazardous materials shall be reported to the appropriate federal, state, and/or local government agency, regardless of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 302 list and oil) shall be immediately reported to the EPA National Response Center.

F. Control of Allowable Non-Stormwater Discharges:

Certain types of discharges are allowable under the NYSDEC General Permit of Construction Activity. These types of discharges shall be allowed under the conditions that no pollutants shall be allowed to come in contact with the stormwater prior to or after its discharge. The control measures which have been outlined previously in this SWPPP shall be strictly followed to ensure that no contamination of these non-stormwater discharges takes place. The following allowable non-stormwater discharges which may occur from the job site include:

1. Discharge from firefighting activities.
2. Fire hydrant flushings.
3. Waters used to wash vehicles or control dust in order to minimize offsite sediment tracking.
4. Routine external building washdown which does not use detergents.
5. Pavement washwaters where spills or leaks of hazardous materials have not occurred or detergents have not been used.
6. Air conditioning condensate.
7. Springs and other uncontaminated groundwater, including dewatering ground water infiltration.
8. Foundation or footing drains where no contamination with process materials such as solvents is present.

V. Existing and Proposed Watershed Hydrology

Existing conditions peak flows for the 1, 10, and 100 year design storms can be found in Table 5. The existing and proposed conditions hydrology was modeled using HydroCAD software. The existing and proposed conditions hydrology and hydrographs can be found in Appendix E.1.

A. Existing Watershed Hydrology:

The existing project area is comprised of three (3) sub-drainage basins: a northern, a southwestern and southeastern sub-basin. All three drainage basins ultimately have the same discharge point off site to the south east.

Basin 1, is a 67.2-acre drainage basin includes an existing paved roadway, vacant farmland and a wooded area. The stormwater from the basin is drained by sheet flow and shallow concentrated flow towards a small unnamed stream that forms at the edge of the site and eventually drains into the West Branch of the Tioughnioga River. Basin 2 is a 36-acre drainage basin and includes mostly vacant farmland with some existing wooded area. The stormwater in this basin sheet flows into shallow concentrated flow where and goes into another unnamed stream that forms at the edge of the site and drains into the Tioughnioga River.

Basin 3 is a 11.5-acre drainage basin that included mostly vacant farmland with some wooded area. The basin sheet flows south offsite where it eventually flows east towards the same unnamed stream as Basin 2 and eventually flows into the Tioughnioga River. See Figure 3 for the Existing Watershed drainage patterns.

Receiving Waterbody	Tributary to Unnamed Stream
Drainage Area	67.2 AC
Composite Curve Number	76
Land Use	Undeveloped Pasture

Table 3.1 – Existing Drainage Area Hydrological Conditions Basin 1

Receiving Waterbody	Tributary to Unnamed Stream
Drainage Area	63.0 acres
Composite Curve Number	74
Land Use	Undeveloped Pasture

Table 3.2 – Existing Drainage Area Hydrological Conditions Basin 2

Receiving Waterbody	Tributary to Unnamed Stream
Drainage Area	11.5 acres
Composite Curve Number	71
Land Use	Undeveloped Pasture

Table 3.3 – Existing Drainage Area Hydrological Conditions Basin 3

B. Proposed Watershed Hydrology:

The proposed site will be largely developed within Basin 1 with solar arrays, access roadway and concrete equipment pads. It is the intent of this design to provide pervious gravel roadways on the site with the concrete pads and minor entrance improvements adding the only new impervious construction. Gravel roadways will use an approved design for infrequently used access roads and are considered pervious for the purpose of this renewable energy site application. The proposed grading of the site will not change the direction of the affected drainage patterns. Basin 2 and 3 improvements include small amount of new solar arrays.

The proposed grading of the site will not change the direction of the affected drainage patterns (see Figure 4).

To account for the increase in impervious surfaces, dense grass filter strip areas will be maintained immediately downstream from site access roads and the impervious concrete pads. Grass Filter strips are considered an area reduction technique according to the New York State Stormwater Design Manual, and a given filter strip 50-feet in width reduces the calculated impervious area by up to 5,000 square feet per designated filter strip area. Area-reducing measures allow the area of the designated impervious surfaces to be deducted from water quality calculations. Therefore, the use of grass filter strips effectively eliminates the area of the existing gravel roadways and concrete equipment pads from consideration as impervious surfaces in consideration of treating the stormwater Water Quality Volume (WQv).

Receiving Waterbody	Tributary to Unnamed Streams
Drainage Area	67.2 Acres
Composite Curve Number	75
Land Use	Developed Pasture

Table 4.1 – Proposed Drainage Area Hydrological Conditions Basin 1

Receiving Waterbody	Tributary to Unnamed Streams
Drainage Area	36.0 Acres
Composite Curve Number	74
Land Use	Developed Pasture

Table 4.2 – Proposed Drainage Area Hydrological Conditions Basin 2

Receiving Waterbody	Tributary to Unnamed Streams
Drainage Area	11.5 Acres
Composite Curve Number	71
Land Use	Developed Pasture

Table 4.3 – Proposed Drainage Area Hydrological Conditions Basin 3

C. Proposed Stormwater Controls:

1. Stormwater Quality:

The proposed project improvements are considered new development, and according to the New York State Stormwater Management Design Manual, treating water quality volume (WQv) for new construction project is achieved by treating the run-off from any new impervious area constructed.

All gravel access roads will be constructed as pervious surfaces specifically for infrequently used access roads at renewable energy sites. Stormwater runoff from the proposed impervious surfaces (concrete pads will be conveyed through grass filter strips. The use of the grass filter strips as area reduction techniques at the site eliminates the need to address water quality volume from these identified impervious areas.

The site contains an existing wetland. A buffer of native vegetation at least 25' wide is provided adjacent to the stream for the purposes of maintaining stormwater quality which enters these sensitive areas.

a. Run-Off Reduction:

Run-off reduction requirements have been met through the area reduction technique achieved with the implementation of grass filter strips. Supporting calculations for these values are provided in Appendix E.

2. Stormwater Quantity:

As shown in Table 5, peak flows from the 1, 10, and 100-year design storms show no change between existing and proposed conditions. This is consistent with the finding that the TR-55 Runoff Curve Number did not change from the pre-construction conditions. In addition, the general site drainage patterns remain unchanged. The existing and proposed hydrologic models can be found in Appendix E.

Design Storm	Existing Peak Flow (cfs)	Cortlandville II Proposed Peak Flow (cfs)	Combined Cortlandville II and II Proposed Peak Flow (cfs)
1 Year	11.56	10.21	10.21
10 Year	45.26	42.67	42.67
100 Year	115.27	111.50	111.50

Table 5.1 – Drainage Summary of Existing and Proposed Peak Flows Basin 1

Design Storm	Existing Peak Flow (cfs)	Cortlandville II Proposed Peak Flow (cfs)	Combined Cortlandville II and II Proposed Peak Flow (cfs)
1 Year	4.06	4.06	4.06
10 Year	18.03	18.03	18.03
100 Year	48.49	48.49	48.49

Table 5.2 – Drainage Summary of Existing and Proposed Peak Flows Basin 2

Design Storm	Existing Peak Flow (cfs)	Cortlandville II Proposed Peak Flow (cfs)	Combined Cortlandville II and II Proposed Peak Flow (cfs)
1 Year	1.43	1.43	1.43
10 Year	8.30	8.30	8.30
100 Year	24.22	24.22	24.22

Table 5.3 – Drainage Summary of Existing and Proposed Peak Flows Basin 3

Design Storm	Existing Peak Flow (cfs)	Cortlandville II Proposed Peak Flow (cfs)	Combined Cortlandville II and II Proposed Peak Flow (cfs)
1 Year	17.05	15.70	15.70
10 Year	71.59	69.00	69.00
100 Year	187.98	184.21	184.21

Table 5.4 – Drainage Summary of Existing and Proposed Peak Flows

D. Hydraulic Analysis of Proposed Stormwater Control Practices:

The use of the area reduction techniques at the site eliminated the requirement to treat or reduce the water quality volume generated by impervious surfaces. Therefore, no hydraulic analysis was conducted for any stormwater practices.

VI. Construction Phasing

A. Sequence of Construction Activities:

The Owner/Operator will be ultimately responsible for the overseeing and inspection of the Contractor's operations. The Contractor and/or subcontractors will be responsible for implementing the following erosion control measures, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Owner/Operator. All Contractors or subcontractors involved in earth disturbing activities or implementing and maintaining erosion and sediment control measures shall sign the Contractor's Certification. The sequence of activities will be as follows:

1. Install temporary erosion and sedimentation controls, silt fence, stabilized construction entrance, and other elements called for by site conditions.
2. Install the proposed access roadway to the site using existing agricultural roads – estimated acreage disturbed: Approximately 1.2 acres disturbed.
3. Complete clearing and grubbing required for the project. Ensure the non-stabilized disturbed area is less than 5-acres at all times: Approximately 14.8-acres disturbed by clearing activities.
4. Construct concrete equipment pads: Approximately 0.12 acres disturbed.
5. Install buried electrical conduits and raceways – Disturbed area included with access roadway construction.
6. Install the foundation posts and racking gear for the array.
7. Maintain the access driveway stable through construction by adding new crushed stone.
8. Install on-site wood utility poles.
9. Temporarily or permanently stabilize all disturbed earth areas with seed and mulch. Limit the total unstabilized disturbed area at any given time to less than 5 acres.
10. Install solar panels and finalize electrical connections.
11. Install perimeter fence and gates.
12. De-compact by deep soiling or deep-till and restore identified compacted ground surfaces, including temporary equipment laydown area(s), parking areas, and any temporary access driveways.
13. Install landscape plantings.
14. Permanently stabilize all disturbed areas with topsoil, as required. Final seed and mulch.

VII. Post-Construction Stormwater Facility Maintenance

A. Responsible Entity:

SSC Cortlandville II, LLC

B. Facilities to be Maintained:

1. Grass Filter Strip

Remove sediment and debris buildup as needed. Maintain adequate vegetation cover to ensure proper function. No heavy traffic on the grass filter strip to avoid compaction. Avoid mowing when the grass is wet; doing so can create ruts. Ensure no new impervious construction within 50 feet downgradient of impervious surfaces.

If a level spreader is required to ensure proper runoff distribution across the grass filter strip, it shall be maintained to ensure that it distributes stormwater evenly across its length and is not plugged with plant growth or damaged by site traffic.

2. Soil Restoration and Decompaction

All disturbed areas shall be restored (by the contractor) by providing topsoil and seed in accordance with this plan and as shown on the drawings. If required, soil decompaction should be undertaken in accordance with the soil restoration requirements in table 5.3 of the design manual, and as shown below. Heavy traffic areas (temporary parking lot, frequently traveled areas, etc) shall be restored by the contractor and maintained to final stabilization. At this point the Facility is responsible for area inspections for the first six months and once after each storm greater than half- inch. Water the restored areas with a half inch of water per week during the first year. Irrigation plan may be adjusted according to the rain events. When necessary reseeding to repair bare or eroding areas to assure proper grass stabilization.

3. Pervious Gravel Roads and Stabilized Construction Entrances

Maintaining the pervious gravel roads is accomplished by directing all site traffic across stabilized construction entrances, which will effectively clean any soil or debris from vehicles traveling on the access roads. A buildup of sediment and accumulations of soil are not allowed to be visible in the pervious gravel roads or stabilized construction entrances.

Quarterly inspections of the gravel roads and construction entrances shall be conducted, and any areas exhibiting accumulations of soil or sediment shall be immediately removed and replaced.

4. Temporary and Permanent Vegetative Stabilization Measures

Time for Seeding:
Optimum period to sow permanent grass seed is generally between April 1st and May 15th or between August 15th and October 1st. Schedule application for when weather conditions permit or as Directed.

- Provide temporary seed and mulch when final grading is complete while waiting for optimal seeding period.
- Provide temporary seed and mulch for temporary cover on disturbed ground not to be worked on for more than 7 days.
- Provide temporary seed and mulch on disturbed earth prior to temporary shutdown of construction.

Fertilizer
Mixed commercial fertilizers shall contain total nitrogen, available phosphoric acid and soluble potash in the ratio of 10-6-4 (50% N/UF). 50% of total nitrogen shall be derived from ureaform furnishing a minimum of 3.5% water insoluble nitrogen (3.5% WIN). The balance of the nitrogen shall be present as methylene urea, water soluble urea, nitrate and ammoniacal compounds.

Other fertilizers meeting NYSDOT Specification Section 713-03 Fertilizer can be used.

Seed
Furnish fresh, clean, new-crop seed mixed in the proportions specified for species and variety, and conforming to Federal and State Standards.

Provide the following seed mixture:

A = Min. Percentage of Germination
B = Min. Purity Percentage
C = Weight Pure Live Seed in Mixture

Name	Variety	A	B	C
Tall Fescue (Festuca arundinacea)	Alta, Kentucky 13 or an approved equal.	95	---	15
Creeping Red Fescue (Festuca rubra trichophylla)	Ensylva	95	97	20
Kentucky Bluegrass * (Poa pratensis)	Baron, Flyking, Glade, or an approved equal.	75	95	25
Perennial Ryegrass ** (Lolium perenne)	Manhatten II, Pennfine, Yorktown II, or an approved equal.	90	95	40

*Approximately equal proportions of 2 or more improved Bluegrass varieties as listed in the Cornell Recommendations for Turfgrass.
**One or more of the improved Ryegrass varieties as listed in the Cornell Recommendations for Turfgrass.

Table 5.3 Soil Restoration Requirements

Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only - no change in grade	HSG A &B	HSG C&D	Protect area from any ongoing construction activities.
	apply 6 inches of topsoil	Aerate* and apply 6 inches of topsoil	
Areas of cut or fill	HSG A &B	HSG C & D	
	Aerate and apply 6 inches of topsoil	Apply full Soil Restoration **	
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls)	Apply full Soil Restoration (de-compaction and compost enhancement)		
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.		

*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.

** Per "Deep Ripping and De-compaction, DEC 2008".

APPENDIX A

GENERAL PERMIT GP-0-20-001

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharge*s that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the “MS4 SWPPP Acceptance” form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are <u>not</u> subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has <u>not</u> been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

   a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

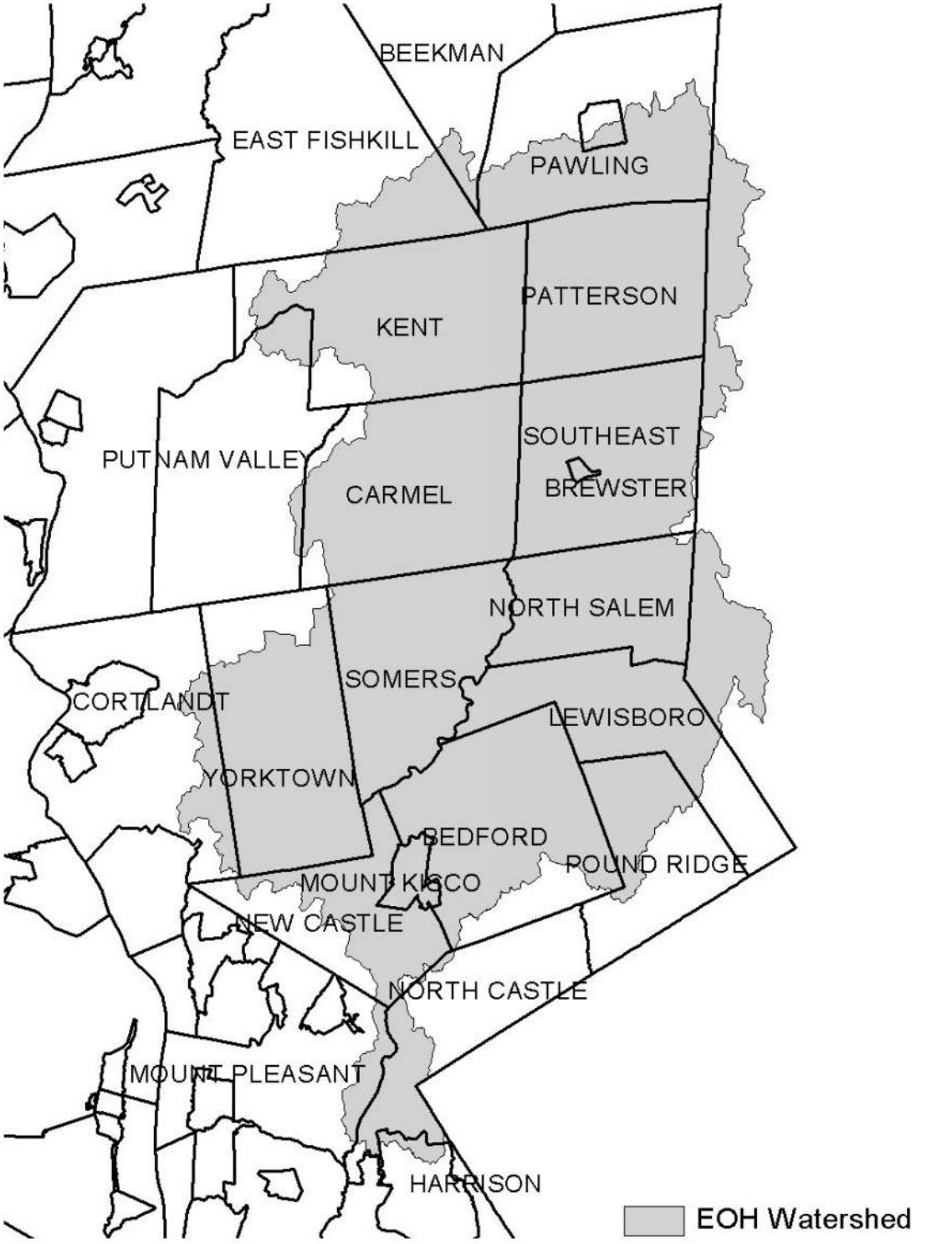


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

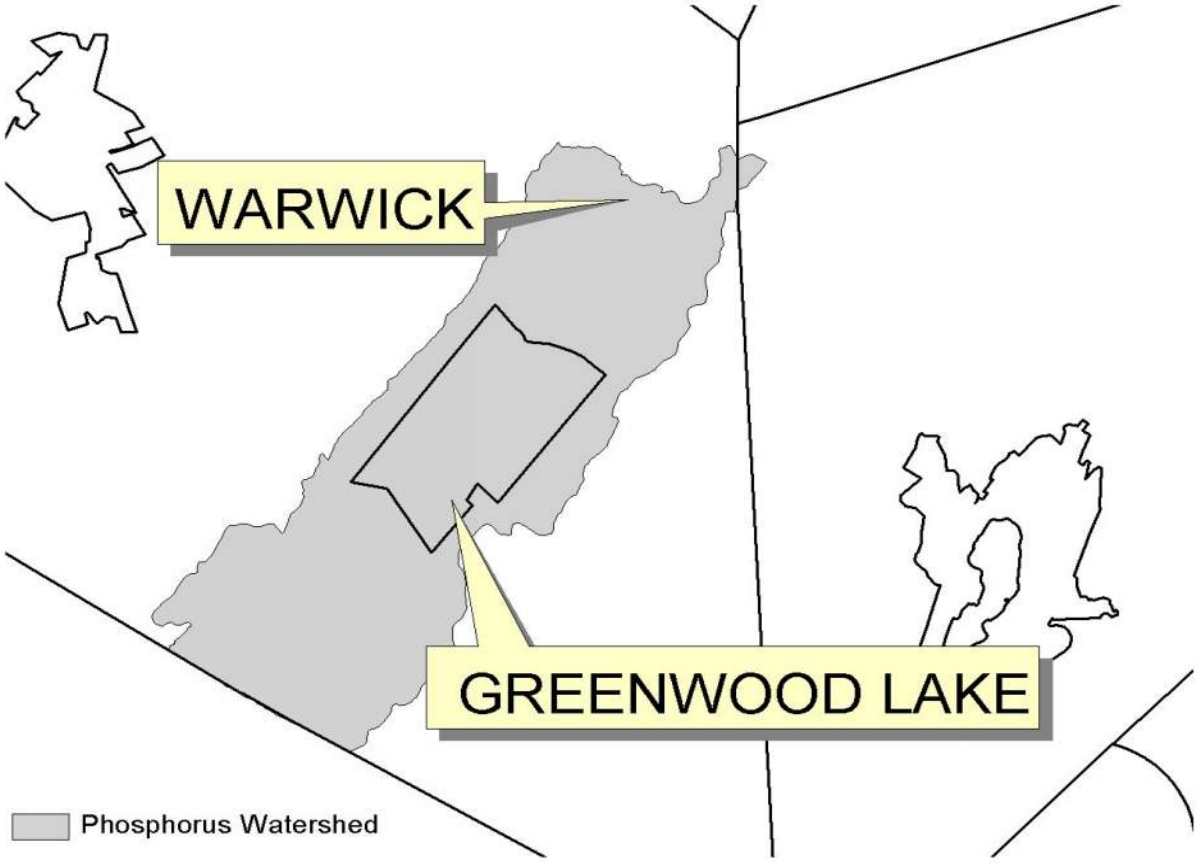


Figure 4 - Oscawana Lake Watershed

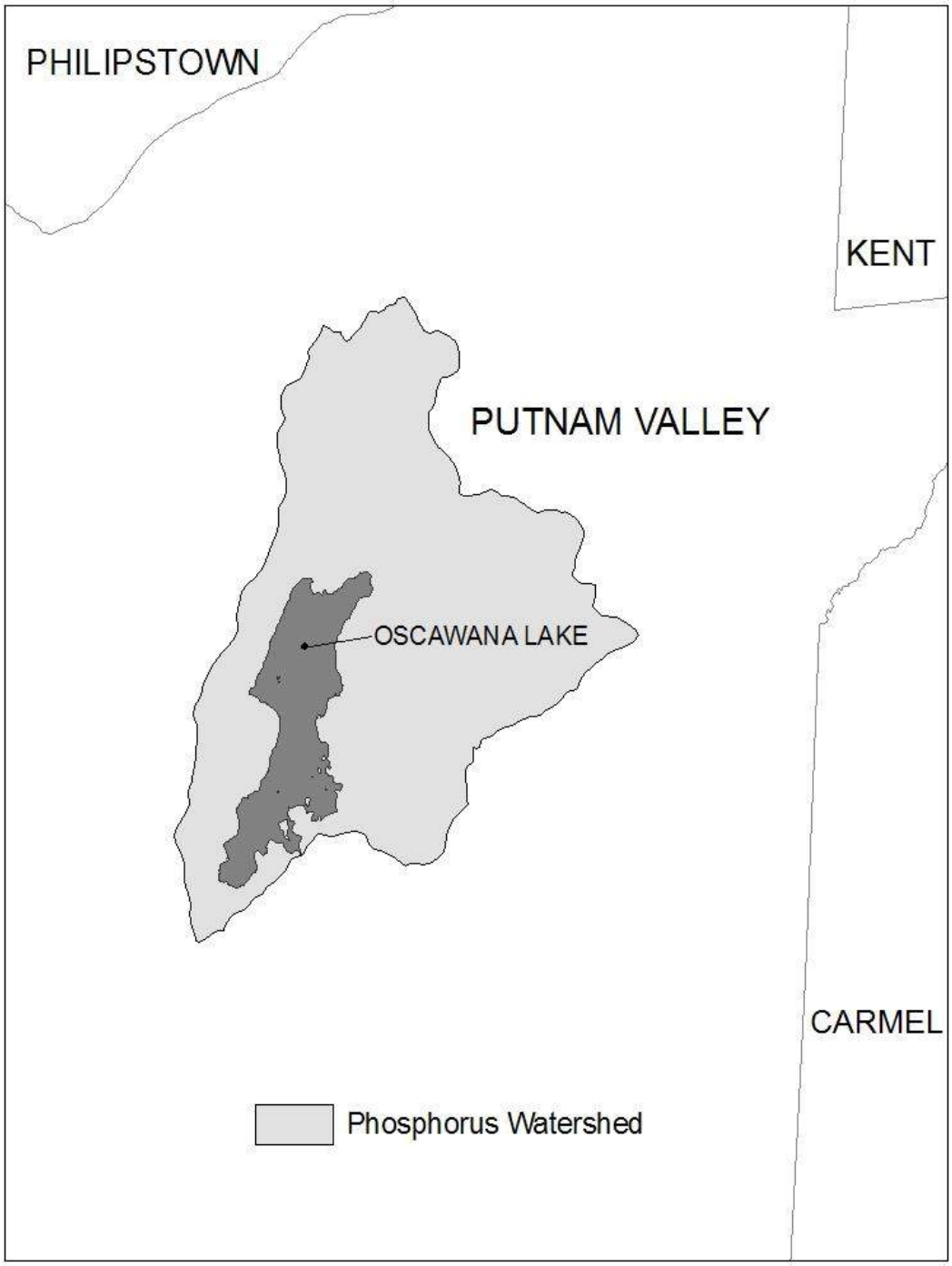
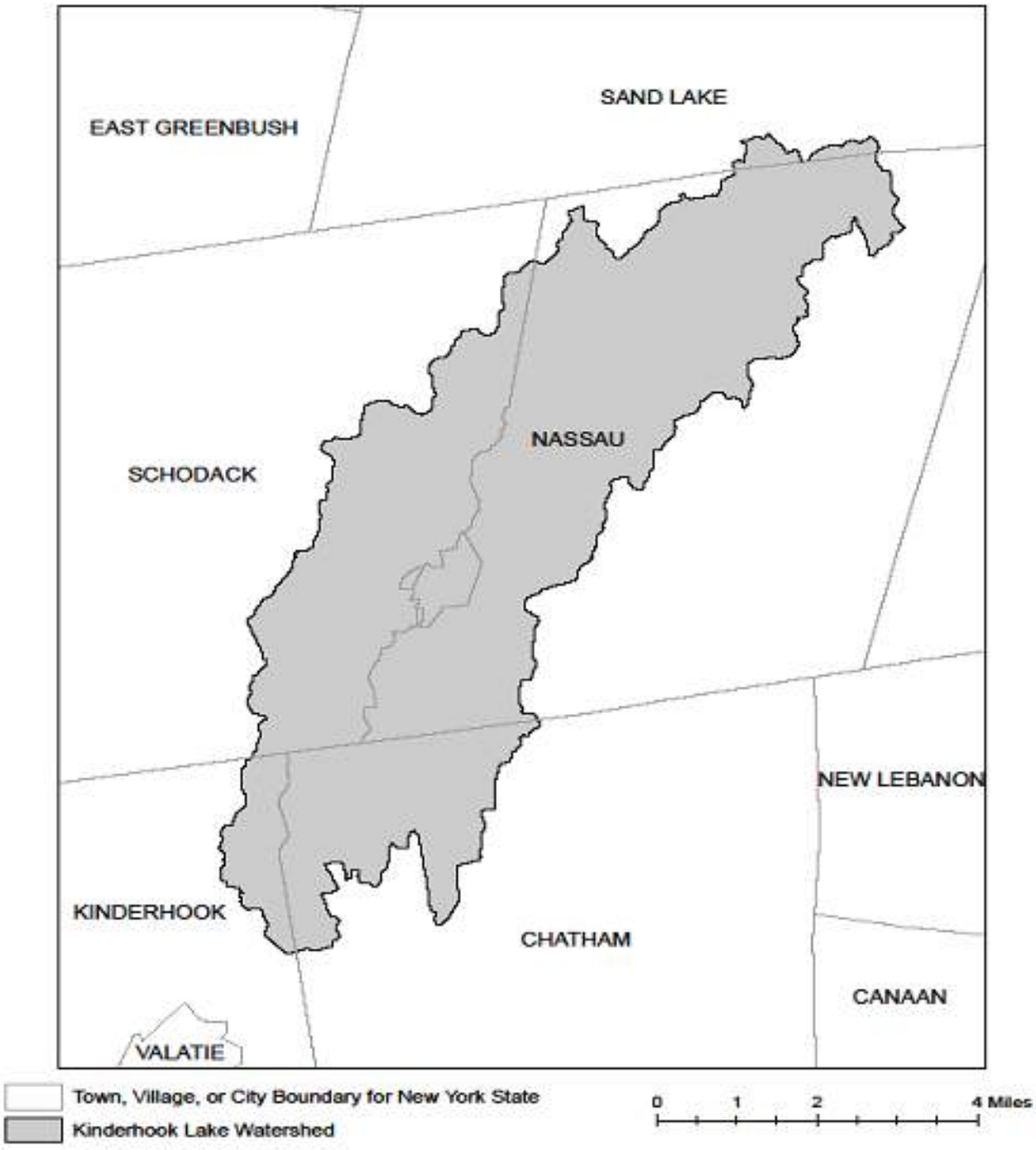


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX B

NOTICE OF INTENT (NOI)

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
SSC Cortlandville II, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Switzer

Owner/Operator Contact Person First Name
John

Owner/Operator Mailing Address
334 Arapahoe Ave

City
Boulder

State
CO

Zip
80302 - ____

Phone (Owner/Operator)
5618682342 34

Fax (Owner/Operator)
___ - ___ - ____

Email (Owner/Operator)
john@summitsolarcapital.com

FED TAX ID
__ - _____ (not required for individuals)

Project Site Information

Project/Site Name
SSC Cortlandville II LLC

Street Address (NOT P.O. BOX)
4242 Bell Crest Drive

Side of Street
○ **North** ● **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Cortlandville

State NY | Zip **13045**- | County Cortland | DEC Region 7

Name of Nearest Cross Street
Blue Creek Road

Distance to Nearest Cross Street (Feet)
0

Project In Relation to Cross Street
○ **North** ● **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel
86.00-02-01.100

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

https://gisservices.dec.ny.gov/gis/stormwater/

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
-76205
Ex. -73.749

Y Coordinates (Northing)
42611
Ex. 42.652

2. What is the nature of this construction project?

● **New Construction**

○ **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ● PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ● MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
37.357.5	1.41.4	0 0.	.1 . 1

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ○ **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
0 %	1 %	46 %	53 %

7. Is this a phased project? ○ **Yes** ○ **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date / / - **End Date** / /

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

Unnamed Creek

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ● Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ● Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001? ○ **Yes** ● **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001? ○ **Yes** ● **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ● **No**
If Yes, what is the acreage to be disturbed?

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ● **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ Yes ○ No ● Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ Yes ● No

19. Is this property owned by a state authority, state agency, federal government or local government? ○ Yes ○ No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ Yes ● No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ● Yes ○ No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ● Yes ○ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ● **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
Delta, Engineers, Architects, Land Surv

Contact Name (Last, Space, First)
Maby, Christopher

Mailing Address
860 Hooper Road

City
Endwell

State Zip
NY 13760-

Phone
6072316600

Fax

Email
cmaby@delta-eas.com

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name Christopher **MI** j

Last Name Maby

Signature

Date / /

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ● Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ● Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ● **Preservation of Undisturbed Areas**
- ● **Preservation of Buffers**
- ● **Reduction of Clearing and Grading**
- ● **Locating Development in Less Sensitive Areas**
- ● **Roadway Reduction**
- ○ **Sidewalk Reduction**
- ● **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ○ **Building Footprint Reduction**
- ○ **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ● All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

0.5050 **acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
● Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	0.30 / 0.30
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
○ Infiltration Basin (I-2)			
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
○ Bioretention (F-5)			
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ Hydrodynamic	
○ Wet Vault	
○ Media Filter	
○ Other	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

0.5550 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

● **Yes** ○ **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

. **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

○ **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [ ][ ][ ].[ ][ ][ ]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ○ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

[ ][ ][ ].[ ][ ][ ] **acre-feet**

CPv Provided

[ ][ ][ ].[ ][ ][ ] **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

● Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

[7][7].[1][5][9][ ] **CFS**

Post-development

[6][6].[8][3][ ] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

[1][8][7].[9][8][ ] **CFS**

Post-development

[1][8][4].[2][1][ ] **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

SSC Cortlandville II, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N Y R]
- ○ Other [ ]
- ● None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ○ **No**
If Yes, Indicate Size of Impact. [ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ● **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N Y R]

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name: John

MI: H

Print Last Name: Switzer

Owner/Operator Signature:

Date: / /

APPENDIX C

NOTICE OF TERMINATION (NOT)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name: SSC Cortlandville II LLC

2. Street Address: 334 Arapahoe Ave

3. City/State/Zip: Boulder / Colorado / 80302

4. Contact Person: John H. Switzer, Esq. | 4a.Telephone: 561-866-8234

4b. Contact Person E-Mail: john@summitsolarcapital.com

II. Project Site Information

5. Project/Site Name: SSC Cortlandville II LLC

6. Street Address: 4242 Bell Crest Drive

7. City/Zip: Cortlandville, New York 13045

8. County: Cortland

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

APPENDIX D

CUSTOM SOIL RESOURCE REPORT

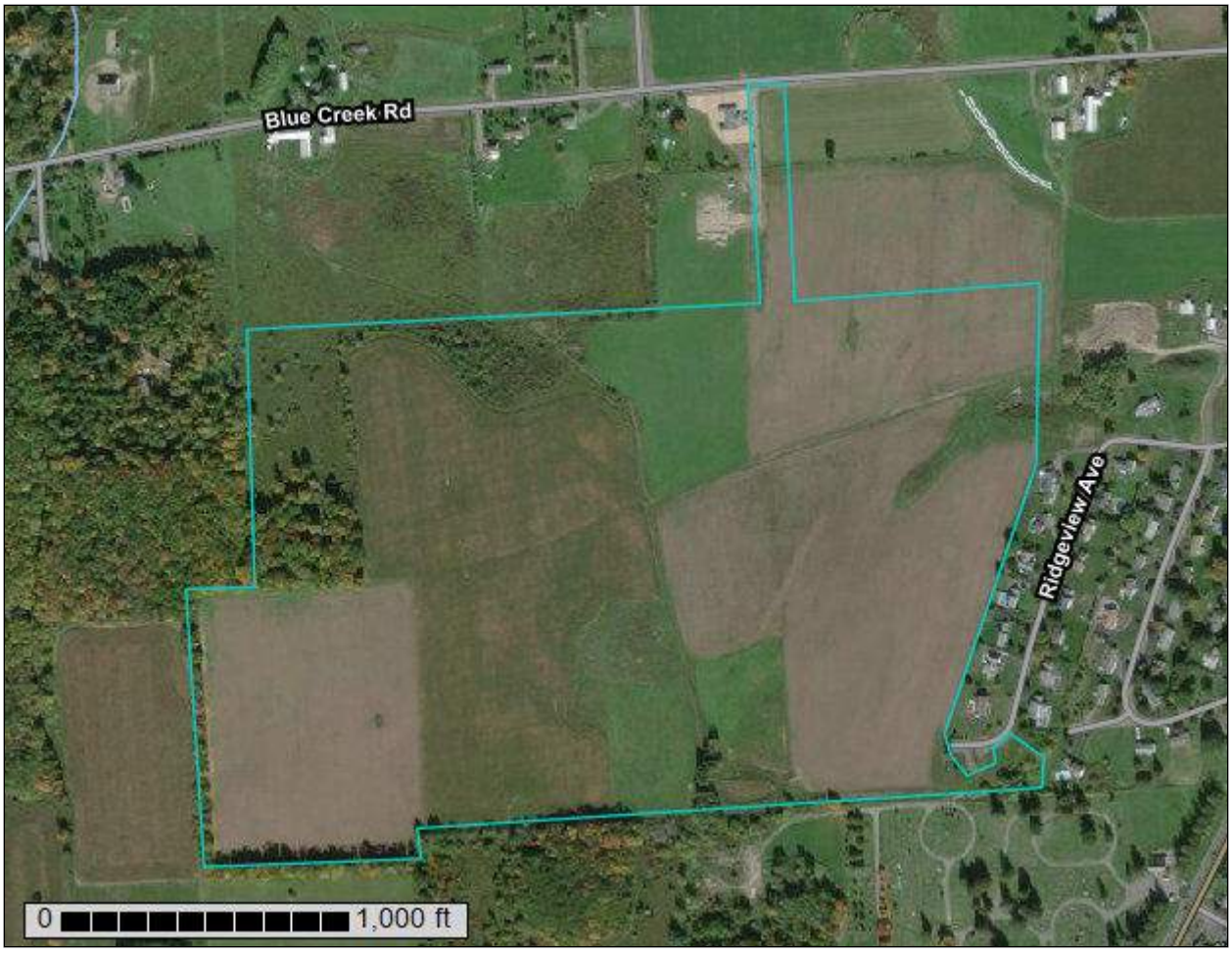
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Cortland County, New York



July 7, 2020

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Cortland County, New York
Survey Area Data: Version 19, Jun 11, 2020

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

Date(s) aerial images were photographed: Jun 18, 2011—Oct 10, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
53D	Valois-Howard complex, 15 to 25 percent slopes	1.4	1.2%
63B	Mardin channery silt loam, 3 to 8 percent slopes, slightly acid	21.9	19.1%
63C	Mardin channery silt loam, 8 to 15 percent slopes, slightly acid	16.4	14.4%
69B	Erie silt loam, 2 to 8 percent slopes	20.1	17.6%
77A	Chippewa silt loam, 0 to 3 percent slopes	2.4	2.1%
171D	Lordstown channery silt loam, 15 to 25 percent slopes, very stony	0.5	0.4%
179B	Lordstown-Arnot complex, 3 to 8 percent slopes	43.6	38.2%
179C	Lordstown channery silt loam, 8 to 15 percent slopes	8.0	7.0%
Totals for Area of Interest		**114.2**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the

scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Cortland County, New York

53D—Valois-Howard complex, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2rwcw
Elevation: 160 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Valois and similar soils: 50 percent
Howard and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valois

Setting

Landform: Lateral moraines, end moraines, valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Loamy till derived mainly from sandstone, siltstone, and shale

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 4 inches: gravelly silt loam
BA - 4 to 7 inches: gravelly silt loam
Bw1 - 7 to 18 inches: gravelly silt loam
Bw2 - 18 to 33 inches: gravelly loam
C - 33 to 60 inches: very gravelly loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.60 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

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

Description of Howard

Setting

Landform: Valley trains, terraces
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Riser, tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone

Typical profile

Ap - 0 to 9 inches: gravelly loam
E/B - 9 to 24 inches: very gravelly loam
Bt - 24 to 45 inches: very gravelly loam
C - 45 to 72 inches: stratified extremely gravelly sand

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

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

Minor Components

Bath

Percent of map unit: 5 percent
Landform: Till plains, drumlinoid ridges, hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Hydric soil rating: No

Chenango

Percent of map unit: 5 percent
Landform: Valley trains, terraces
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

63B—Mardin channery silt loam, 3 to 8 percent slopes, slightly acid

Map Unit Setting

National map unit symbol: 2rwc1
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Mardin, slightly acid, and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mardin, Slightly Acid

Setting

Landform: Till plains
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Loamy basal till

Typical profile

Ap - 0 to 9 inches: channery silt loam
AB - 9 to 14 inches: channery silt loam
Bw - 14 to 21 inches: channery silt loam
Bx - 21 to 36 inches: channery silt loam
BC - 36 to 57 inches: channery silt loam
C - 57 to 79 inches: channery silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 14 to 26 inches to fragipan
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 14 to 22 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Lansing

Percent of map unit: 5 percent
Landform: Drumlinoid ridges, hills, till plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Hydric soil rating: No

Erie

Percent of map unit: 5 percent
Landform: Drumlinoid ridges, hills, till plains
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Lordstown

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, concave
Across-slope shape: Linear
Hydric soil rating: No

63C—Mardin channery silt loam, 8 to 15 percent slopes, slightly acid

Map Unit Setting

National map unit symbol: 2rwc2
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Mardin, slightly acid, and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mardin, Slightly Acid

Setting

Landform: Till plains
Landform position (two-dimensional): Summit, backslope

Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Loamy basal till

Typical profile

Ap - 0 to 9 inches: channery silt loam
AB - 9 to 14 inches: channery silt loam
Bw - 14 to 21 inches: channery silt loam
Bx - 21 to 36 inches: channery silt loam
BC - 36 to 57 inches: channery silt loam
C - 57 to 79 inches: channery silt loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 14 to 26 inches to fragipan
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 14 to 22 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Lansing

Percent of map unit: 5 percent
Landform: Drumlinoid ridges, hills, till plains
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Hydric soil rating: No

Erie

Percent of map unit: 5 percent
Landform: Till plains, drumlinoid ridges, hills
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Lordstown

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, concave

Across-slope shape: Linear
Hydric soil rating: No

69B—Erie silt loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wn3g
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Erie

Setting

Landform: Hills
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope, interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap - 0 to 9 inches: silt loam
E - 9 to 13 inches: channery silt loam
Bg - 13 to 15 inches: channery silt loam
Bx - 15 to 38 inches: channery silt loam
C - 38 to 72 inches: channery loam

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: 10 to 21 inches to fragipan
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 7 to 14 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Langford
Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Chippewa
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Fremont
Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope, interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

77A—Chippewa silt loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2v32k
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Chippewa and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chippewa

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy till dominated by siltstone, sandstone, and shale fragments

Typical profile

Ap - 0 to 7 inches: silt loam
Eg - 7 to 15 inches: channery silt loam
Bxg - 15 to 45 inches: channery silt loam
C - 45 to 72 inches: channery silt loam

Properties and qualities

Slope: 0 to 3 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: 8 to 20 inches to fragipan
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: Mineral Wetlands (F140XY016NY)
Hydric soil rating: Yes

Minor Components

Chippewa, very poorly drained

Percent of map unit: 10 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Volusia

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope, interfluve, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

171D—Lordstown channery silt loam, 15 to 25 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2wzm6
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Lordstown, Very Stony

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till derived from sandstone and siltstone

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 5 inches: channery highly organic silt loam
Bw1 - 5 to 17 inches: channery silt loam
Bw2 - 17 to 24 inches: very channery silt loam
C - 24 to 30 inches: extremely channery silt loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Cadosia, very stony
Percent of map unit: 10 percent
Landform: Ridges
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Arnot, very stony
Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Mountaintop, mountainflank, crest, nose slope, interfluve
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Bath, very stony
Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Hydric soil rating: No

179B—Lordstown-Arnot complex, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2ywl9
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Lordstown and similar soils: 55 percent
Arnot and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lordstown

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Mountaintop, interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived from sandstone and siltstone

Typical profile

Ap - 0 to 9 inches: channery silt loam
Bw1 - 9 to 17 inches: channery silt loam
Bw2 - 17 to 24 inches: very channery silt loam
C - 24 to 30 inches: extremely channery silt loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Arnot

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Mountaintop, interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived mainly from acid sandstone, siltstone, and shale

Typical profile

Ap - 0 to 7 inches: channery silt loam
Bw1 - 7 to 12 inches: very channery silt loam
Bw2 - 12 to 17 inches: very channery silt loam
2R - 17 to 27 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Tuller

Percent of map unit: 5 percent
Landform: Benches, hills, ridges
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Mardin

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

179C—Lordstown channery silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wzl1
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lordstown and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lordstown

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Mountaintop, crest, nose slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy till derived from sandstone and siltstone

Typical profile

Ap - 0 to 9 inches: channery silt loam
Bw1 - 9 to 17 inches: channery silt loam
Bw2 - 17 to 24 inches: very channery silt loam
C - 24 to 30 inches: extremely channery silt loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Mardin

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Arnot

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Mountaintop, interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

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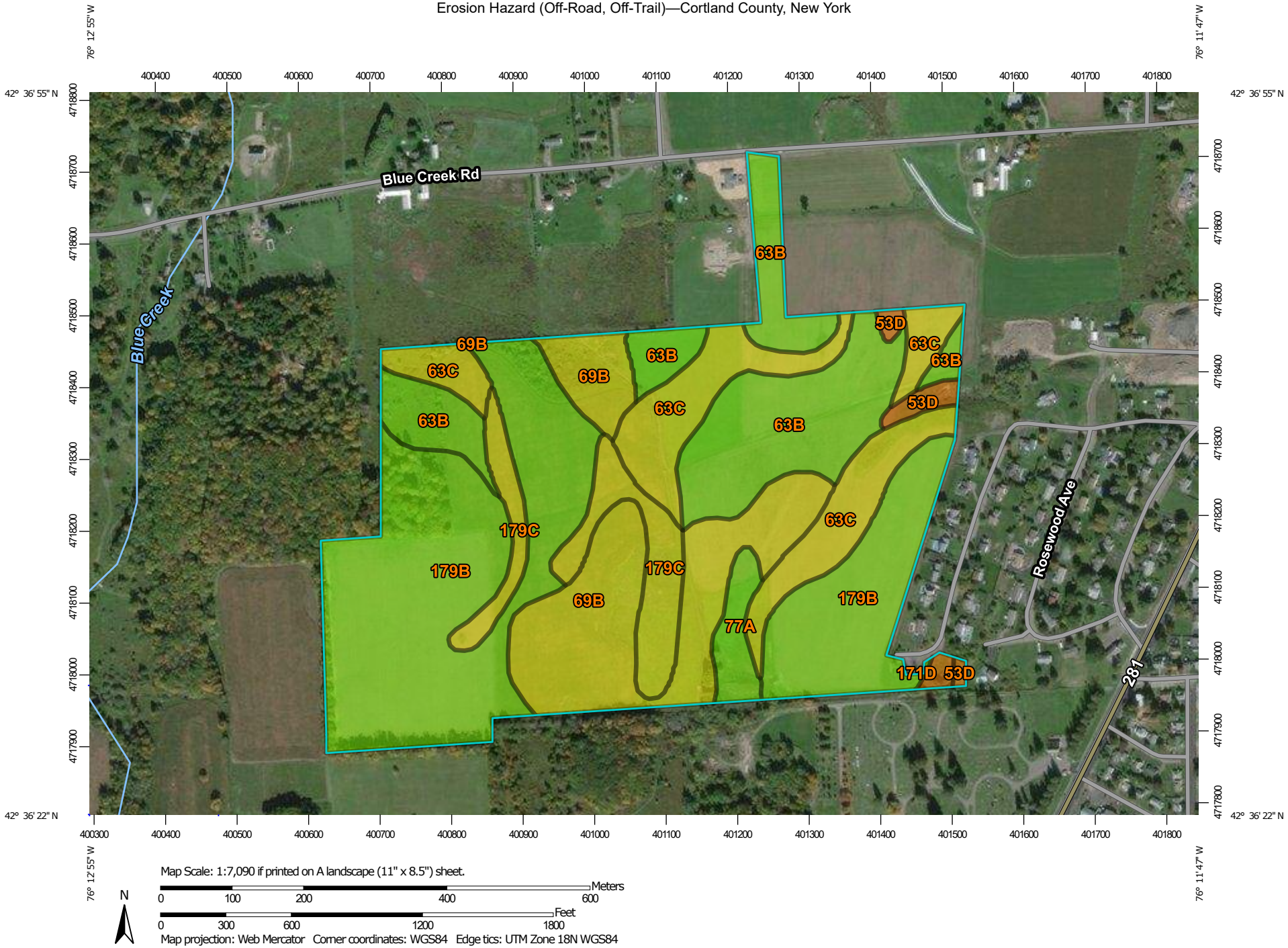

76° 12' 55" W
76° 11' 47" W
42° 36' 55" N
42° 36' 22" N
400400
400500
400600
400700
400800
400900
401000
401100
401200
401300
401400
401500
401600
401700
401800
400300
4718800
4718700
4718600
4718500
4718400
4718300
4718200
4718100
4718000
4717900
4717800
Blue Creek Rd
Blue Creek
Rosewood Ave
281
63B
53D
69B
63C
179C
179B
77A
171D
Map Scale: 1:7,090 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
300
600
1200
1800
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very severe
- Severe
- Moderate
- Slight
- Not rated or not available

Soil Rating Lines
- Very severe
- Severe
- Moderate
- Slight
- Not rated or not available

Soil Rating Points
- Very severe
- Severe
- Moderate
- Slight
- 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.

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

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

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

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

Soil Survey Area: Cortland County, New York
Survey Area Data: Version 19, Jun 11, 2020

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

Date(s) aerial images were photographed: Jun 18, 2011—Oct 10, 2016

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.

Erosion Hazard (Off-Road, Off-Trail)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
53D	Valois-Howard complex, 15 to 25 percent slopes	Severe	Valois (50%)	Surface kw times slope times R index (0.90)	1.3	1.2%
			Chenango (5%)	Surface kw times slope times R index (0.85)		
63B	Mardin channery silt loam, 3 to 8 percent slopes, slightly acid	Slight	Mardin, slightly acid (88%)		21.2	19.1%
			Lordstown (2%)			
63C	Mardin channery silt loam, 8 to 15 percent slopes, slightly acid	Moderate	Mardin, slightly acid (88%)	Surface kw times slope times R index (0.36)	15.8	14.2%
			Erie (5%)	Surface kw times slope times R index (0.14)		
69B	Erie silt loam, 2 to 8 percent slopes	Moderate	Erie (80%)	Surface kw times slope times R index (0.27)	19.6	17.6%
			Langford (10%)	Surface kw times slope times R index (0.67)		
			Fremont (5%)	Surface kw times slope times R index (0.14)		
77A	Chippewa silt loam, 0 to 3 percent slopes	Slight	Chippewa (85%)		2.4	2.2%
			Chippewa, very poorly drained (10%)			
171D	Lordstown channery silt loam, 15 to 25 percent slopes, very stony	Severe	Lordstown, very stony (80%)	Surface kw times slope times R index (0.76)	0.4	0.4%
			Cadosia, very stony (10%)	Surface kw times slope times R index (0.88)		
179B	Lordstown-Arnot complex, 3 to 8 percent slopes	Slight	Lordstown (55%)		42.3	38.1%
			Arnot (35%)			
179C	Lordstown channery silt loam, 8 to 15 percent slopes	Moderate	Lordstown (90%)	Surface kw times slope times R index (0.36)	8.0	7.2%
Totals for Area of Interest					**111.1**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Slight	66.0	59.4%
Moderate	43.3	39.0%
Severe	1.8	1.6%
Totals for Area of Interest	**111.1**	**100.0%**

Description

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope, soil erosion factor K, and an index of rainfall erosivity (R). The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX E

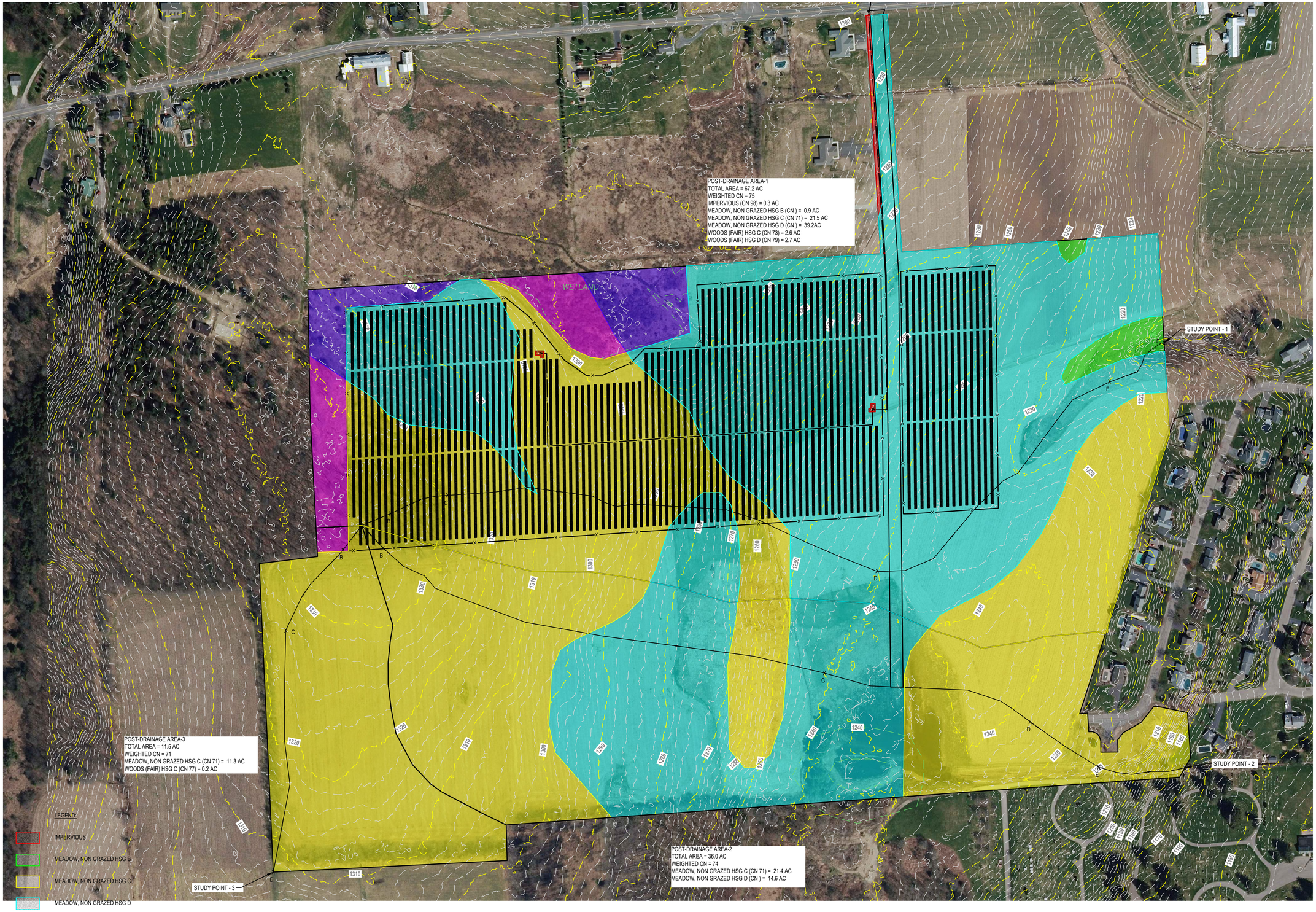
HYDROLOGY AND HYDRAULICS

E.1 GREEN INFRASTRUCTURE WORKSHEET

E.2 EXISTING CONDITIONS HYDROLOGY

E.3 PROPOSED CONDITIONS HYDROLOGY

E.4 WATER QUALITY (WQv) & RUNOFF REDUCTION (RRv) CALCULATIONS



1 FIGURE 4 **PROPOSED WATERSHED DRAINAGE PATTERNS**
SCALE: 1" = 150'

NORTH

0' 75' 150' 300'
SCALE: 1"=150'

Key Plan

SCALE: X" = XX'-X"

NOT FOR CONSTRUCTION

No.	Revision	Date

Project Name

SSC CORTLANDVILLE II LLC

CORTLANDVILLE, NEW YORK

DELTA
ENGINEERS, ARCHITECTS, & LAND SURVEYORS

Seal

Phase
30% SUBMISSION

Project No.
2020.260.001

Date
2020.07.02

Drawing Title

PROPOSED WATERSHED DRAINAGE PATTERNS

Drawing No.

FIGURE 4

PRE-DRAINAGE AREA-1
TOTAL AREA = 67.2 AC
WEIGHTED CN = 76
IMPERVIOUS (CN 98) = 0.2 AC
MEADOW, NON GRAZED HSG B (CN 58) = 0.9 AC
MEADOW, NON GRAZED HSG C (CN 71) = 18.6 AC
MEADOW, NON GRAZED HSG D (CN 78) = 37.0 AC
WOODS (FAIR) HSG C (CN 73) = 5.5 AC
WOODS (FAIR) HSG D (CN 79) = 5.0 AC

PRE-DRAINAGE AREA-2
TOTAL AREA = 36.0 AC
WEIGHTED CN = 74
MEADOW, NON GRAZED HSG C (CN 71) = 21.2 AC
MEADOW, NON GRAZED HSG D (CN 78) = 14.6 AC
WOODS (FAIR) HSG C (CN 73) = 0.2 AC

PRE-DRAINAGE AREA-3
TOTAL AREA = 11.5 AC
WEIGHTED CN = 71
MEADOW, NON GRAZED HSG C (CN 71) = 11.2 AC
WOODS (FAIR) HSG C (CN 73) = 0.3 AC

STUDY POINT - 1
STUDY POINT - 2
STUDY POINT - 3

LEGEND:
- IMPERVIOUS
- MEADOW, NON GRAZED HSG B
- MEADOW, NON GRAZED HSG C
- MEADOW, NON GRAZED HSG D
- WOODS (FAIR) HSG C
- WOODS (FAIR) HSG D

1 FIGURE 3 **EXISTING WATERSHED DRAINAGE PATTERNS**
SCALE: 1" = 150'

NORTH

0' 75' 150' 300'
SCALE: 1"=150'

Key Plan

SCALE: X" = XX'-X"

NOT FOR CONSTRUCTION

No.	Revision	Date

Project Name

SSC CORTLANDVILLE II LLC

CORTLANDVILLE, NEW YORK

DELTA ENGINEERS, ARCHITECTS, & LAND SURVEYORS

Seal

Phase: 30% SUBMISSION

Project No.: 2020.260.001

Date: 2020.07.02

Drawing Title

EXISTING WATERSHED DRAINAGE PATTERNS

Drawing No.

FIGURE 3

DELTA
ENGINEERS, ARCHITECTS, & LAND SURVEYORS
860 Hooper Road, Endwell, NY 13760
Phone: (607) 231-6600
Fax: (607) 231-6650

Cortlandville Solar - II & III
TOC Paths
JMP - 7/8/2020

DA-1

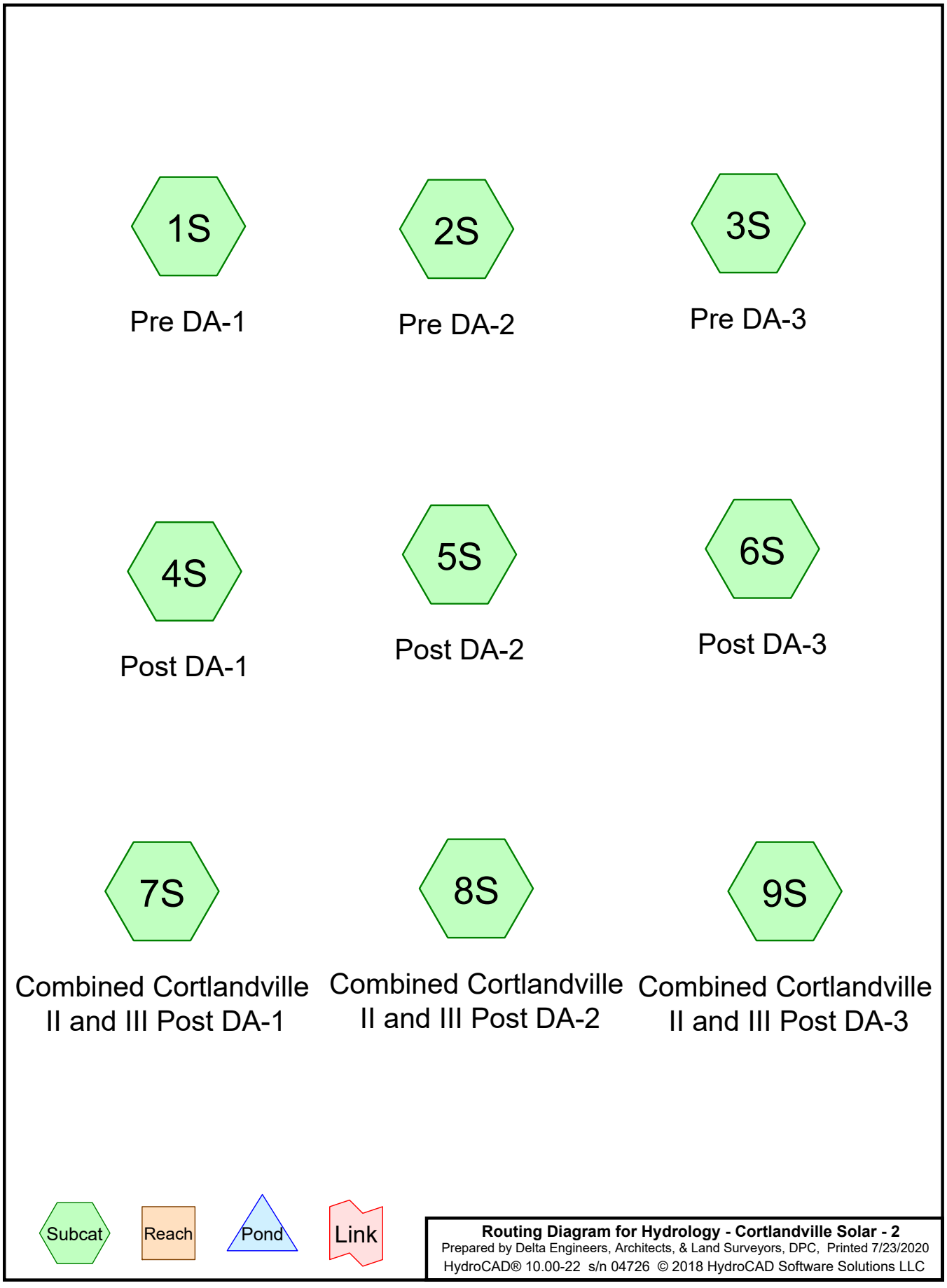
	Description	Cover	Length	Elev.	Slope
A-B	Sheet	Brush	100	1336-1305	0.01
B-C	Shallow	meadow	196	1335-1329 =	0.0306
C-D	Shallow	meadow	1,439	1329-1240 =	0.0618
D-E	Shallow	meadow	1,006	1240-1220 =	0.0199
E-F	Shallow	meadow	229	1220-1200 =	0.0873

DA-2

A-B	Sheet	Brush	100	1336-1335 =	0.01
B-C	Shallow	Meadow	1,506	1335-1240 =	0.0631
C-D	Shallow	meadow	696	1240-1238 =	0.0029
D-E	Shallow	meadow	336	1238-1220 =	0.0536
E-F	Shallow	meadow	282	1220-1182 =	0.1348

DA-3

A-B	Sheet	Brush	100	1336-1334 =	0.02
B-C	Shallow	meadow	321	1334-1324 =	0.0312
C-D	Shallow	meadow	786	1324-1307 =	0.0216



Routing Diagram for Hydrology - Cortlandville Solar - 2

Prepared by Delta Engineers, Architects, & Land Surveyors, DPC, Printed 7/23/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.700	58	Meadow, non-grazed, HSG B (1S, 4S, 7S)
159.400	71	Meadow, non-grazed, HSG C (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S)
159.100	78	Meadow, non-grazed, HSG D (1S, 2S, 4S, 5S, 7S, 8S)
0.800	98	Paved parking, HSG D (1S, 4S, 7S)
0.100	98	Unconnected pavement, HSG D (8S)
11.600	73	Woods, Fair, HSG C (1S, 2S, 3S, 4S, 6S, 7S, 9S)
10.400	79	Woods, Fair, HSG D (1S, 4S, 7S)
344.100	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.700	HSG B	1S, 4S, 7S
171.000	HSG C	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S
170.400	HSG D	1S, 2S, 4S, 5S, 7S, 8S
0.000	Other	
344.100		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	2.700	159.400	159.100	0.000	321.200	Meadow, non-grazed	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S
0.000	0.000	0.000	0.800	0.000	0.800	Paved parking	1S, 4S, 7S
0.000	0.000	0.000	0.100	0.000	0.100	Unconnected pavement	8S
0.000	0.000	11.600	10.400	0.000	22.000	Woods, Fair	1S, 2S, 3S, 4S, 6S, 7S, 9S
0.000	**2.700**	**171.000**	**170.400**	**0.000**	**344.100**	**TOTAL AREA**	

Time span=5.00-48.00 hrs, dt=0.01 hrs, 4301 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 1S: Pre DA-1 Runoff Area=67.200 ac 0.30% Impervious Runoff Depth=0.40"
Flow Length=2,970' Tc=56.6 min CN=76 Runoff=11.56 cfs 2.231 af

Subcatchment 2S: Pre DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=0.34"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=4.06 cfs 1.008 af

Subcatchment 3S: Pre DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.25"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=1.43 cfs 0.243 af

Subcatchment 4S: Post DA-1 Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=0.37"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=10.21 cfs 2.052 af

Subcatchment 5S: Post DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=0.34"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=4.06 cfs 1.008 af

Subcatchment 6S: Post DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.25"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=1.43 cfs 0.243 af

Subcatchment 7S: Combined Cortlandville Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=0.37"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=10.21 cfs 2.052 af

Subcatchment 8S: Combined Cortlandville Runoff Area=36.000 ac 0.28% Impervious Runoff Depth=0.34"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=4.06 cfs 1.008 af

Subcatchment 9S: Combined Cortlandville Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.25"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=1.43 cfs 0.243 af

Total Runoff Area = 344.100 ac Runoff Volume = 10.088 af Average Runoff Depth = 0.35"
99.74% Pervious = 343.200 ac 0.26% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre DA-1

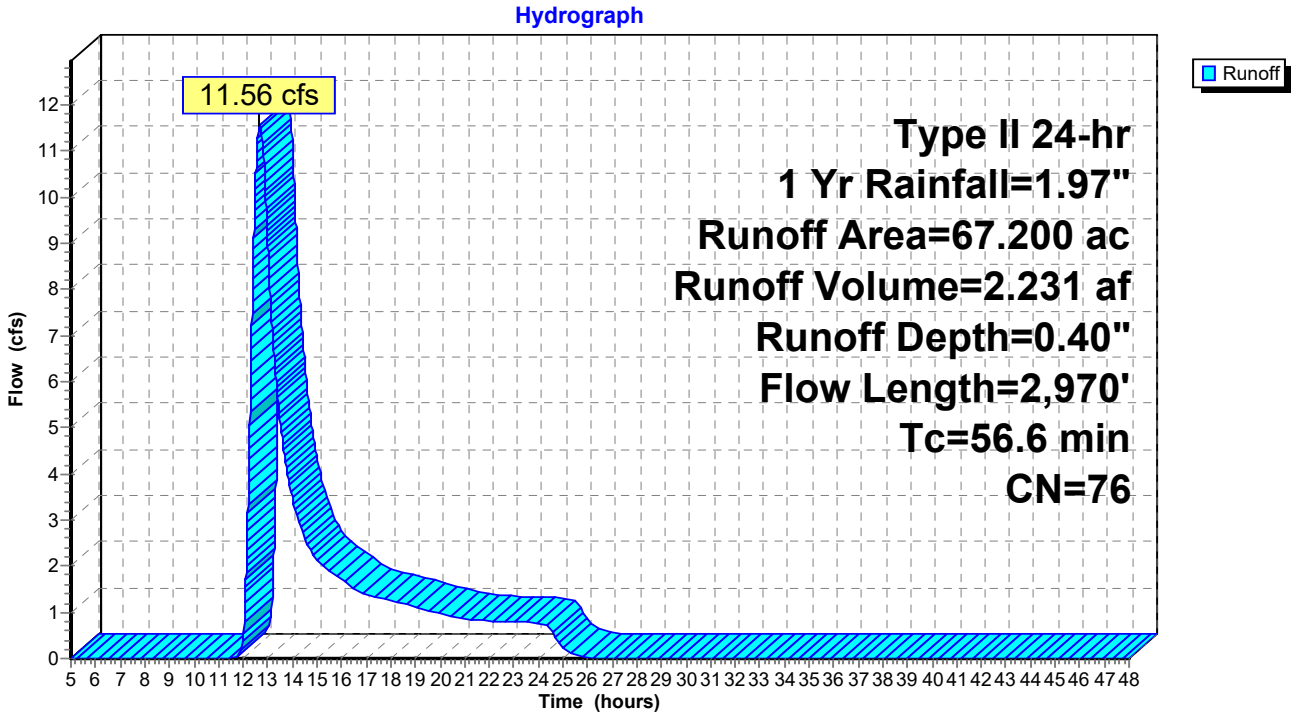
Runoff = 11.56 cfs @ 12.65 hrs, Volume= 2.231 af, Depth= 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
18.600	71	Meadow, non-grazed, HSG C
37.000	78	Meadow, non-grazed, HSG D
5.500	73	Woods, Fair, HSG C
5.000	79	Woods, Fair, HSG D
67.200	76	Weighted Average
67.000		99.70% Pervious Area
0.200		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 1S: Pre DA-1



Summary for Subcatchment 2S: Pre DA-2

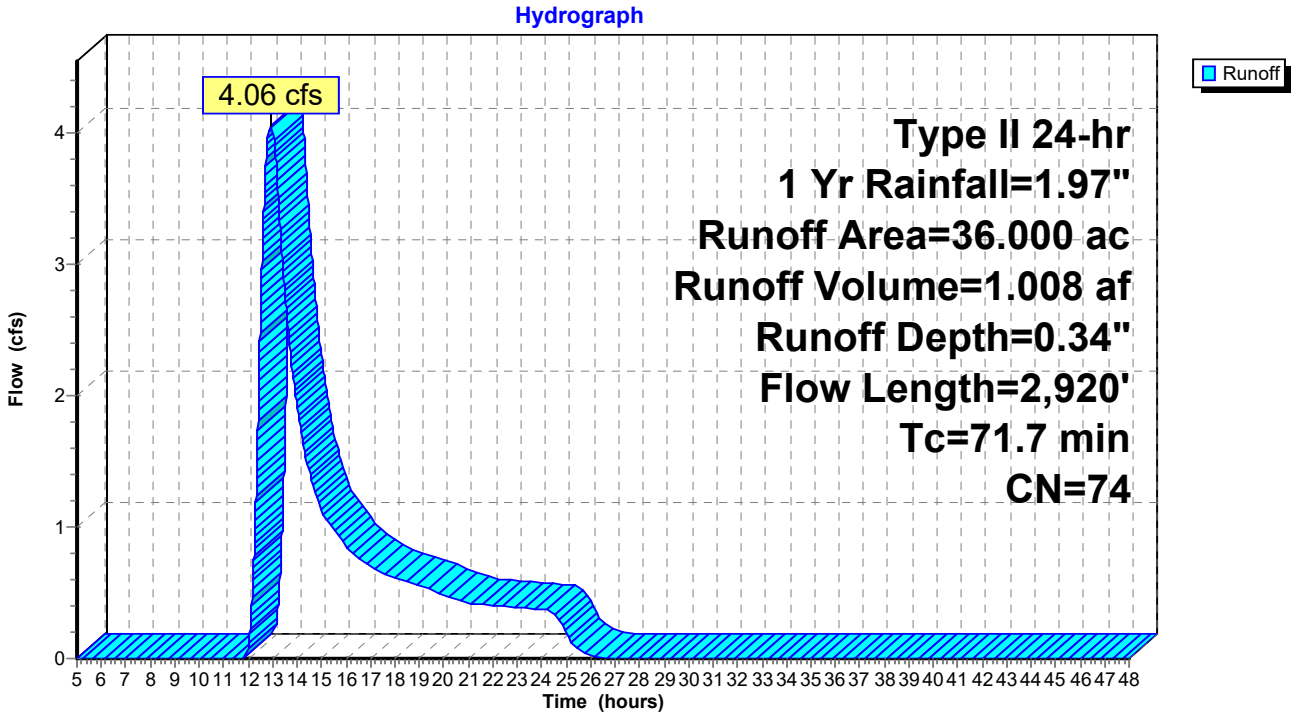
Runoff = 4.06 cfs @ 12.91 hrs, Volume= 1.008 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
21.200	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
0.200	73	Woods, Fair, HSG C
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 2S: Pre DA-2



Summary for Subcatchment 3S: Pre DA-3

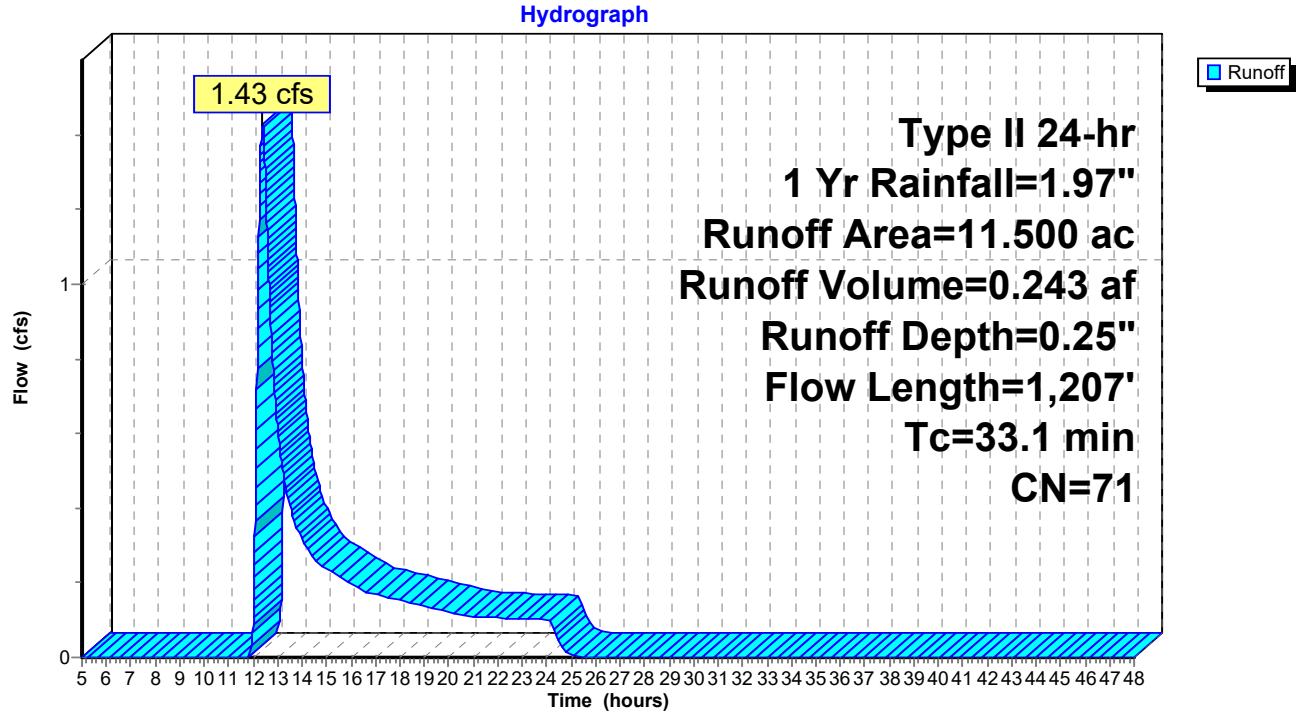
Runoff = 1.43 cfs @ 12.39 hrs, Volume= 0.243 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
11.200	71	Meadow, non-grazed, HSG C
0.300	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 3S: Pre DA-3



Summary for Subcatchment 4S: Post DA-1

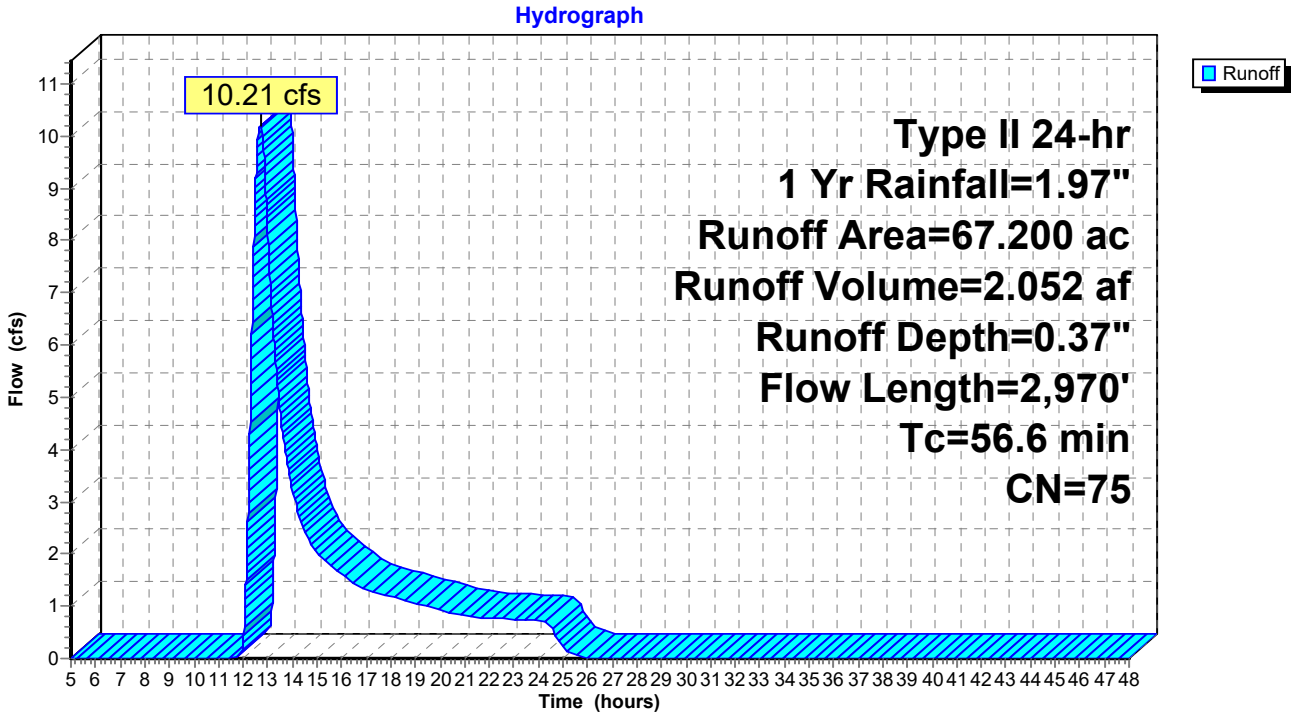
Runoff = 10.21 cfs @ 12.70 hrs, Volume= 2.052 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 4S: Post DA-1



Summary for Subcatchment 5S: Post DA-2

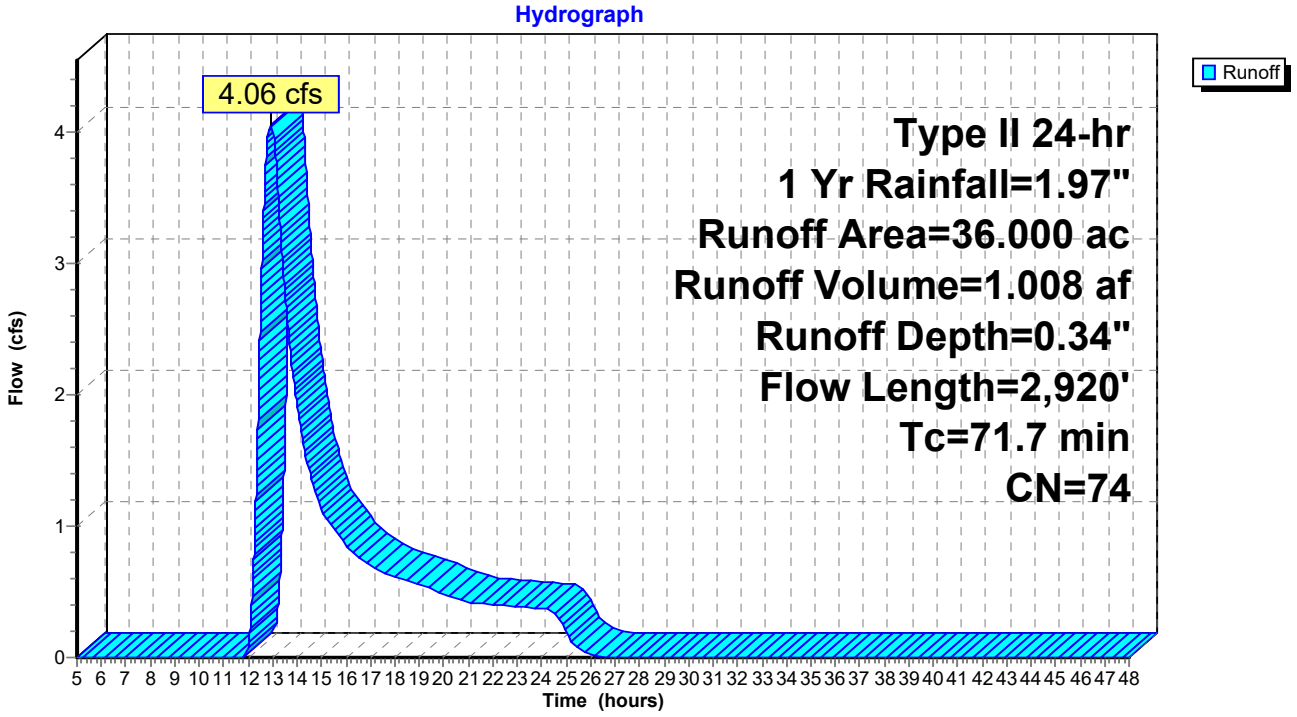
Runoff = 4.06 cfs @ 12.91 hrs, Volume= 1.008 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 5S: Post DA-2



Summary for Subcatchment 6S: Post DA-3

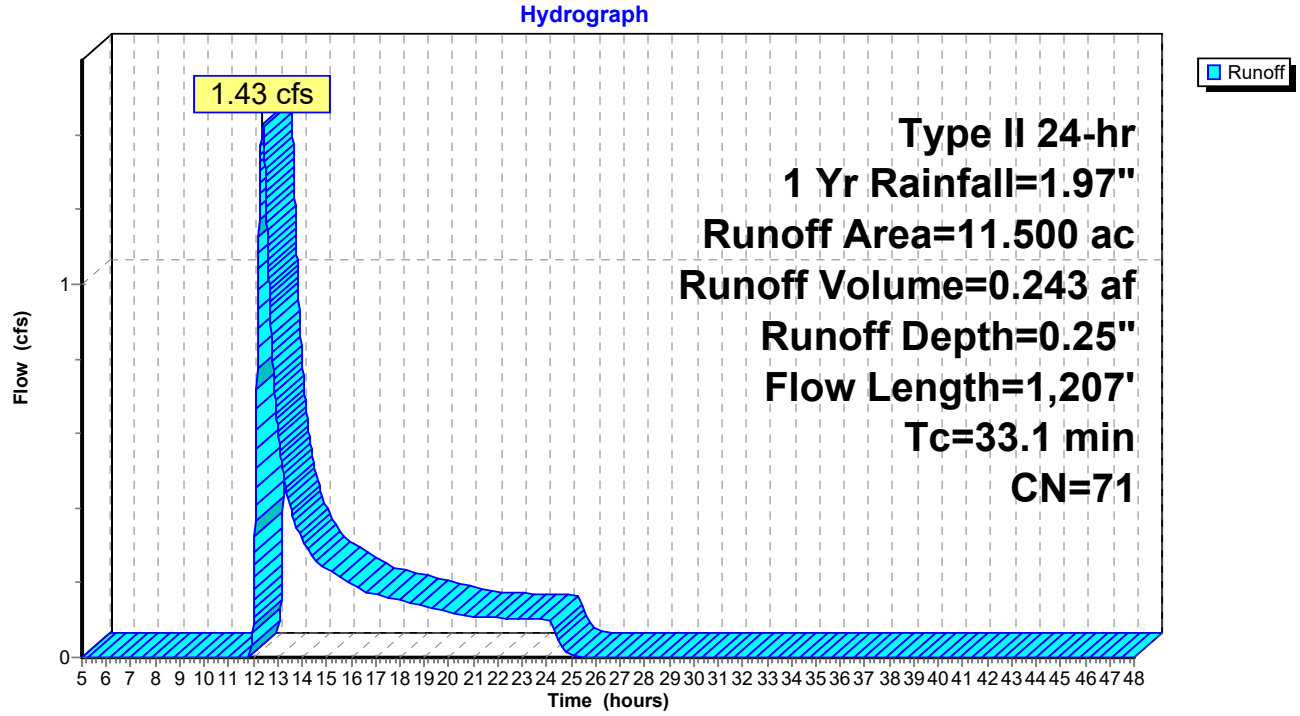
Runoff = 1.43 cfs @ 12.39 hrs, Volume= 0.243 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 6S: Post DA-3



Summary for Subcatchment 7S: Combined Cortlandville II and III Post DA-1

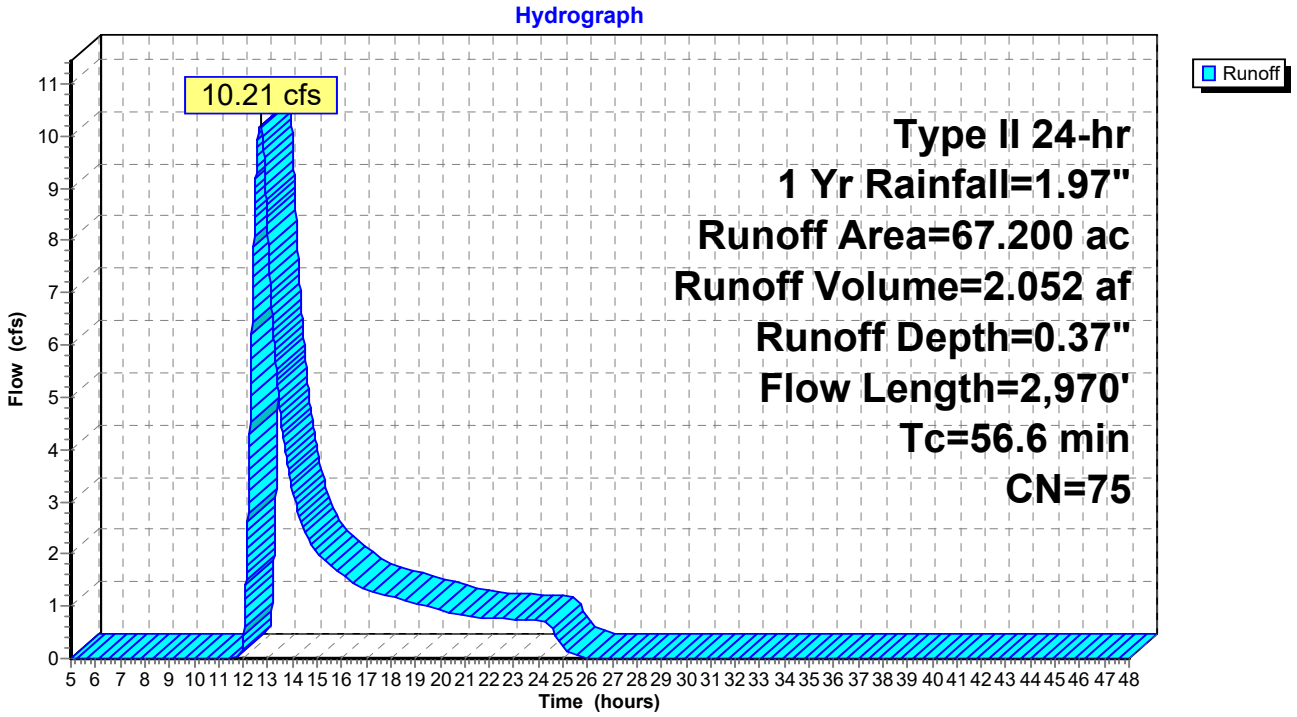
Runoff = 10.21 cfs @ 12.70 hrs, Volume= 2.052 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 7S: Combined Cortlandville II and III Post DA-1



Summary for Subcatchment 8S: Combined Cortlandville II and III Post DA-2

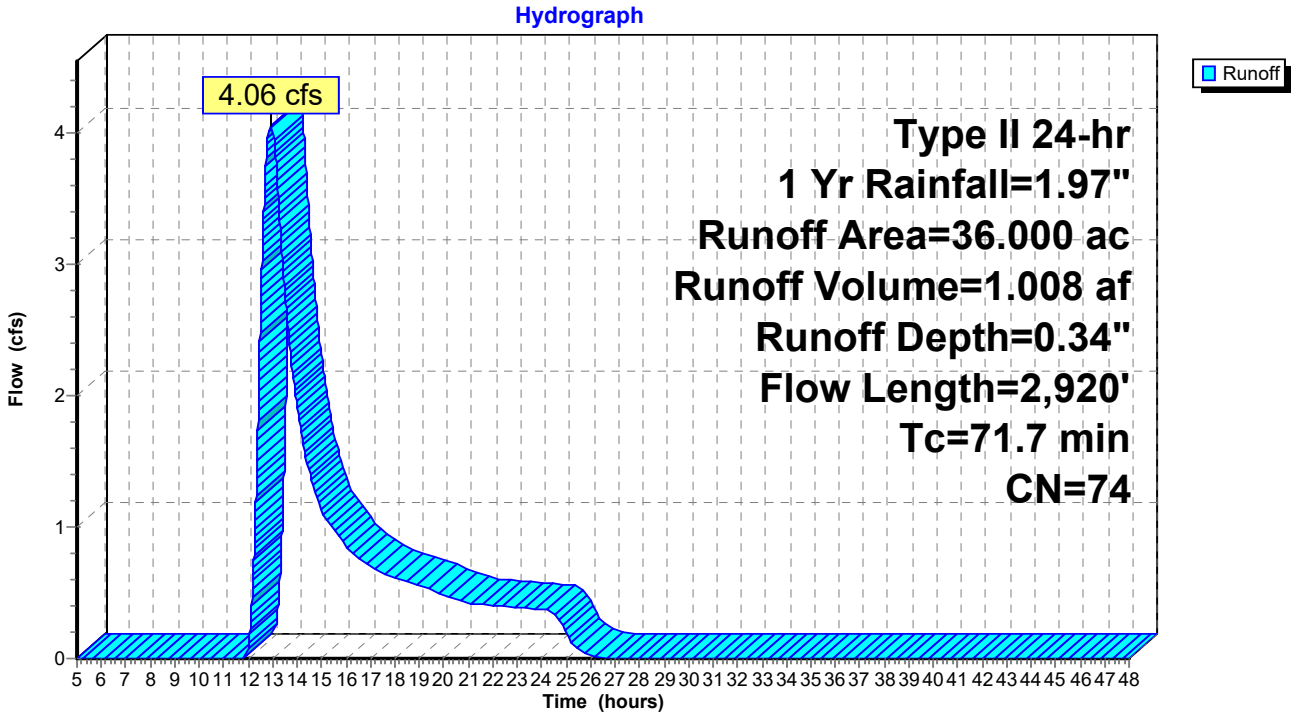
Runoff = 4.06 cfs @ 12.91 hrs, Volume= 1.008 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.500	78	Meadow, non-grazed, HSG D
0.100	98	Unconnected pavement, HSG D
36.000	74	Weighted Average
35.900		99.72% Pervious Area
0.100		0.28% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 8S: Combined Cortlandville II and III Post DA-2



Summary for Subcatchment 9S: Combined Cortlandville II and III Post DA-3

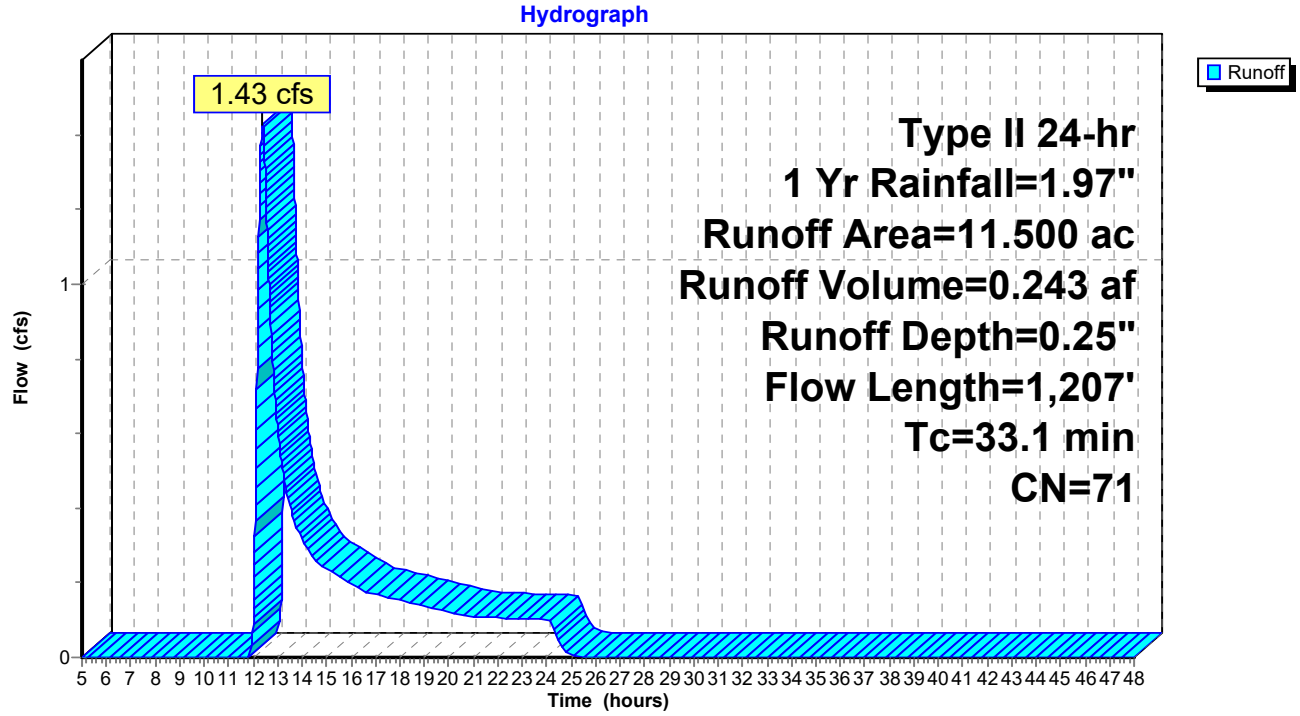
Runoff = 1.43 cfs @ 12.39 hrs, Volume= 0.243 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Yr Rainfall=1.97"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 9S: Combined Cortlandville II and III Post DA-3



Time span=5.00-48.00 hrs, dt=0.01 hrs, 4301 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 1S: Pre DA-1 Runoff Area=67.200 ac 0.30% Impervious Runoff Depth=0.61"
Flow Length=2,970' Tc=56.6 min CN=76 Runoff=19.44 cfs 3.391 af

Subcatchment 2S: Pre DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=0.53"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=7.16 cfs 1.577 af

Subcatchment 3S: Pre DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.42"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=2.87 cfs 0.401 af

Subcatchment 4S: Post DA-1 Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=0.56"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=17.66 cfs 3.163 af

Subcatchment 5S: Post DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=0.53"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=7.16 cfs 1.577 af

Subcatchment 6S: Post DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.42"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=2.87 cfs 0.401 af

Subcatchment 7S: Combined Cortlandville Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=0.56"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=17.66 cfs 3.163 af

Subcatchment 8S: Combined Cortlandville Runoff Area=36.000 ac 0.28% Impervious Runoff Depth=0.53"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=7.16 cfs 1.577 af

Subcatchment 9S: Combined Cortlandville Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.42"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=2.87 cfs 0.401 af

Total Runoff Area = 344.100 ac Runoff Volume = 15.653 af Average Runoff Depth = 0.55"
99.74% Pervious = 343.200 ac 0.26% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre DA-1

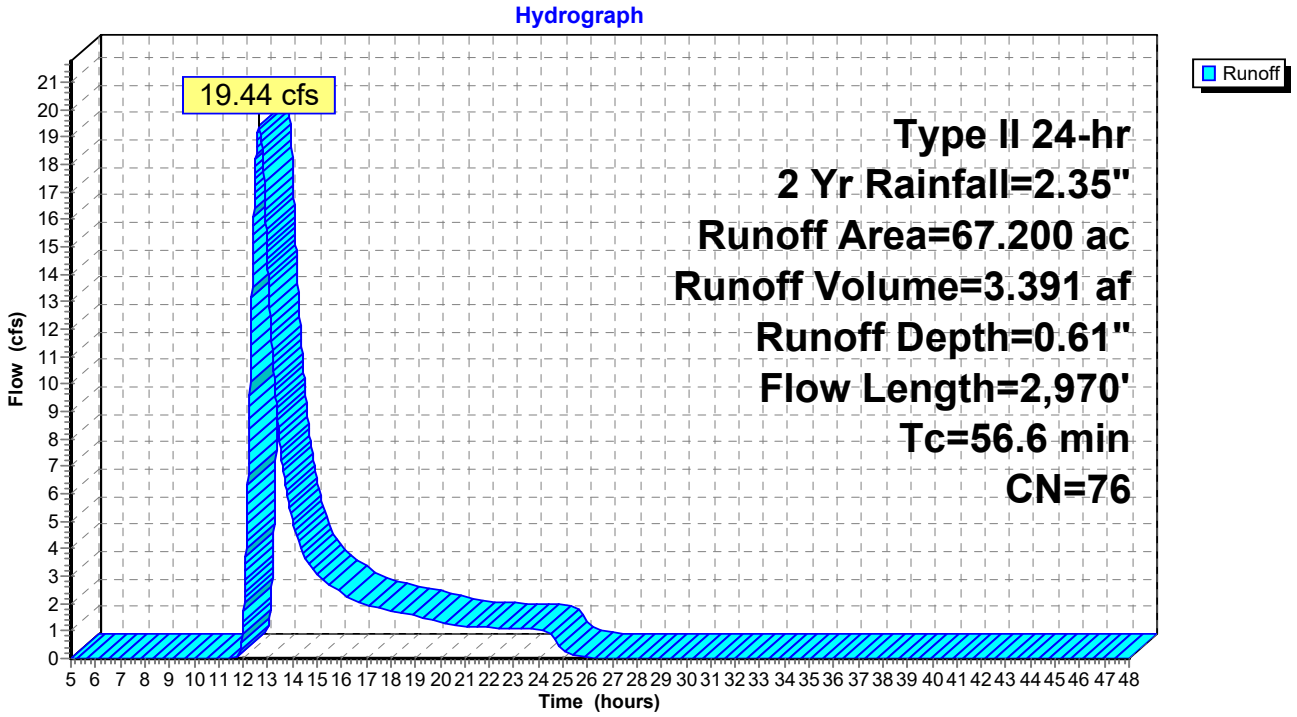
Runoff = 19.44 cfs @ 12.64 hrs, Volume= 3.391 af, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
18.600	71	Meadow, non-grazed, HSG C
37.000	78	Meadow, non-grazed, HSG D
5.500	73	Woods, Fair, HSG C
5.000	79	Woods, Fair, HSG D
67.200	76	Weighted Average
67.000		99.70% Pervious Area
0.200		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 1S: Pre DA-1



Summary for Subcatchment 2S: Pre DA-2

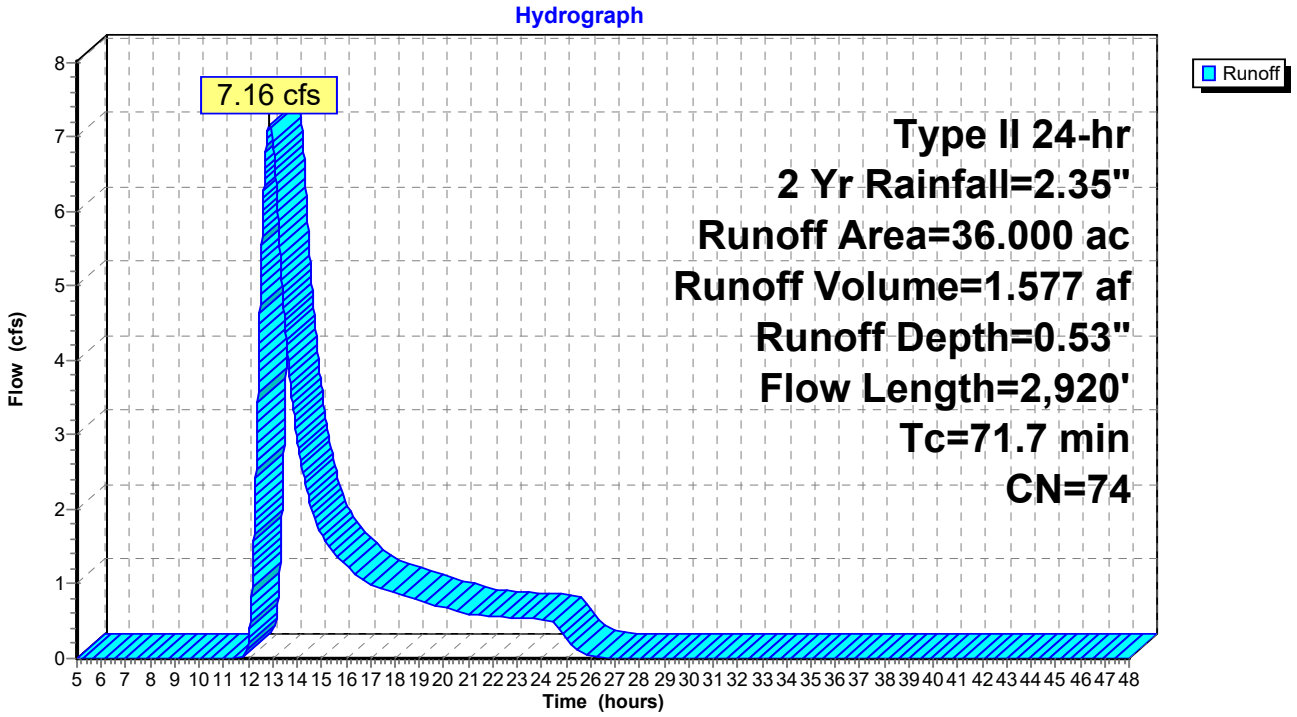
Runoff = 7.16 cfs @ 12.83 hrs, Volume= 1.577 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
21.200	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
0.200	73	Woods, Fair, HSG C
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 2S: Pre DA-2



Summary for Subcatchment 3S: Pre DA-3

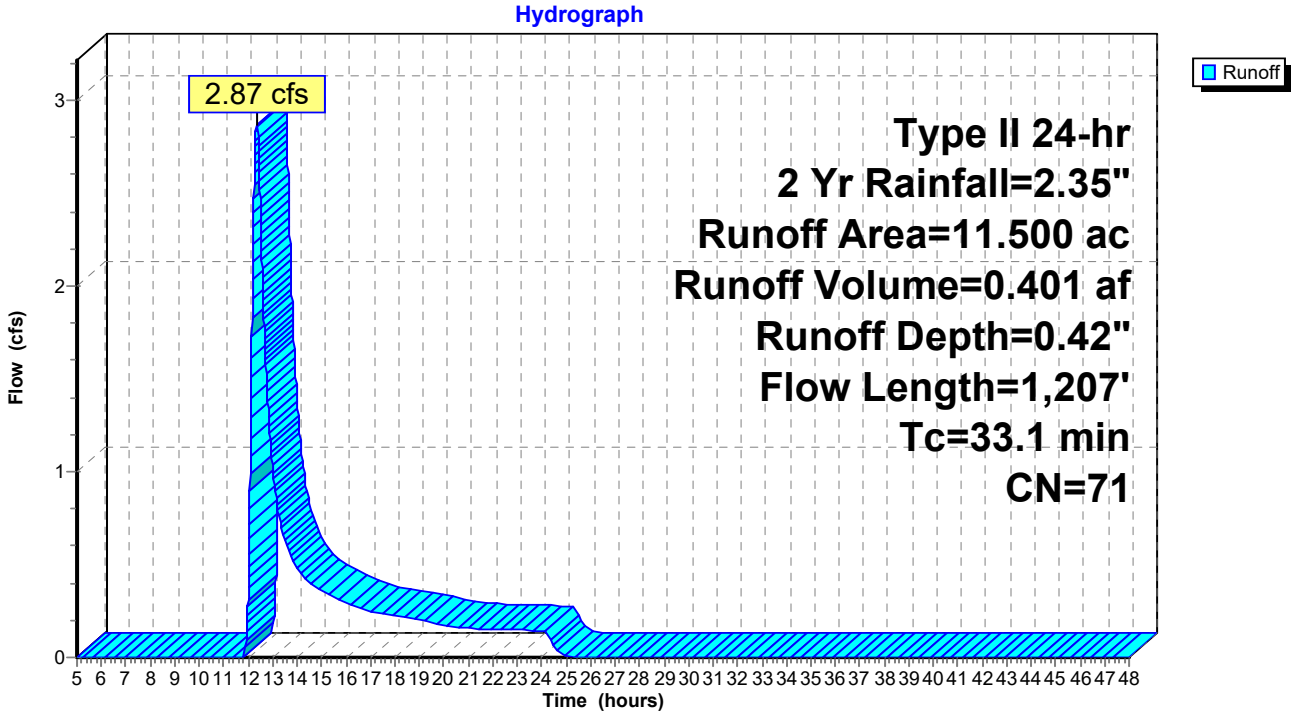
Runoff = 2.87 cfs @ 12.33 hrs, Volume= 0.401 af, Depth= 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
11.200	71	Meadow, non-grazed, HSG C
0.300	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 3S: Pre DA-3



Summary for Subcatchment 4S: Post DA-1

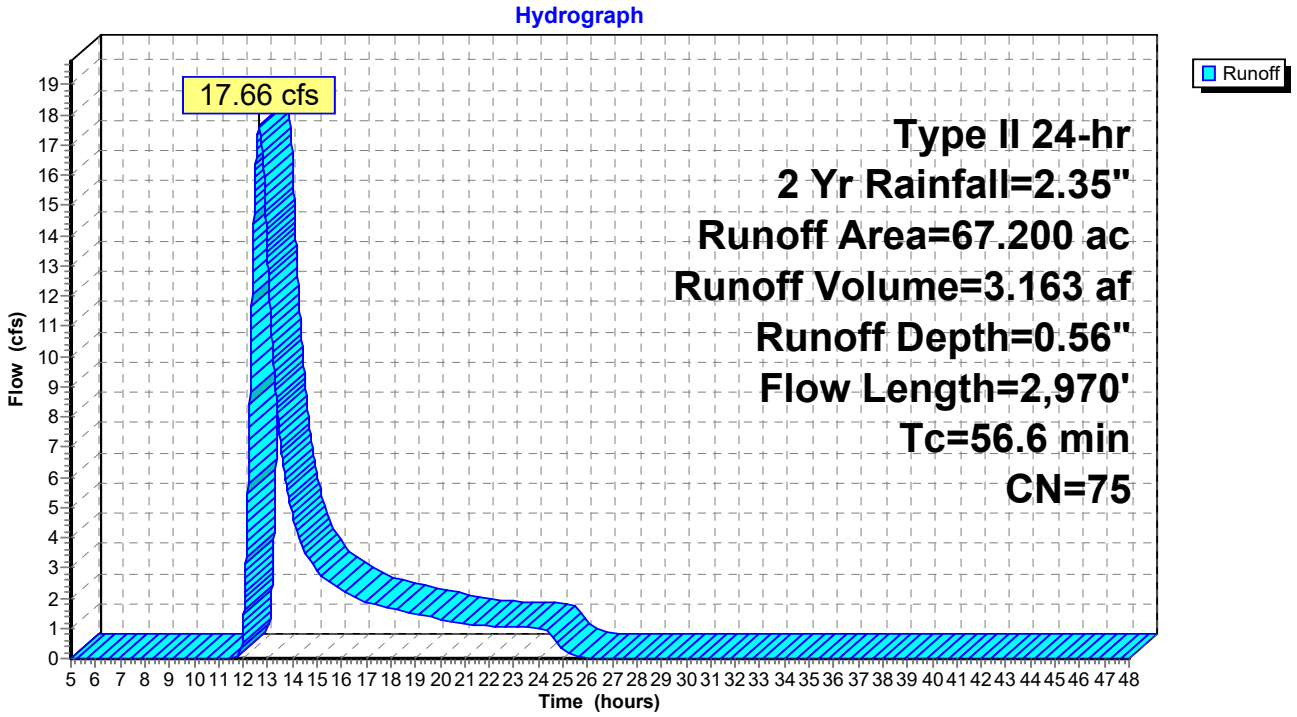
Runoff = 17.66 cfs @ 12.64 hrs, Volume= 3.163 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 4S: Post DA-1



Summary for Subcatchment 5S: Post DA-2

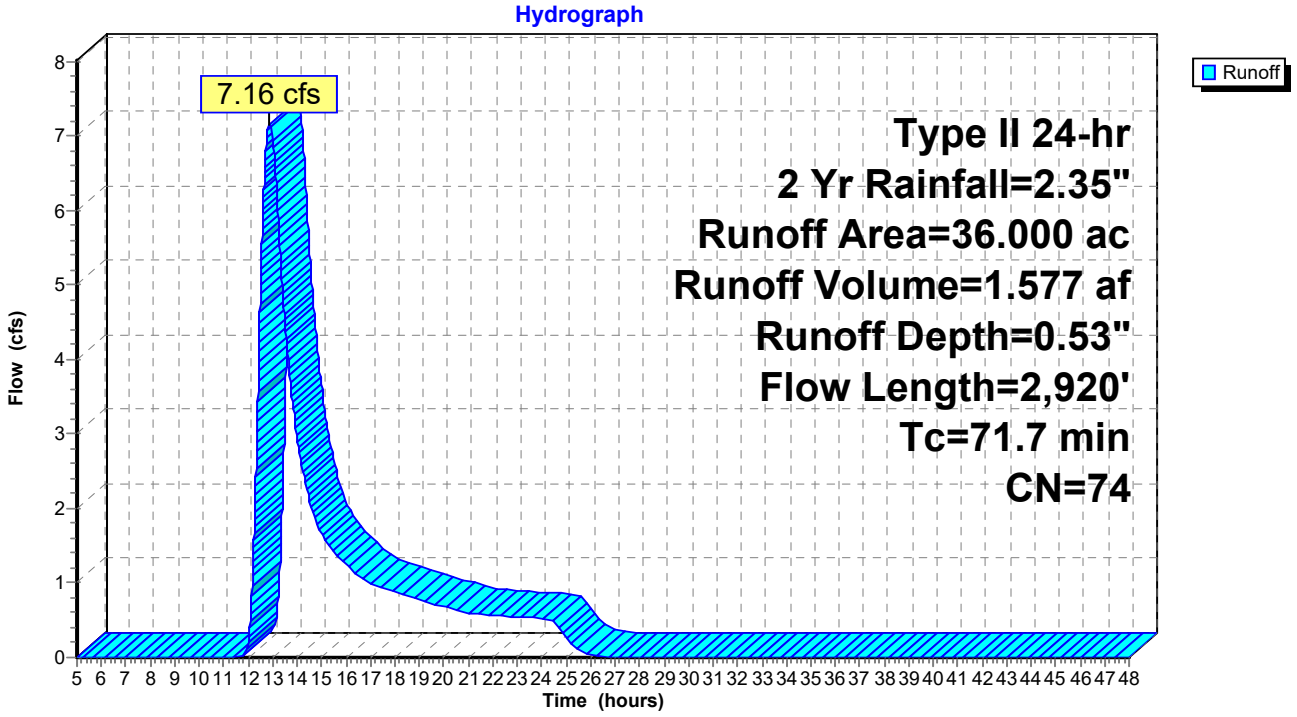
Runoff = 7.16 cfs @ 12.83 hrs, Volume= 1.577 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 5S: Post DA-2



Summary for Subcatchment 6S: Post DA-3

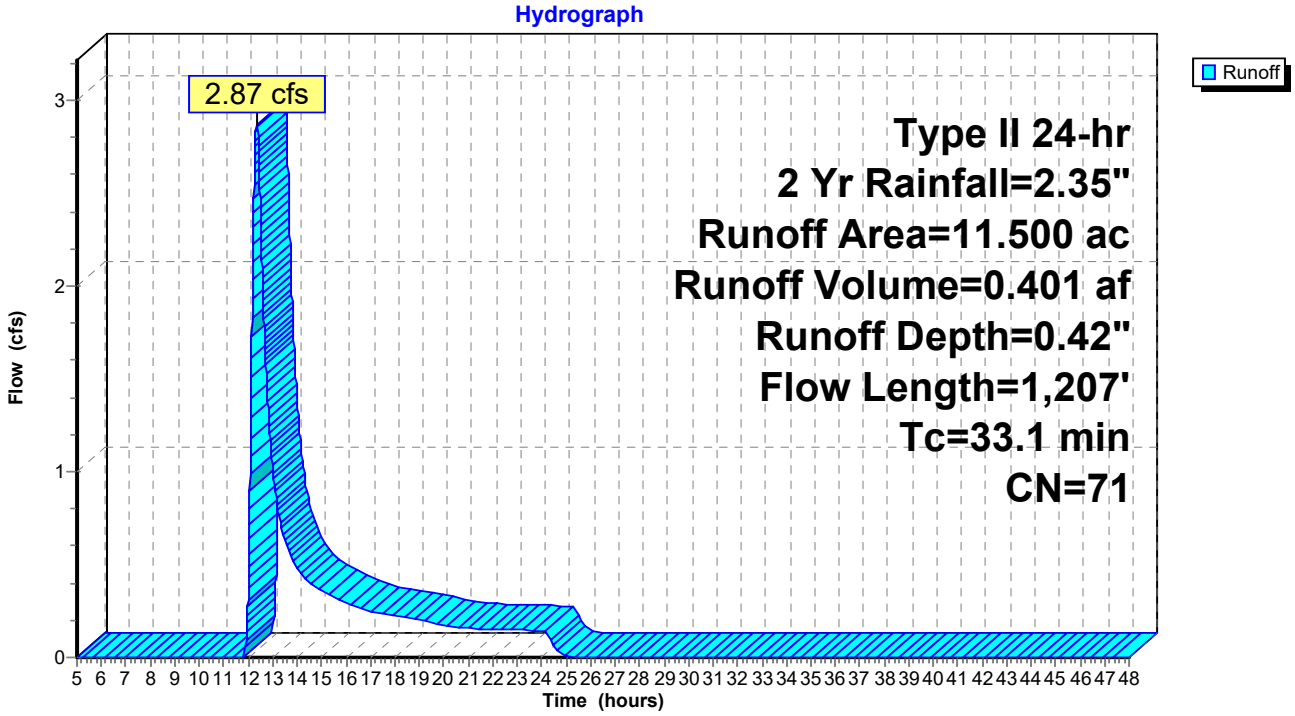
Runoff = 2.87 cfs @ 12.33 hrs, Volume= 0.401 af, Depth= 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 6S: Post DA-3



Summary for Subcatchment 7S: Combined Cortlandville II and III Post DA-1

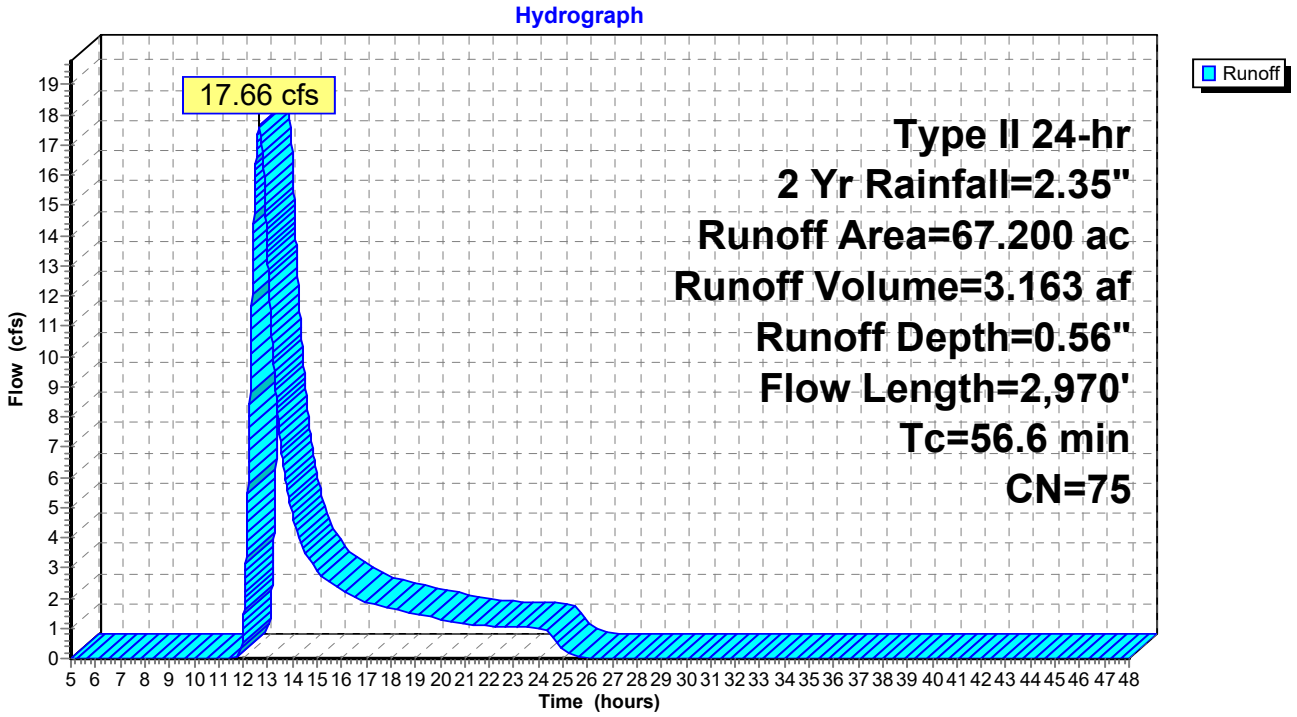
Runoff = 17.66 cfs @ 12.64 hrs, Volume= 3.163 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 7S: Combined Cortlandville II and III Post DA-1



Summary for Subcatchment 8S: Combined Cortlandville II and III Post DA-2

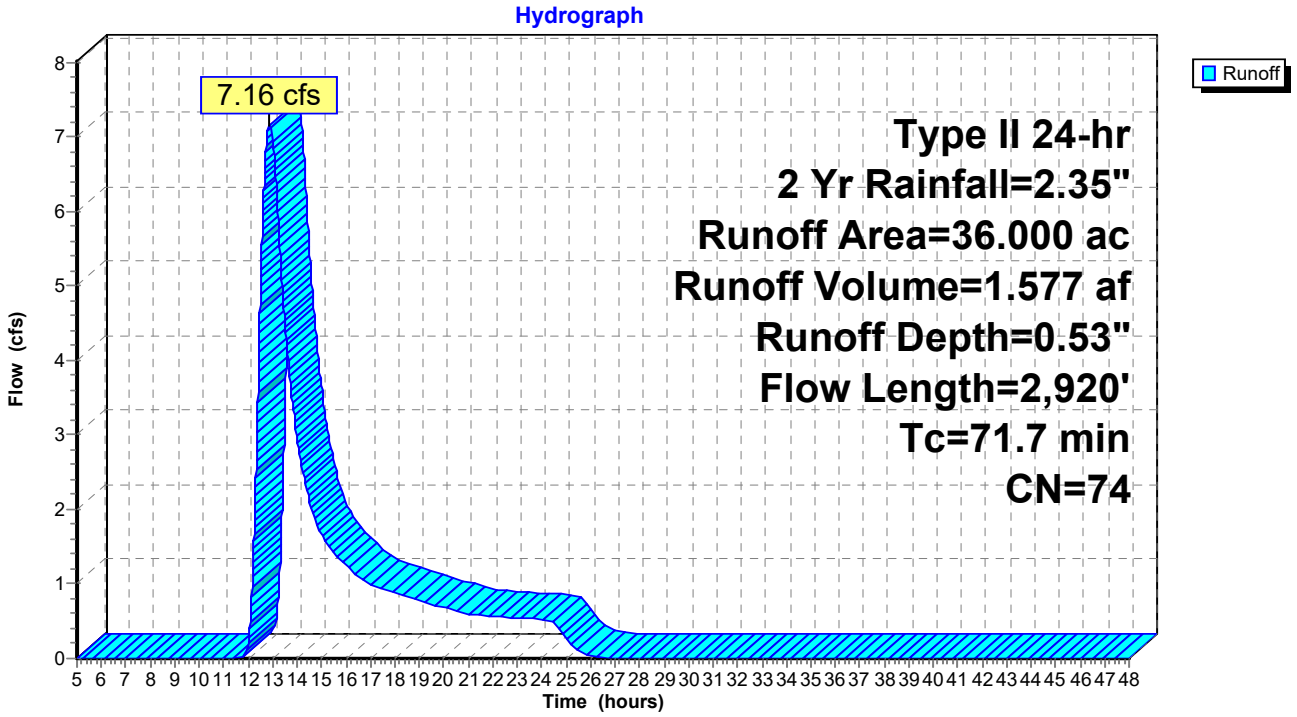
Runoff = 7.16 cfs @ 12.83 hrs, Volume= 1.577 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.500	78	Meadow, non-grazed, HSG D
0.100	98	Unconnected pavement, HSG D
36.000	74	Weighted Average
35.900		99.72% Pervious Area
0.100		0.28% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 8S: Combined Cortlandville II and III Post DA-2



Summary for Subcatchment 9S: Combined Cortlandville II and III Post DA-3

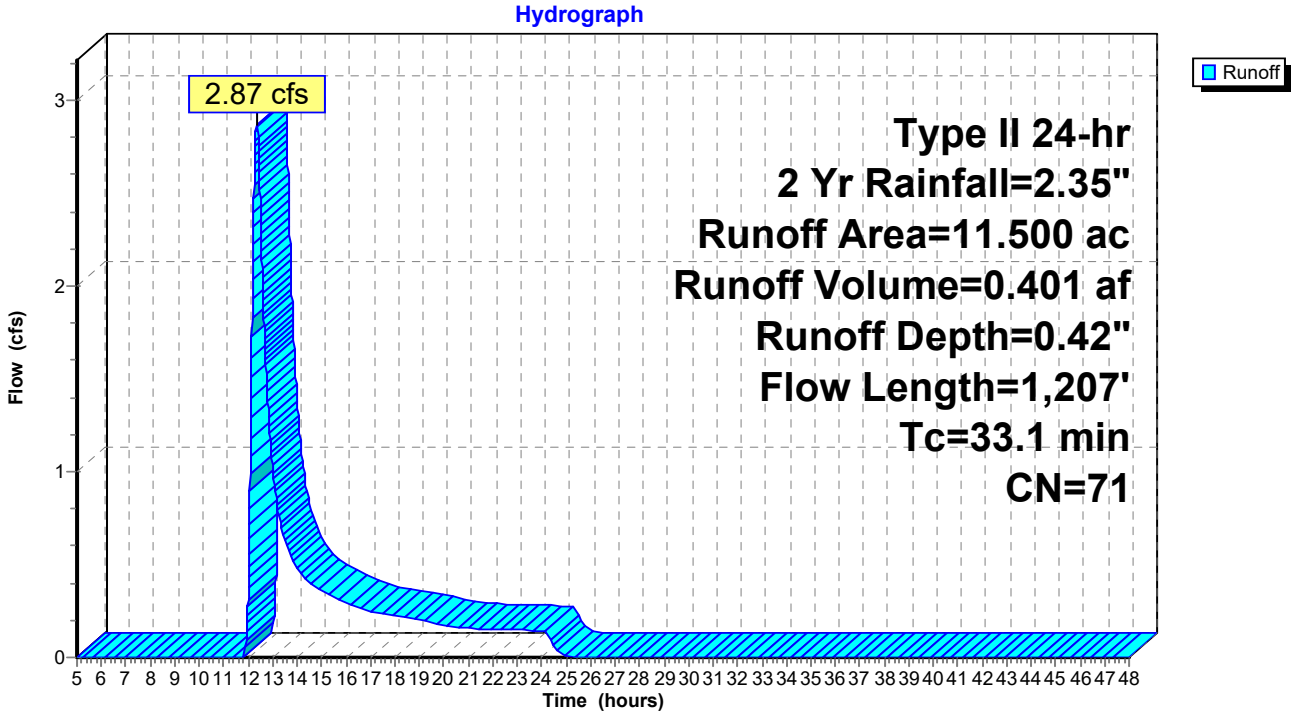
Runoff = 2.87 cfs @ 12.33 hrs, Volume= 0.401 af, Depth= 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 Yr Rainfall=2.35"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 9S: Combined Cortlandville II and III Post DA-3



Time span=5.00-48.00 hrs, dt=0.01 hrs, 4301 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 1S: Pre DA-1 Runoff Area=67.200 ac 0.30% Impervious Runoff Depth=0.94"
Flow Length=2,970' Tc=56.6 min CN=76 Runoff=32.21 cfs 5.237 af

Subcatchment 2S: Pre DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=12.46 cfs 2.499 af

Subcatchment 3S: Pre DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.69"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=5.49 cfs 0.664 af

Subcatchment 4S: Post DA-1 Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=0.88"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=29.97 cfs 4.946 af

Subcatchment 5S: Post DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=12.46 cfs 2.499 af

Subcatchment 6S: Post DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.69"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=5.49 cfs 0.664 af

Subcatchment 7S: Combined Cortlandville Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=0.88"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=29.97 cfs 4.946 af

Subcatchment 8S: Combined Cortlandville Runoff Area=36.000 ac 0.28% Impervious Runoff Depth=0.83"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=12.46 cfs 2.499 af

Subcatchment 9S: Combined Cortlandville Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.69"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=5.49 cfs 0.664 af

Total Runoff Area = 344.100 ac Runoff Volume = 24.616 af Average Runoff Depth = 0.86"
99.74% Pervious = 343.200 ac 0.26% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre DA-1

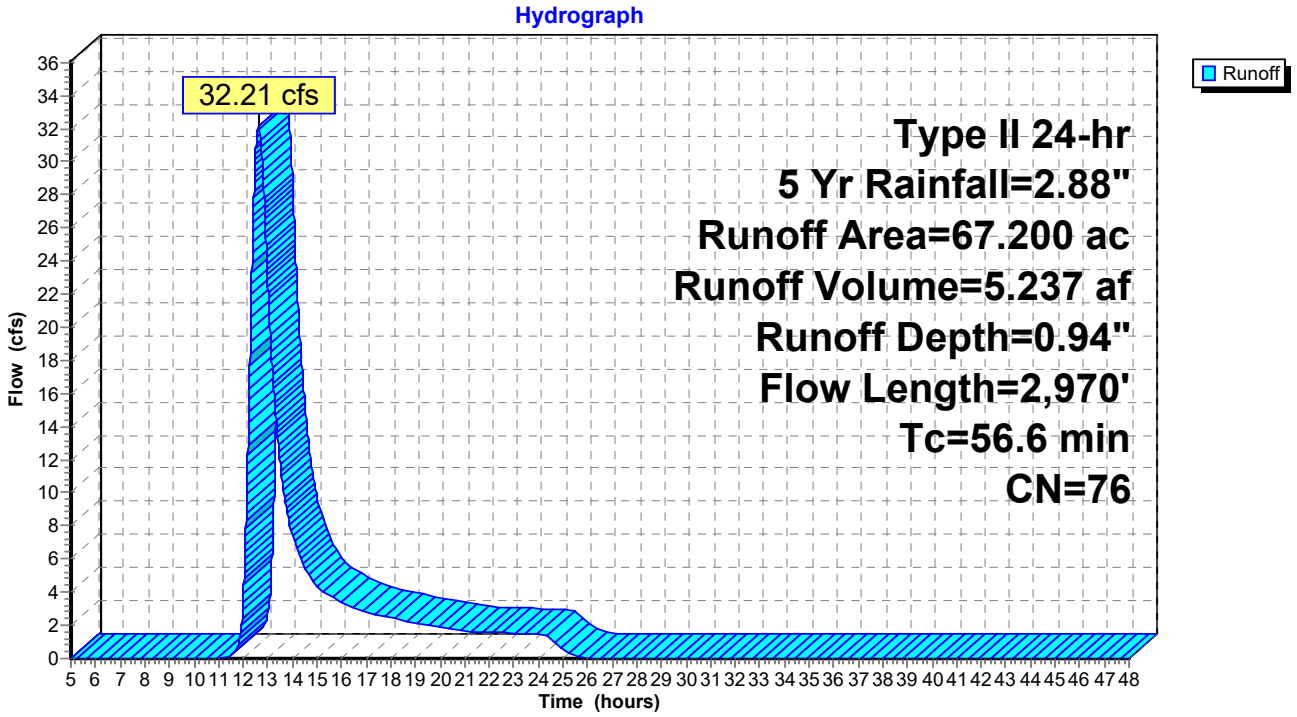
Runoff = 32.21 cfs @ 12.64 hrs, Volume= 5.237 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
18.600	71	Meadow, non-grazed, HSG C
37.000	78	Meadow, non-grazed, HSG D
5.500	73	Woods, Fair, HSG C
5.000	79	Woods, Fair, HSG D
67.200	76	Weighted Average
67.000		99.70% Pervious Area
0.200		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 1S: Pre DA-1



Summary for Subcatchment 2S: Pre DA-2

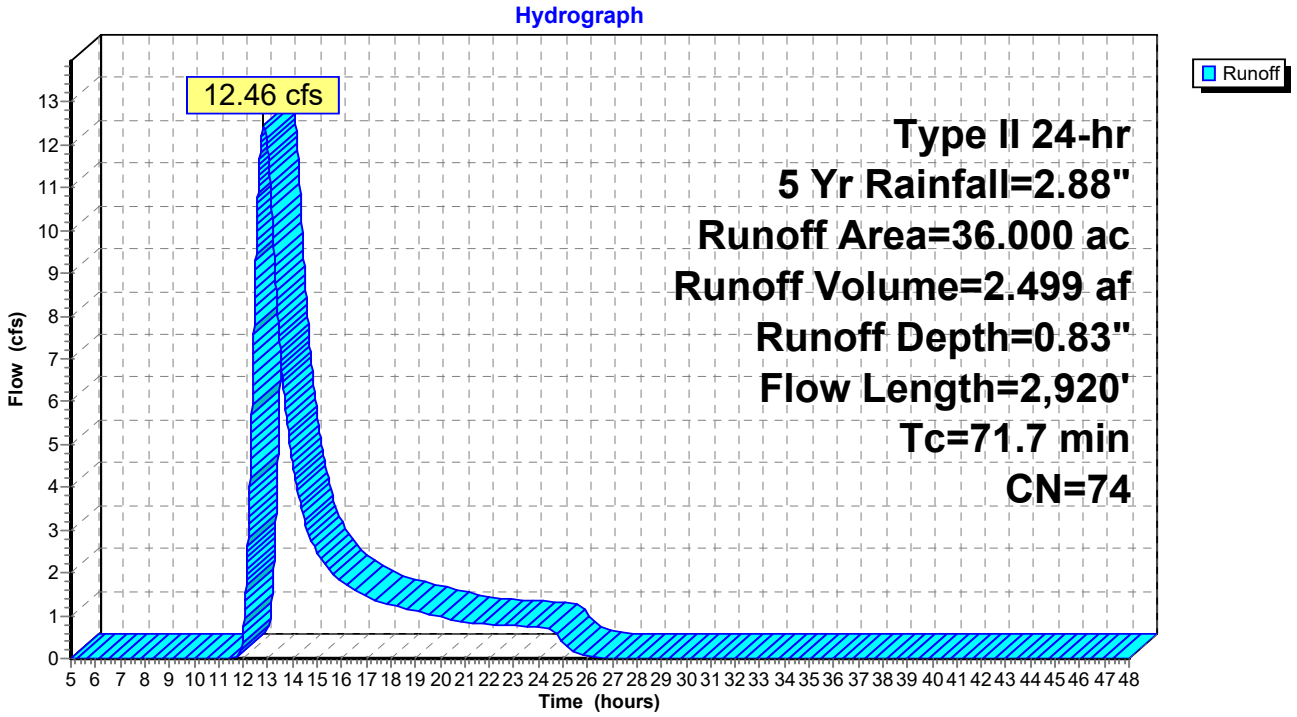
Runoff = 12.46 cfs @ 12.83 hrs, Volume= 2.499 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
21.200	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
0.200	73	Woods, Fair, HSG C
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 2S: Pre DA-2



Summary for Subcatchment 3S: Pre DA-3

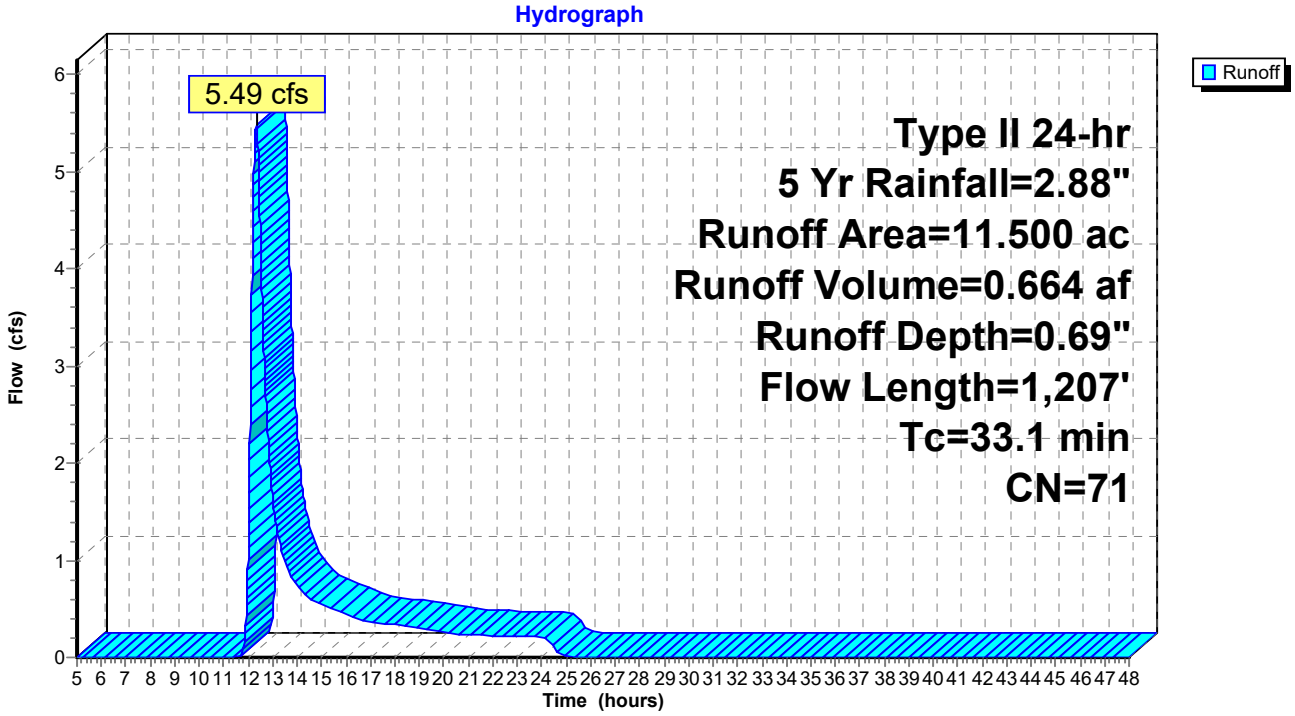
Runoff = 5.49 cfs @ 12.32 hrs, Volume= 0.664 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
11.200	71	Meadow, non-grazed, HSG C
0.300	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 3S: Pre DA-3



Summary for Subcatchment 4S: Post DA-1

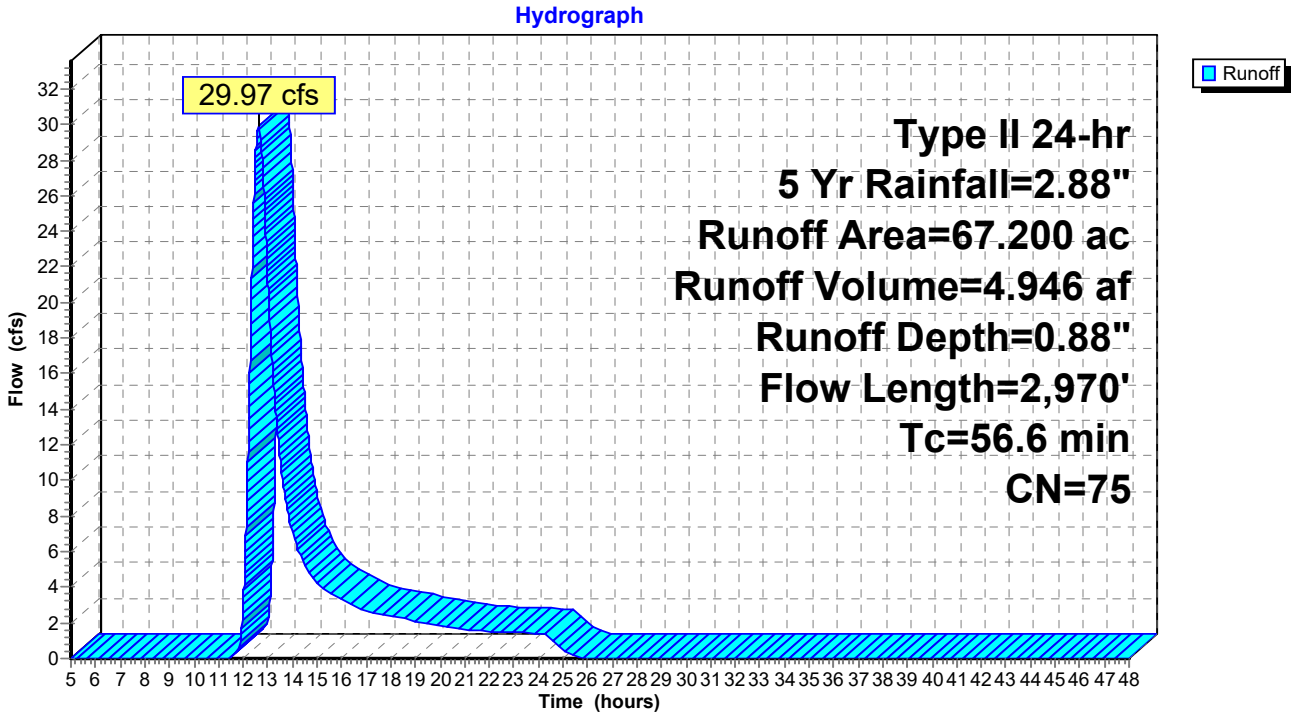
Runoff = 29.97 cfs @ 12.64 hrs, Volume= 4.946 af, Depth= 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 4S: Post DA-1



Summary for Subcatchment 5S: Post DA-2

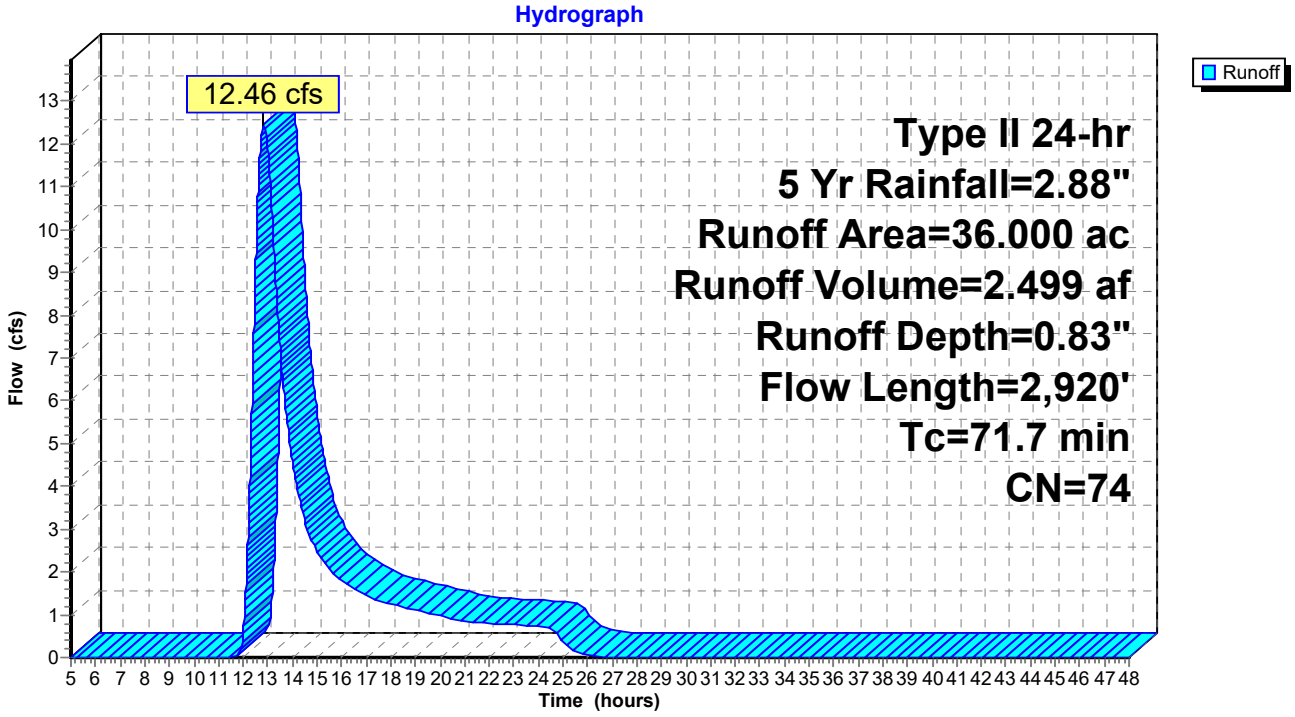
Runoff = 12.46 cfs @ 12.83 hrs, Volume= 2.499 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 5S: Post DA-2



Summary for Subcatchment 6S: Post DA-3

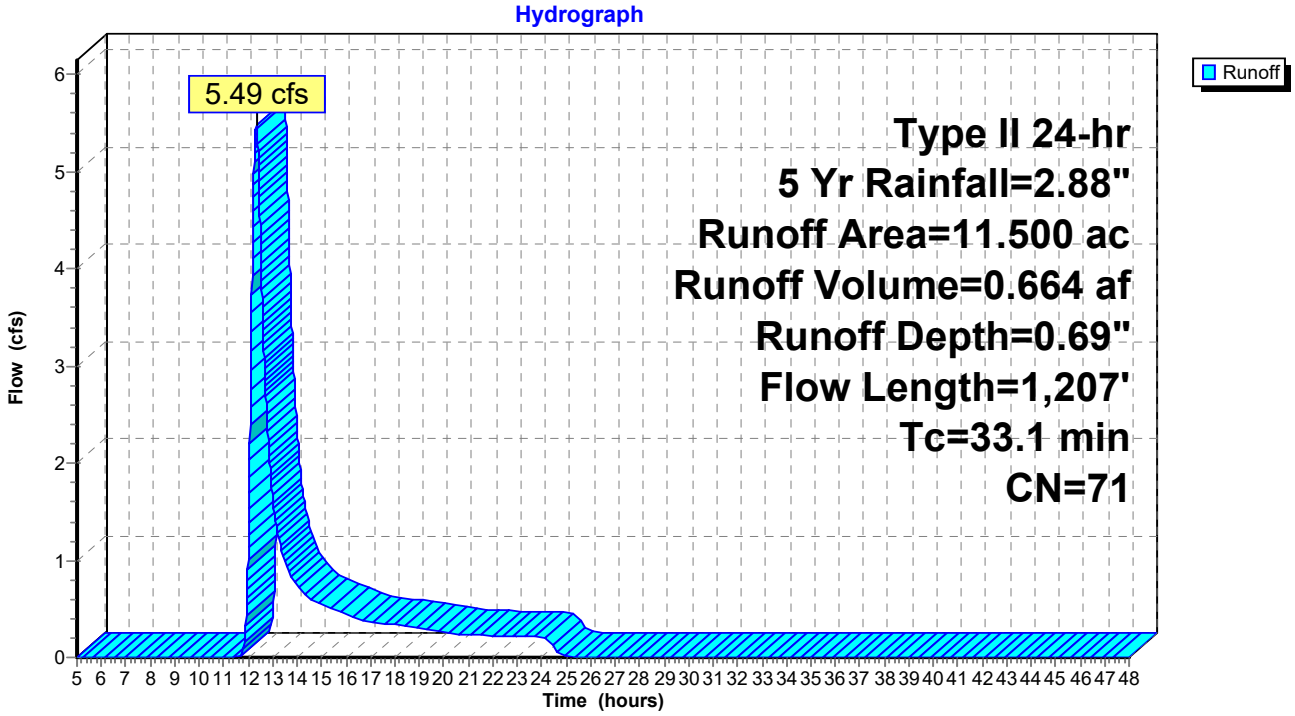
Runoff = 5.49 cfs @ 12.32 hrs, Volume= 0.664 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 6S: Post DA-3



Summary for Subcatchment 7S: Combined Cortlandville II and III Post DA-1

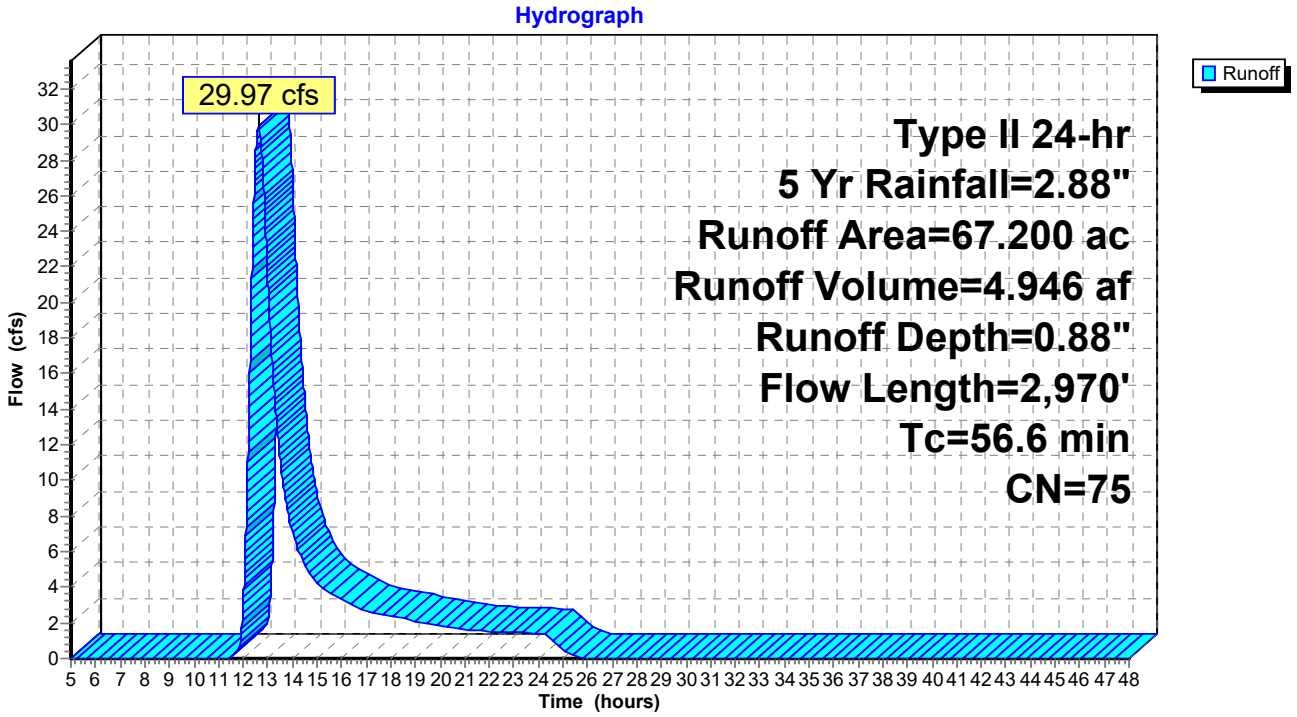
Runoff = 29.97 cfs @ 12.64 hrs, Volume= 4.946 af, Depth= 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 7S: Combined Cortlandville II and III Post DA-1



Summary for Subcatchment 8S: Combined Cortlandville II and III Post DA-2

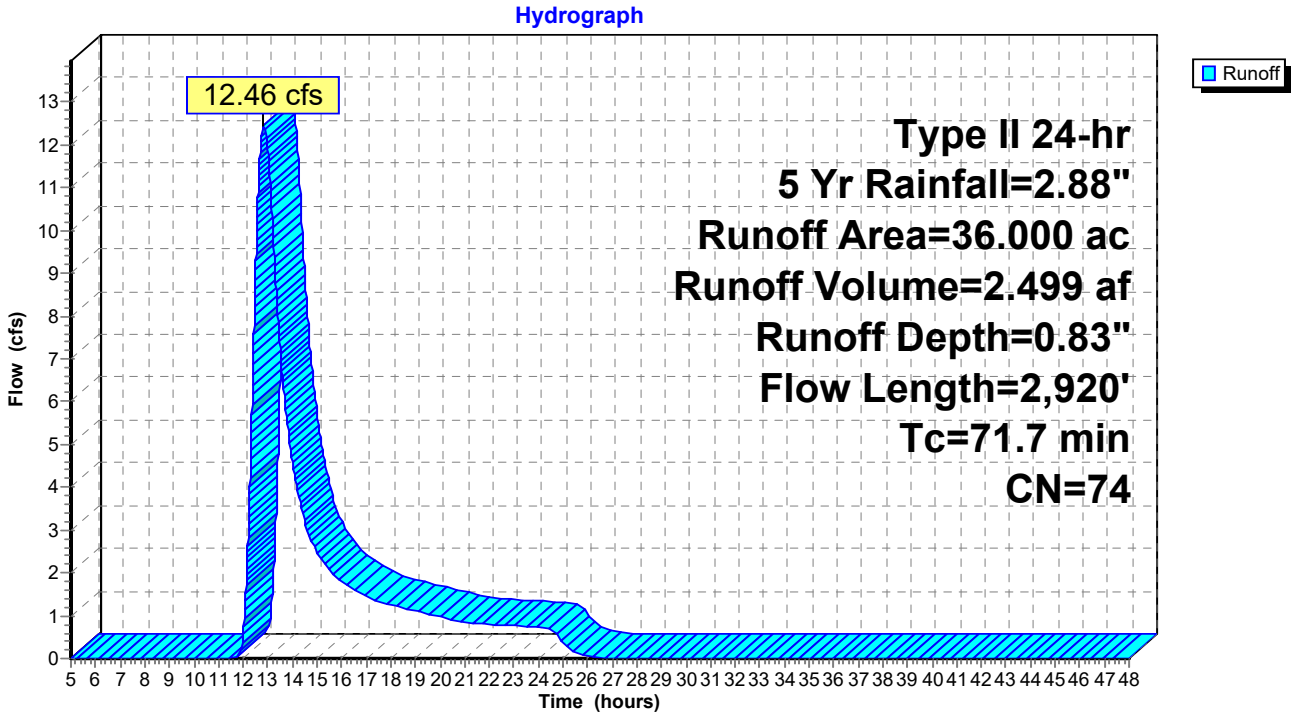
Runoff = 12.46 cfs @ 12.83 hrs, Volume= 2.499 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.500	78	Meadow, non-grazed, HSG D
0.100	98	Unconnected pavement, HSG D
36.000	74	Weighted Average
35.900		99.72% Pervious Area
0.100		0.28% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 8S: Combined Cortlandville II and III Post DA-2



Summary for Subcatchment 9S: Combined Cortlandville II and III Post DA-3

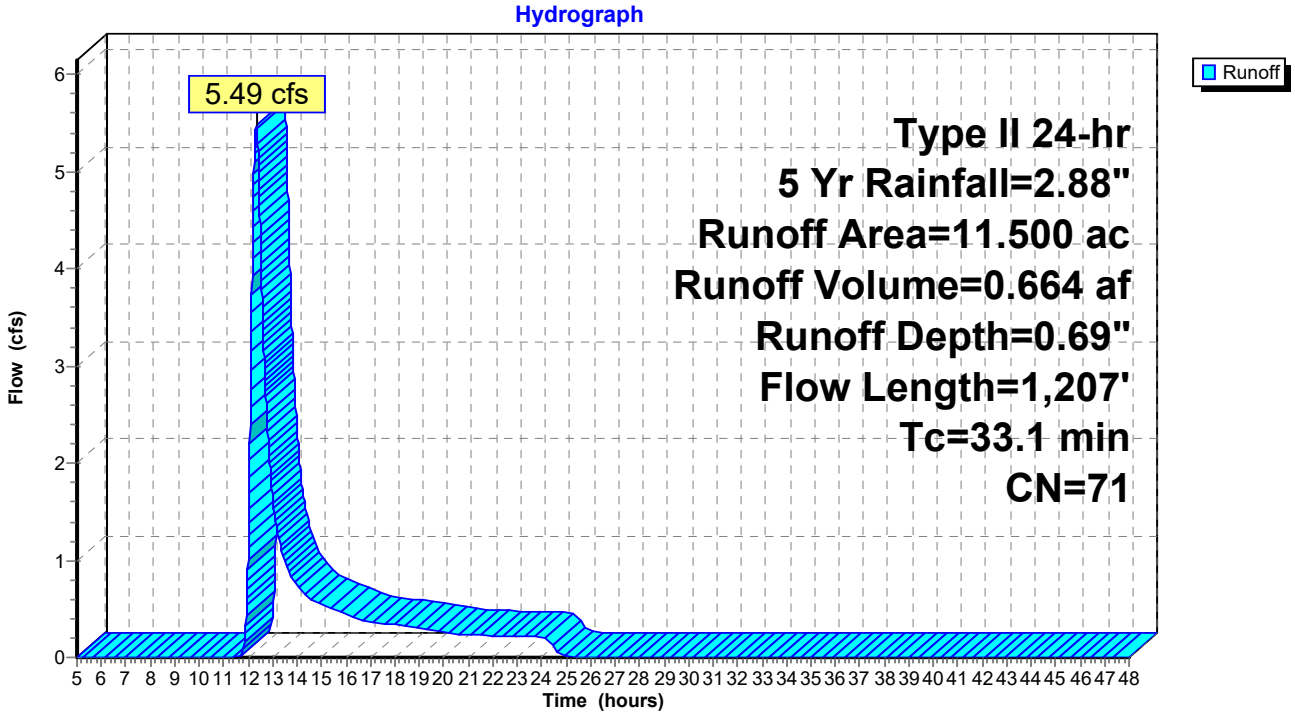
Runoff = 5.49 cfs @ 12.32 hrs, Volume= 0.664 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 Yr Rainfall=2.88"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 9S: Combined Cortlandville II and III Post DA-3



Time span=5.00-48.00 hrs, dt=0.01 hrs, 4301 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 1S: Pre DA-1 Runoff Area=67.200 ac 0.30% Impervious Runoff Depth=1.27"
Flow Length=2,970' Tc=56.6 min CN=76 Runoff=45.26 cfs 7.122 af

Subcatchment 2S: Pre DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=1.15"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=18.03 cfs 3.453 af

Subcatchment 3S: Pre DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.98"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=8.30 cfs 0.941 af

Subcatchment 4S: Post DA-1 Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=1.21"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=42.67 cfs 6.779 af

Subcatchment 5S: Post DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=1.15"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=18.03 cfs 3.453 af

Subcatchment 6S: Post DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.98"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=8.30 cfs 0.941 af

Subcatchment 7S: Combined Cortlandville Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=1.21"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=42.67 cfs 6.779 af

Subcatchment 8S: Combined Cortlandville Runoff Area=36.000 ac 0.28% Impervious Runoff Depth=1.15"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=18.03 cfs 3.453 af

Subcatchment 9S: Combined Cortlandville Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=0.98"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=8.30 cfs 0.941 af

Total Runoff Area = 344.100 ac Runoff Volume = 33.864 af Average Runoff Depth = 1.18"
99.74% Pervious = 343.200 ac 0.26% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre DA-1

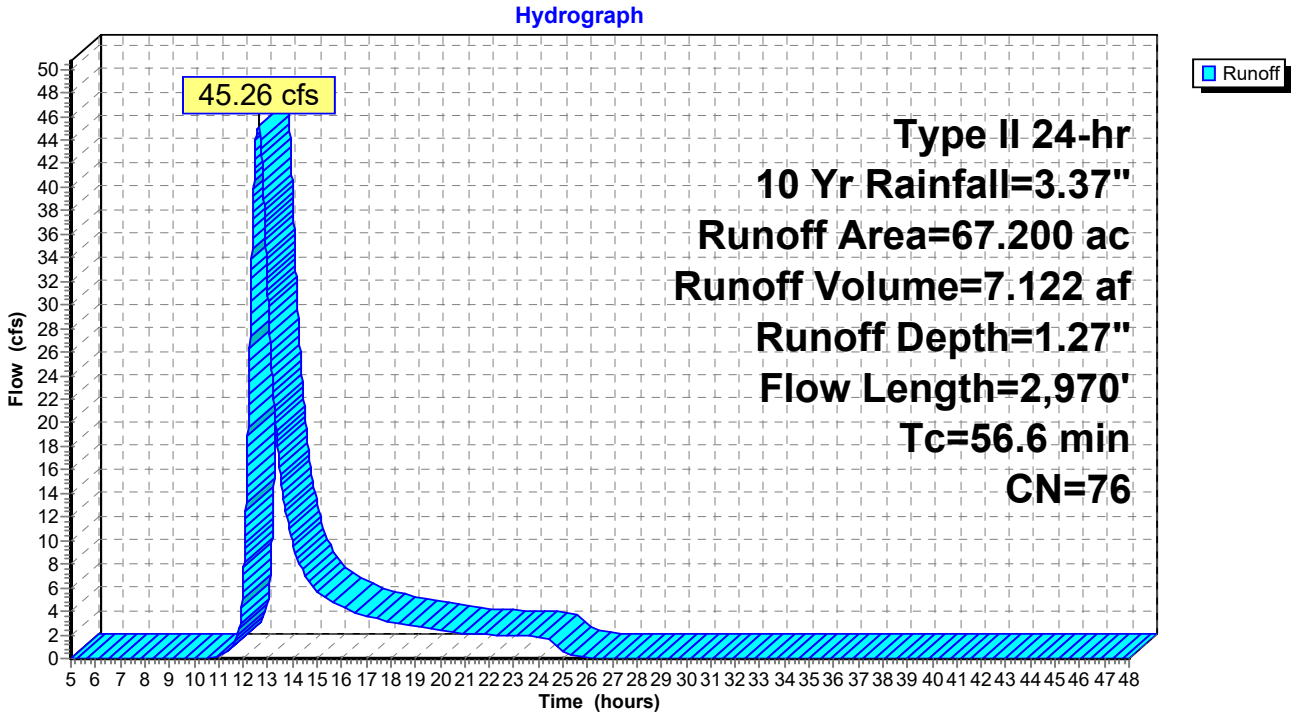
Runoff = 45.26 cfs @ 12.64 hrs, Volume= 7.122 af, Depth= 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
18.600	71	Meadow, non-grazed, HSG C
37.000	78	Meadow, non-grazed, HSG D
5.500	73	Woods, Fair, HSG C
5.000	79	Woods, Fair, HSG D
67.200	76	Weighted Average
67.000		99.70% Pervious Area
0.200		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 1S: Pre DA-1



Summary for Subcatchment 2S: Pre DA-2

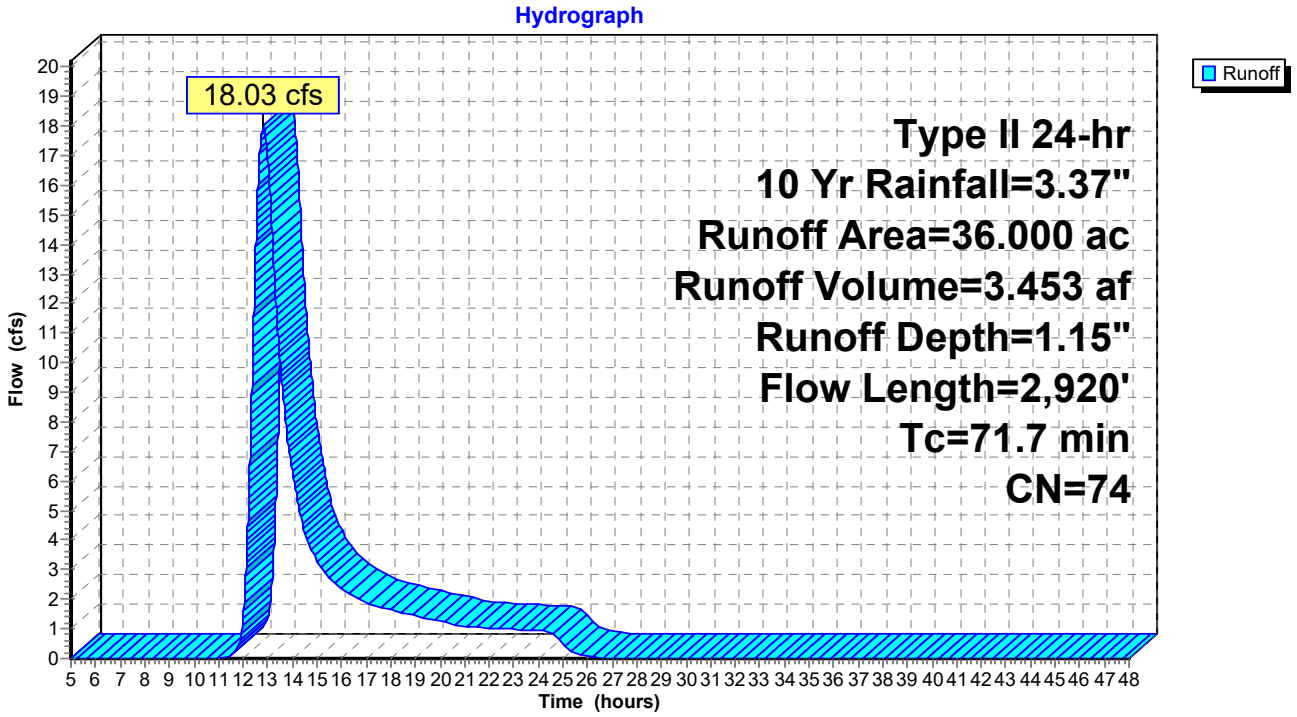
Runoff = 18.03 cfs @ 12.83 hrs, Volume= 3.453 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
21.200	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
0.200	73	Woods, Fair, HSG C
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 2S: Pre DA-2



Summary for Subcatchment 3S: Pre DA-3

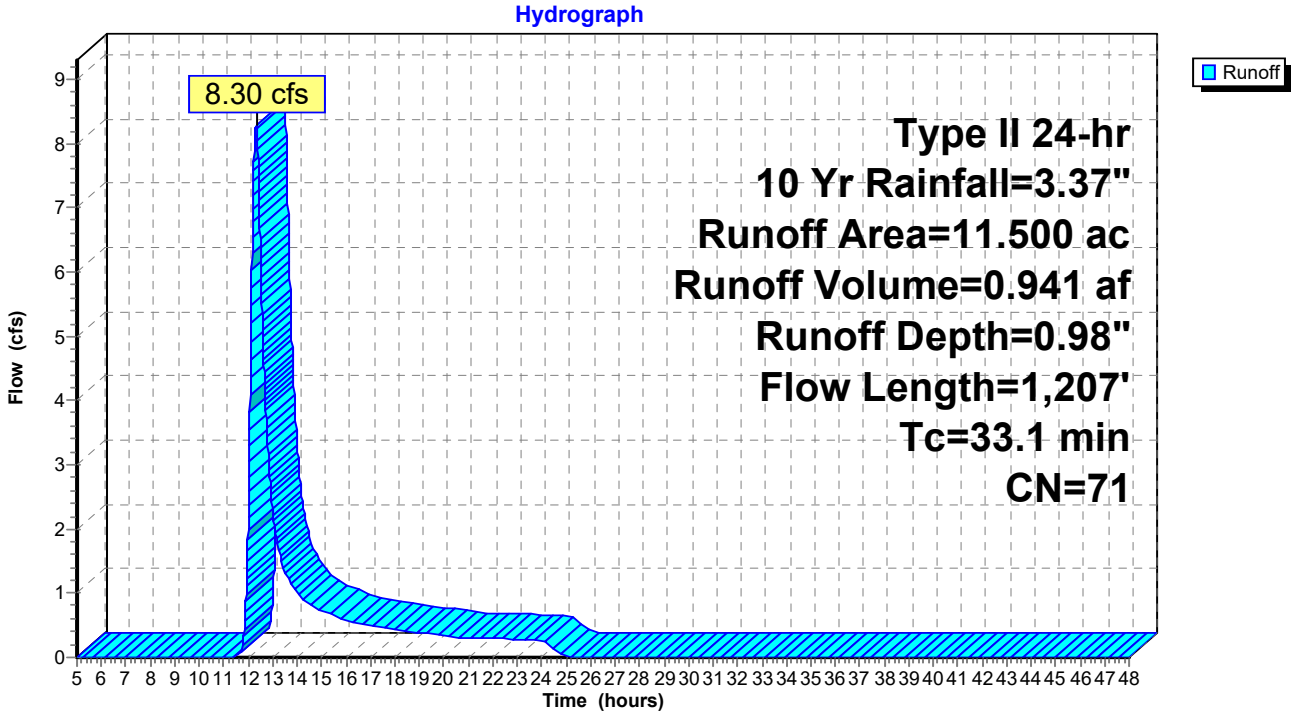
Runoff = 8.30 cfs @ 12.32 hrs, Volume= 0.941 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
11.200	71	Meadow, non-grazed, HSG C
0.300	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 3S: Pre DA-3



Summary for Subcatchment 4S: Post DA-1

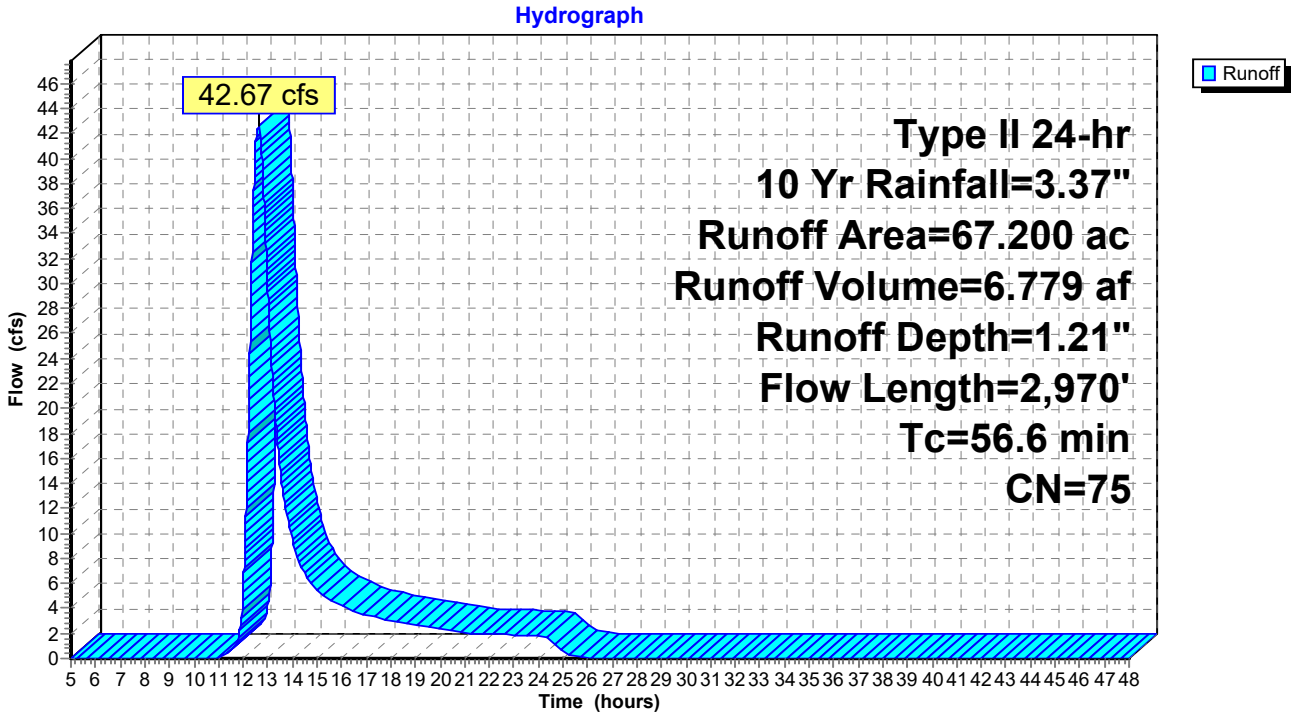
Runoff = 42.67 cfs @ 12.64 hrs, Volume= 6.779 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 4S: Post DA-1



Summary for Subcatchment 5S: Post DA-2

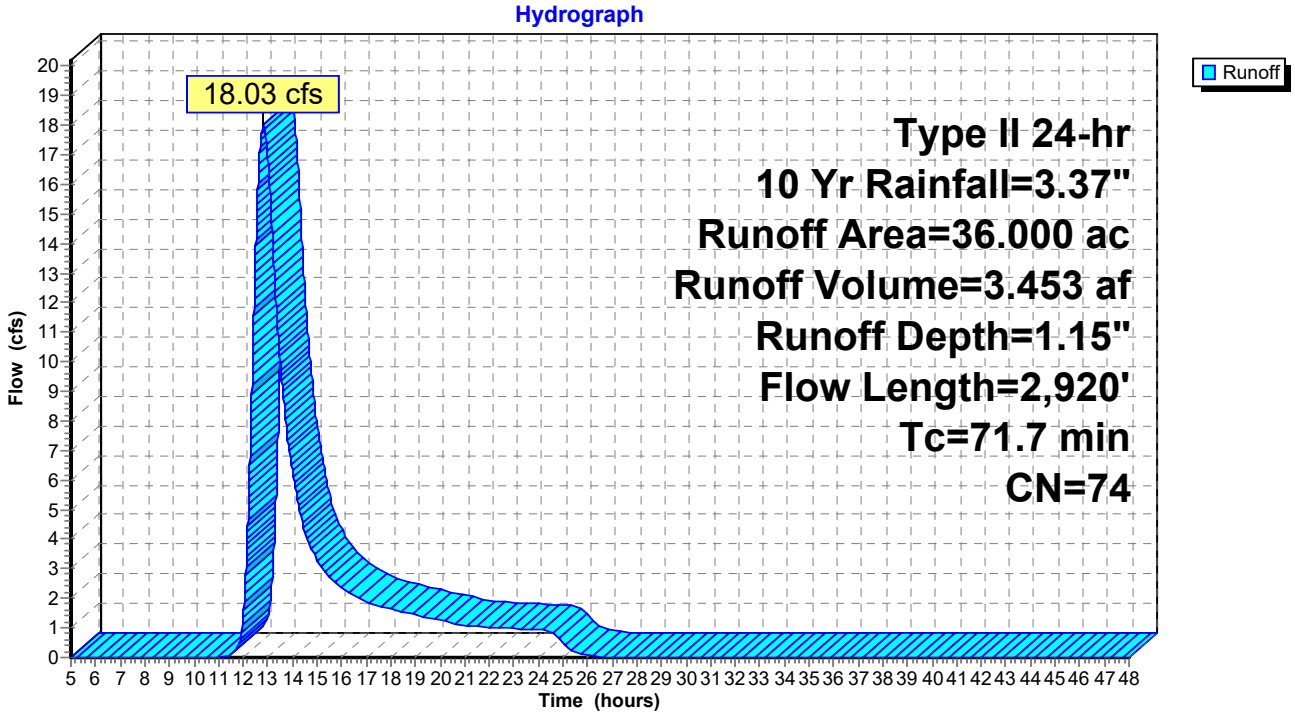
Runoff = 18.03 cfs @ 12.83 hrs, Volume= 3.453 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 5S: Post DA-2



Summary for Subcatchment 6S: Post DA-3

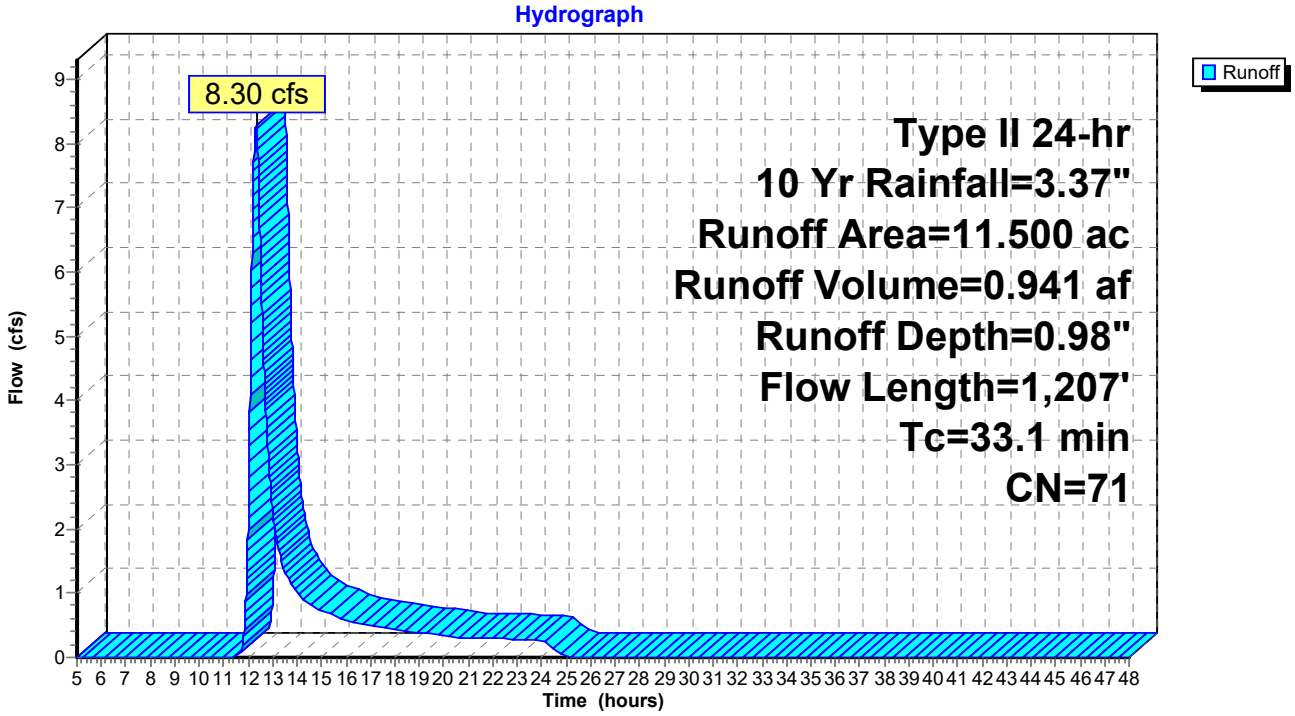
Runoff = 8.30 cfs @ 12.32 hrs, Volume= 0.941 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 6S: Post DA-3



Summary for Subcatchment 7S: Combined Cortlandville II and III Post DA-1

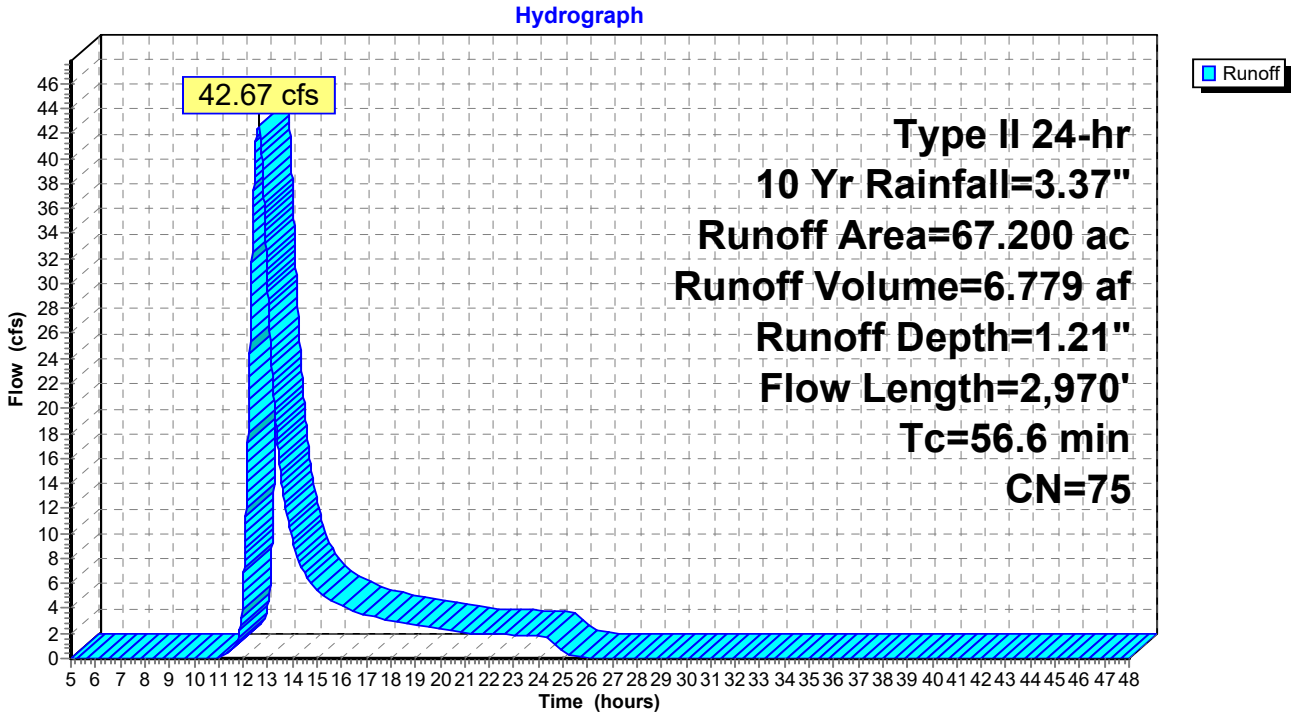
Runoff = 42.67 cfs @ 12.64 hrs, Volume= 6.779 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 7S: Combined Cortlandville II and III Post DA-1



Summary for Subcatchment 8S: Combined Cortlandville II and III Post DA-2

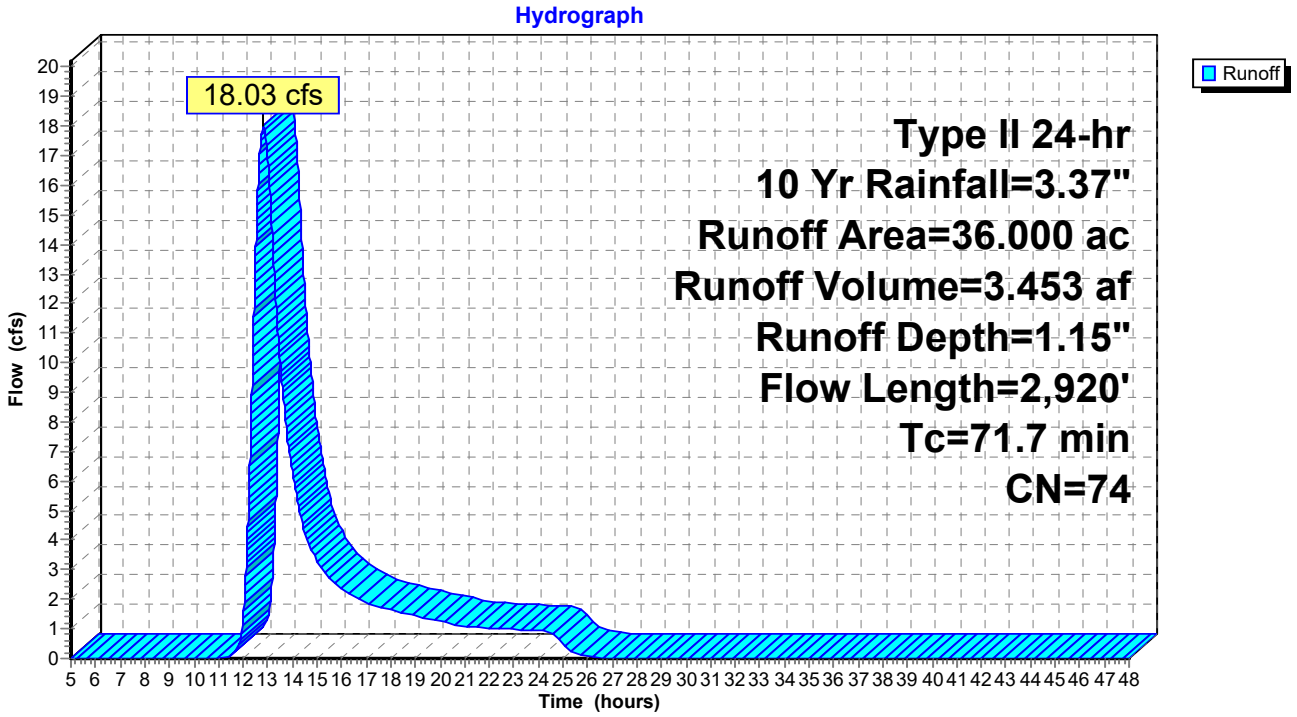
Runoff = 18.03 cfs @ 12.83 hrs, Volume= 3.453 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.500	78	Meadow, non-grazed, HSG D
0.100	98	Unconnected pavement, HSG D
36.000	74	Weighted Average
35.900		99.72% Pervious Area
0.100		0.28% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 8S: Combined Cortlandville II and III Post DA-2



Summary for Subcatchment 9S: Combined Cortlandville II and III Post DA-3

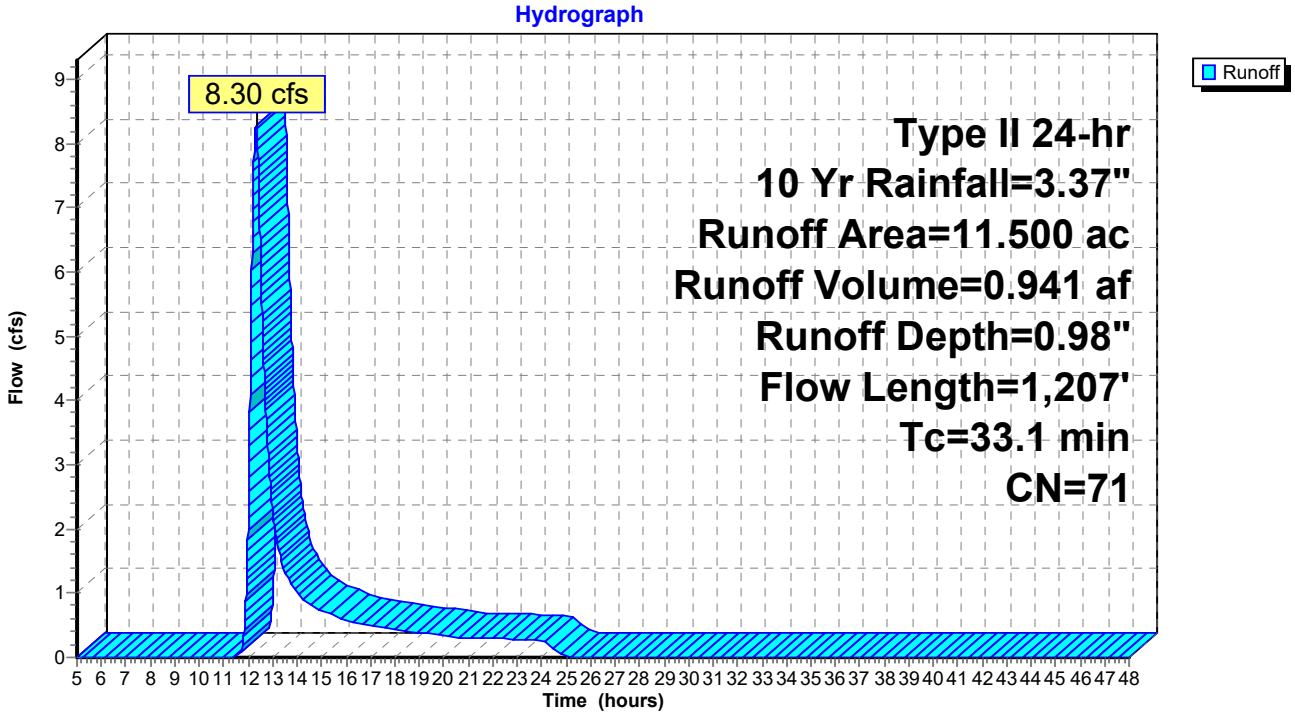
Runoff = 8.30 cfs @ 12.32 hrs, Volume= 0.941 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Yr Rainfall=3.37"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 9S: Combined Cortlandville II and III Post DA-3



Time span=5.00-48.00 hrs, dt=0.01 hrs, 4301 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 1S: Pre DA-1 Runoff Area=67.200 ac 0.30% Impervious Runoff Depth=1.85"
Flow Length=2,970' Tc=56.6 min CN=76 Runoff=67.43 cfs 10.340 af

Subcatchment 2S: Pre DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=1.70"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=27.64 cfs 5.099 af

Subcatchment 3S: Pre DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=1.49"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=13.23 cfs 1.429 af

Subcatchment 4S: Post DA-1 Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=1.77"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=64.35 cfs 9.925 af

Subcatchment 5S: Post DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=1.70"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=27.64 cfs 5.099 af

Subcatchment 6S: Post DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=1.49"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=13.23 cfs 1.429 af

Subcatchment 7S: Combined Cortlandville Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=1.77"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=64.35 cfs 9.925 af

Subcatchment 8S: Combined Cortlandville Runoff Area=36.000 ac 0.28% Impervious Runoff Depth=1.70"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=27.64 cfs 5.099 af

Subcatchment 9S: Combined Cortlandville Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=1.49"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=13.23 cfs 1.429 af

Total Runoff Area = 344.100 ac Runoff Volume = 49.775 af Average Runoff Depth = 1.74"
99.74% Pervious = 343.200 ac 0.26% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre DA-1

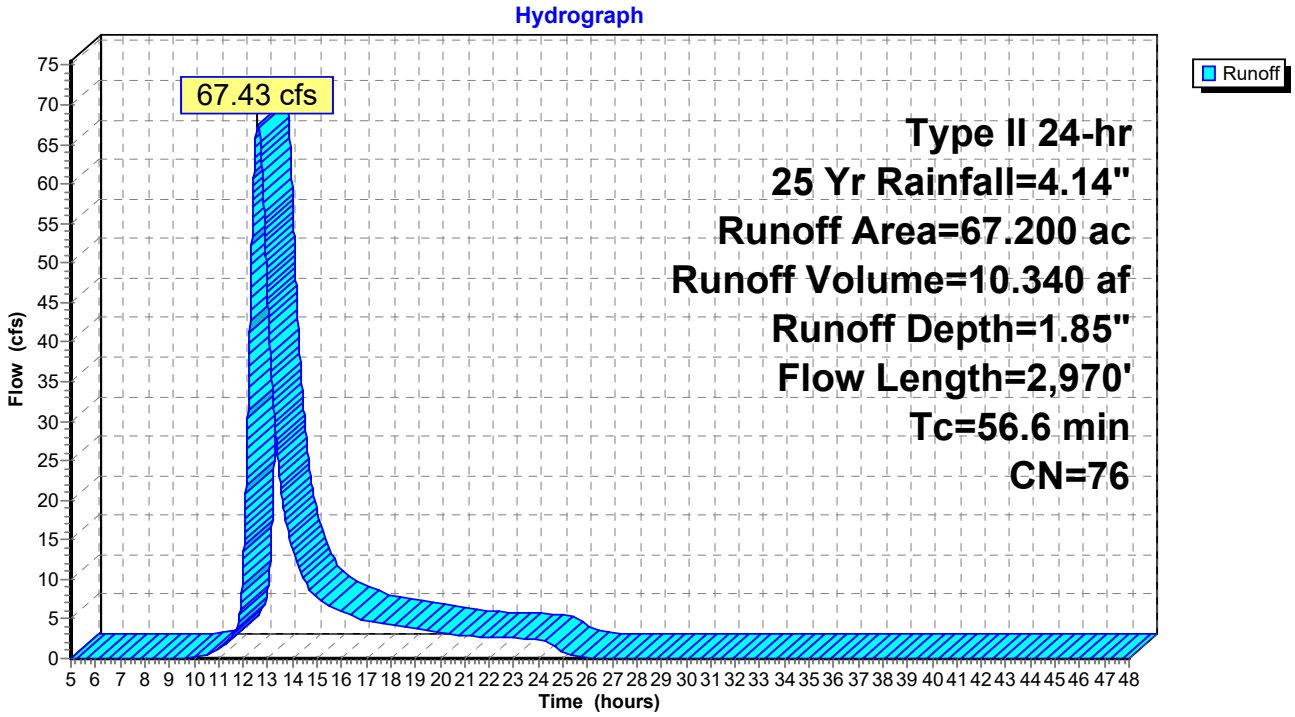
Runoff = 67.43 cfs @ 12.58 hrs, Volume= 10.340 af, Depth= 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
18.600	71	Meadow, non-grazed, HSG C
37.000	78	Meadow, non-grazed, HSG D
5.500	73	Woods, Fair, HSG C
5.000	79	Woods, Fair, HSG D
67.200	76	Weighted Average
67.000		99.70% Pervious Area
0.200		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 1S: Pre DA-1



Summary for Subcatchment 2S: Pre DA-2

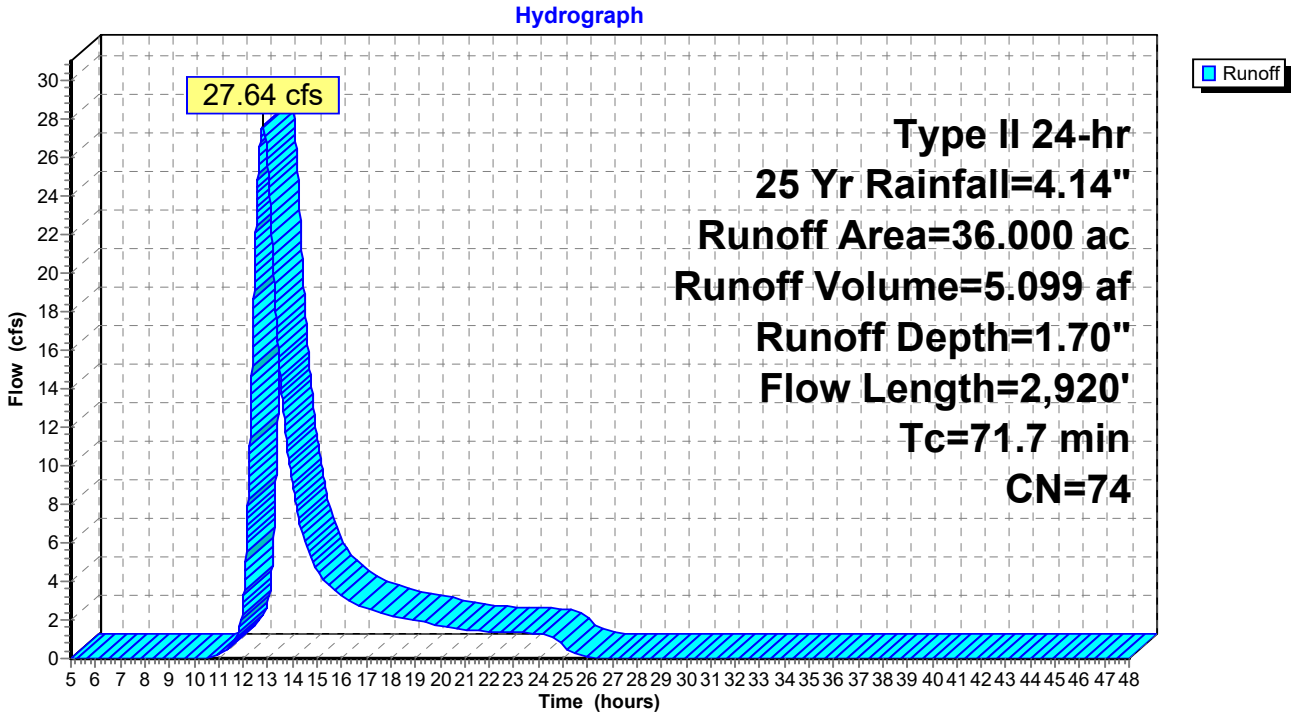
Runoff = 27.64 cfs @ 12.82 hrs, Volume= 5.099 af, Depth= 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
21.200	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
0.200	73	Woods, Fair, HSG C
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 2S: Pre DA-2



Summary for Subcatchment 3S: Pre DA-3

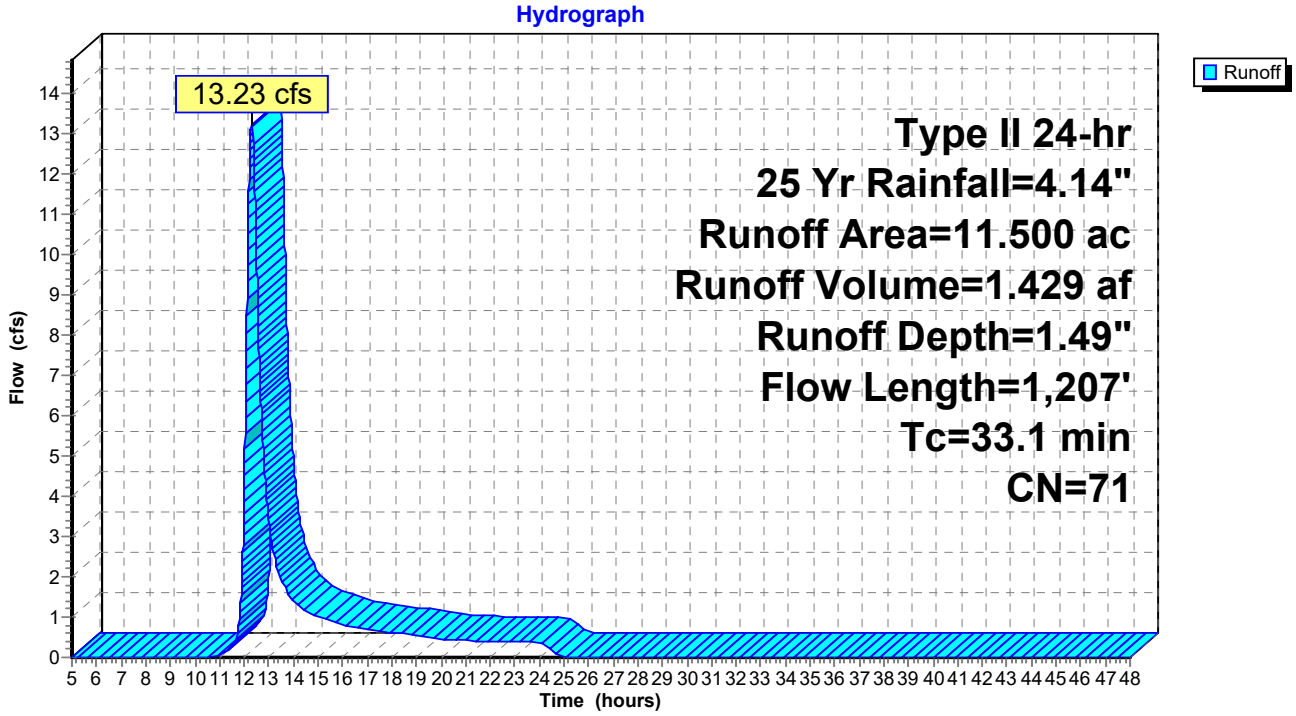
Runoff = 13.23 cfs @ 12.31 hrs, Volume= 1.429 af, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
11.200	71	Meadow, non-grazed, HSG C
0.300	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 3S: Pre DA-3



Summary for Subcatchment 4S: Post DA-1

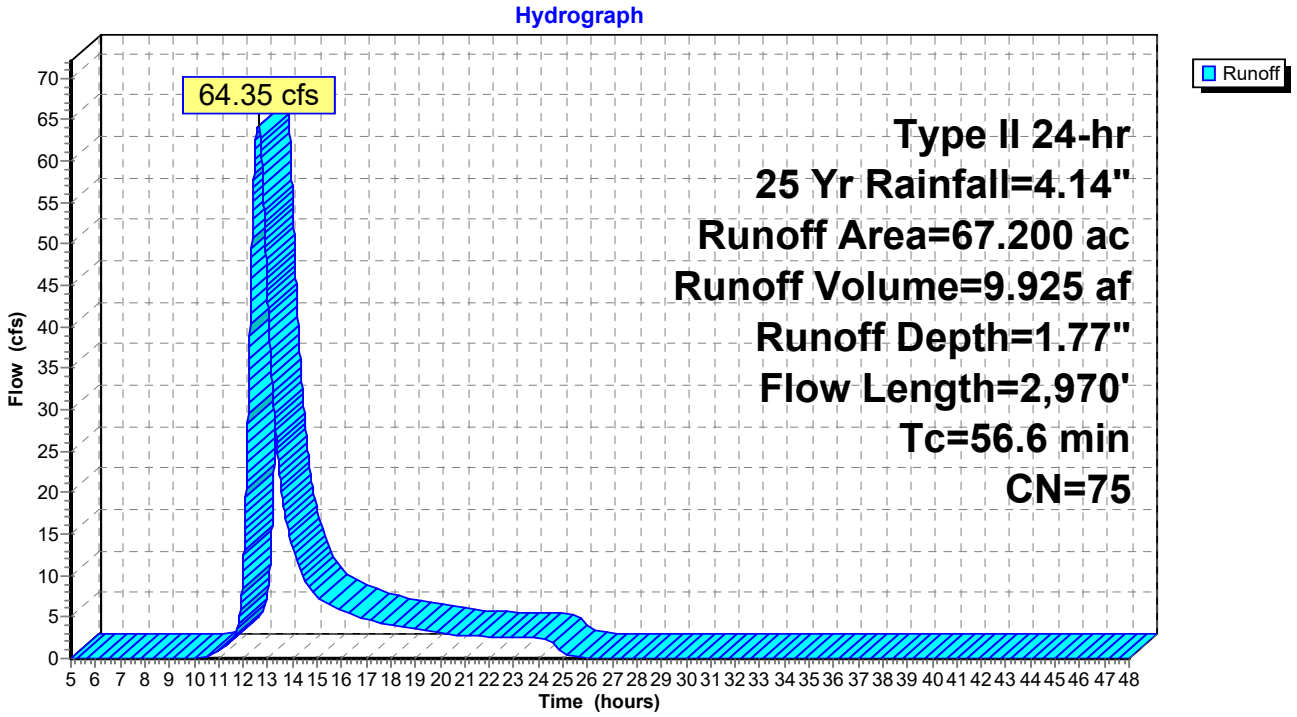
Runoff = 64.35 cfs @ 12.63 hrs, Volume= 9.925 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 4S: Post DA-1



Summary for Subcatchment 5S: Post DA-2

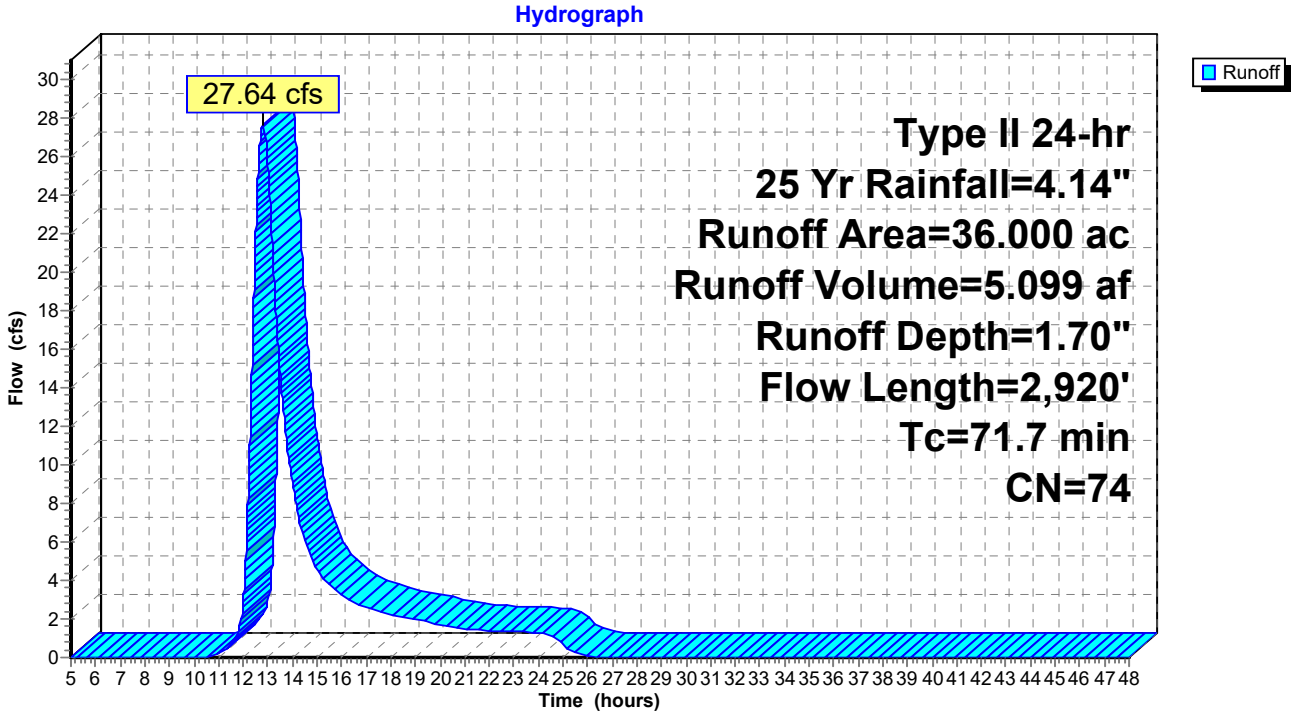
Runoff = 27.64 cfs @ 12.82 hrs, Volume= 5.099 af, Depth= 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 5S: Post DA-2



Summary for Subcatchment 6S: Post DA-3

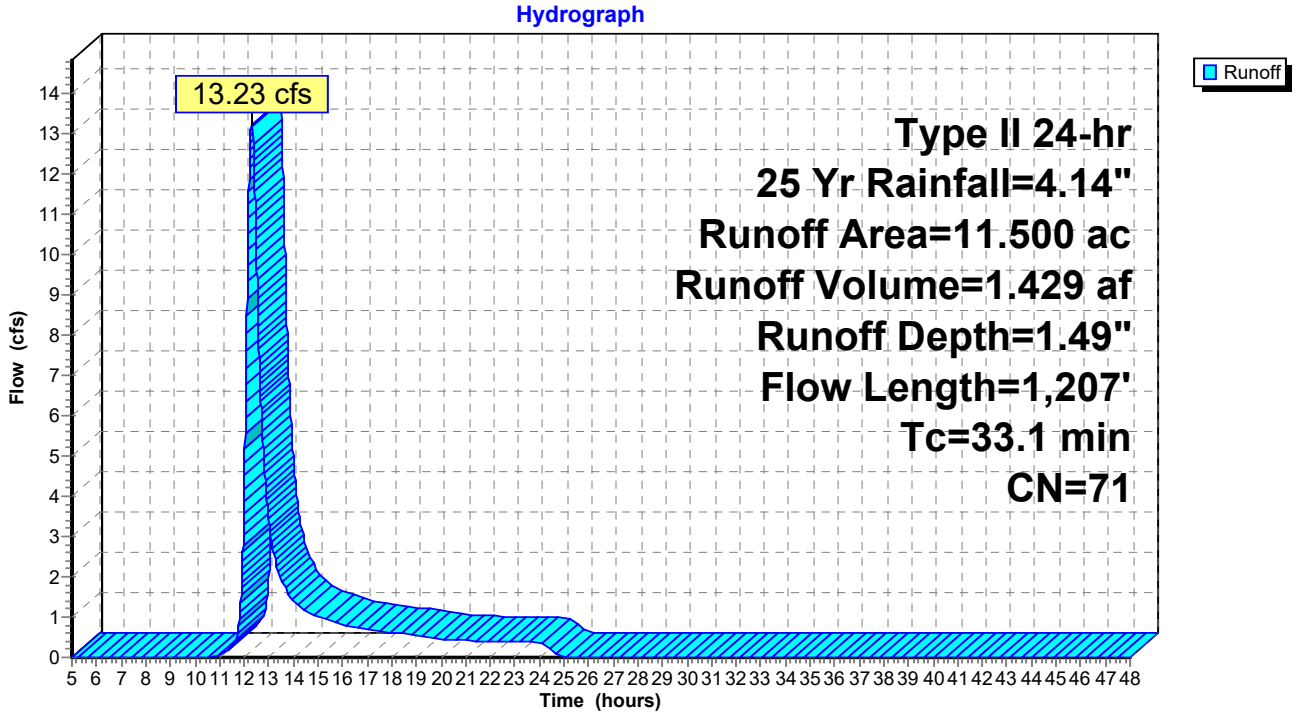
Runoff = 13.23 cfs @ 12.31 hrs, Volume= 1.429 af, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 6S: Post DA-3



Summary for Subcatchment 7S: Combined Cortlandville II and III Post DA-1

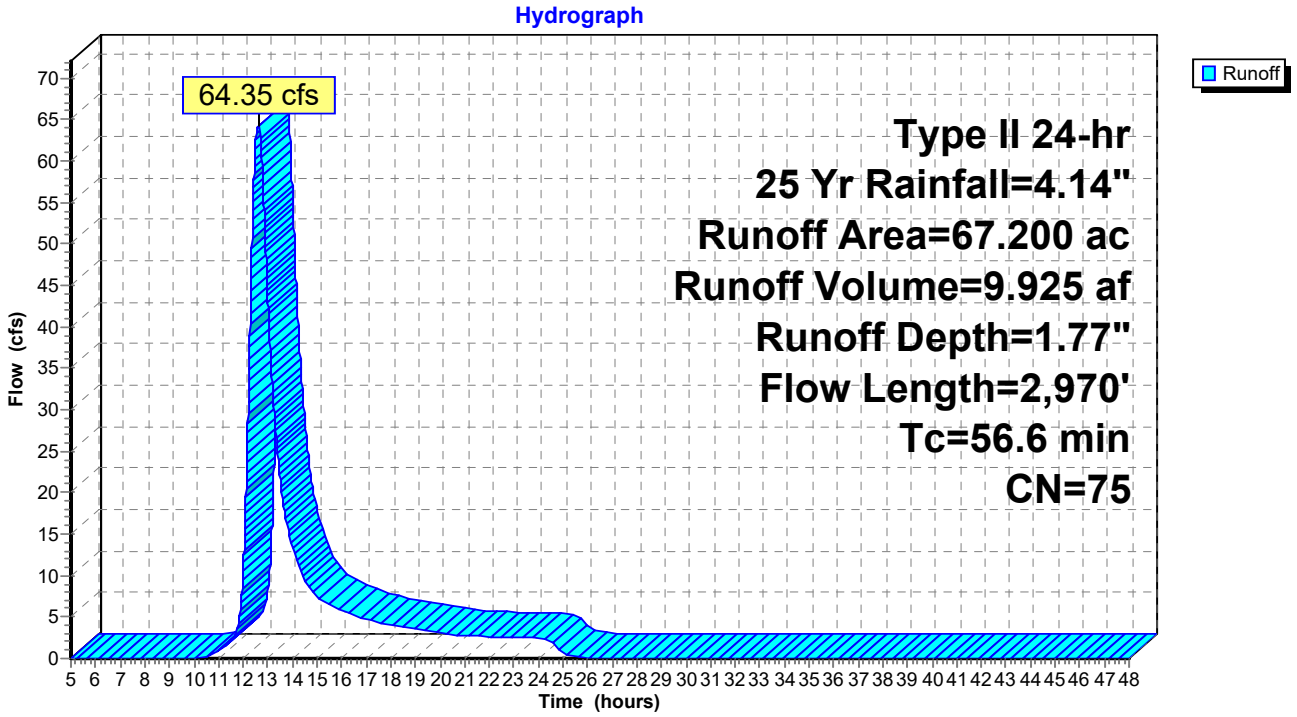
Runoff = 64.35 cfs @ 12.63 hrs, Volume= 9.925 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 7S: Combined Cortlandville II and III Post DA-1



Summary for Subcatchment 8S: Combined Cortlandville II and III Post DA-2

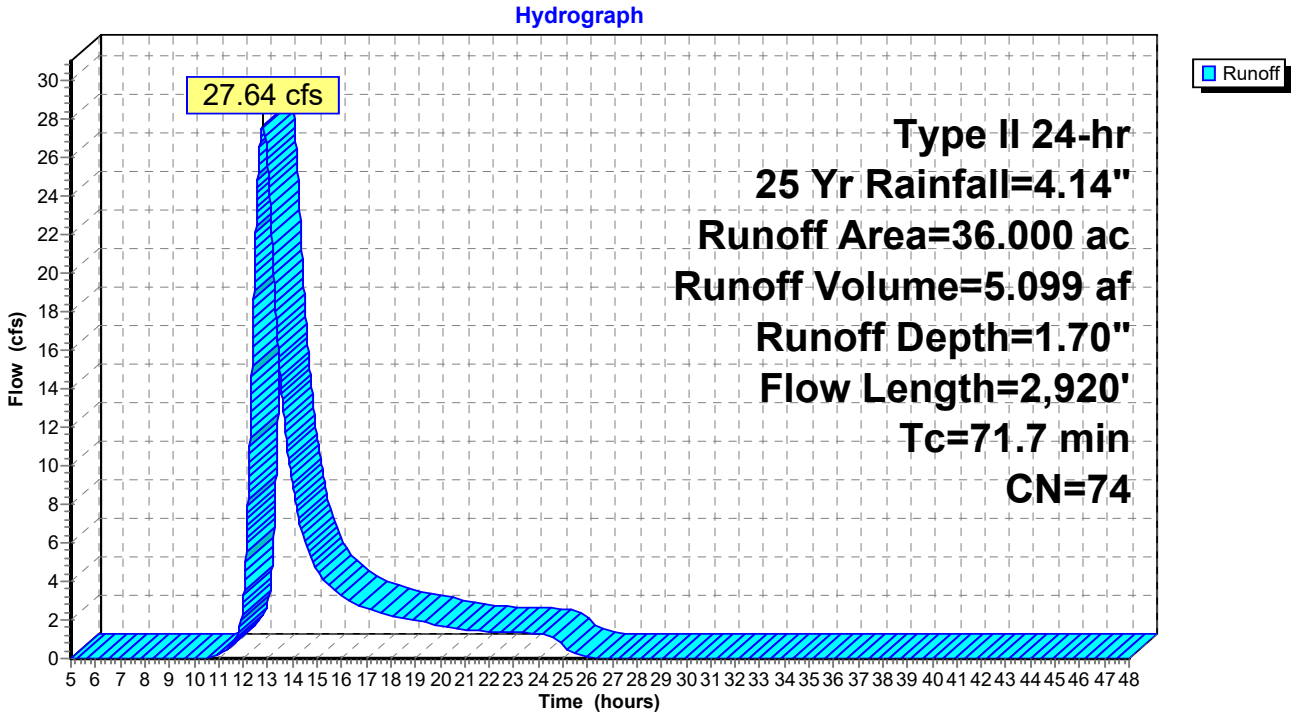
Runoff = 27.64 cfs @ 12.82 hrs, Volume= 5.099 af, Depth= 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.500	78	Meadow, non-grazed, HSG D
0.100	98	Unconnected pavement, HSG D
36.000	74	Weighted Average
35.900		99.72% Pervious Area
0.100		0.28% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 8S: Combined Cortlandville II and III Post DA-2



Summary for Subcatchment 9S: Combined Cortlandville II and III Post DA-3

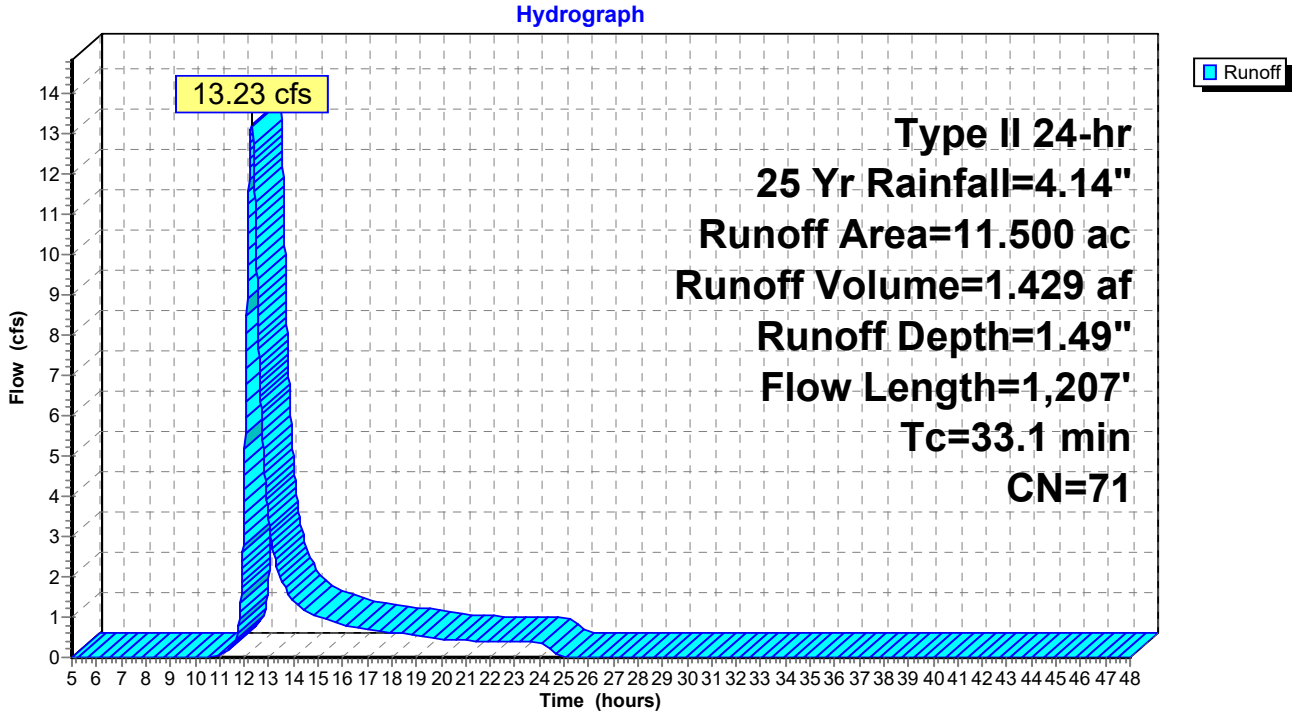
Runoff = 13.23 cfs @ 12.31 hrs, Volume= 1.429 af, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 Yr Rainfall=4.14"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 9S: Combined Cortlandville II and III Post DA-3



Time span=5.00-48.00 hrs, dt=0.01 hrs, 4301 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 1S: Pre DA-1 Runoff Area=67.200 ac 0.30% Impervious Runoff Depth=2.40"
Flow Length=2,970' Tc=56.6 min CN=76 Runoff=89.01 cfs 13.464 af

Subcatchment 2S: Pre DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=2.24"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=37.00 cfs 6.712 af

Subcatchment 3S: Pre DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=2.00"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=18.13 cfs 1.913 af

Subcatchment 4S: Post DA-1 Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=2.32"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=85.55 cfs 12.993 af

Subcatchment 5S: Post DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=2.24"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=37.00 cfs 6.712 af

Subcatchment 6S: Post DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=2.00"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=18.13 cfs 1.913 af

Subcatchment 7S: Combined Cortlandville Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=2.32"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=85.55 cfs 12.993 af

Subcatchment 8S: Combined Cortlandville Runoff Area=36.000 ac 0.28% Impervious Runoff Depth=2.24"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=37.00 cfs 6.712 af

Subcatchment 9S: Combined Cortlandville Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=2.00"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=18.13 cfs 1.913 af

Total Runoff Area = 344.100 ac Runoff Volume = 65.325 af Average Runoff Depth = 2.28"
99.74% Pervious = 343.200 ac 0.26% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre DA-1

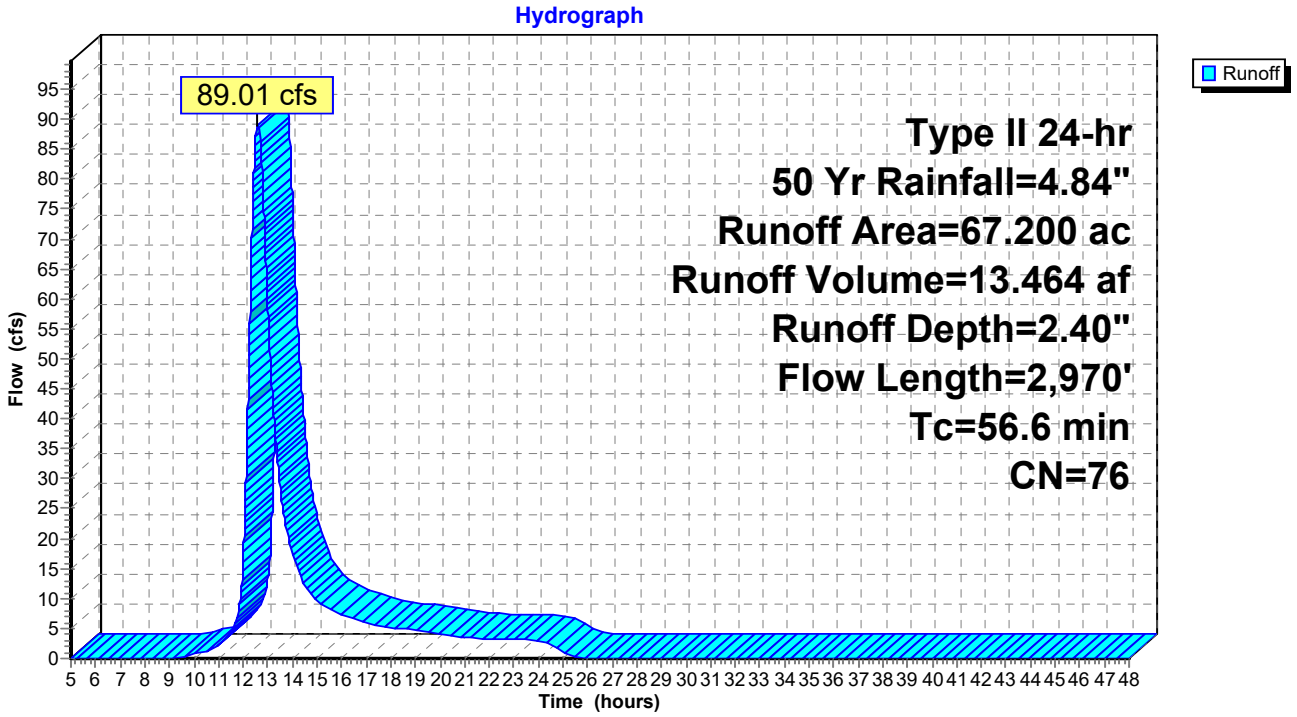
Runoff = 89.01 cfs @ 12.58 hrs, Volume= 13.464 af, Depth= 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
18.600	71	Meadow, non-grazed, HSG C
37.000	78	Meadow, non-grazed, HSG D
5.500	73	Woods, Fair, HSG C
5.000	79	Woods, Fair, HSG D
67.200	76	Weighted Average
67.000		99.70% Pervious Area
0.200		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 1S: Pre DA-1



Summary for Subcatchment 2S: Pre DA-2

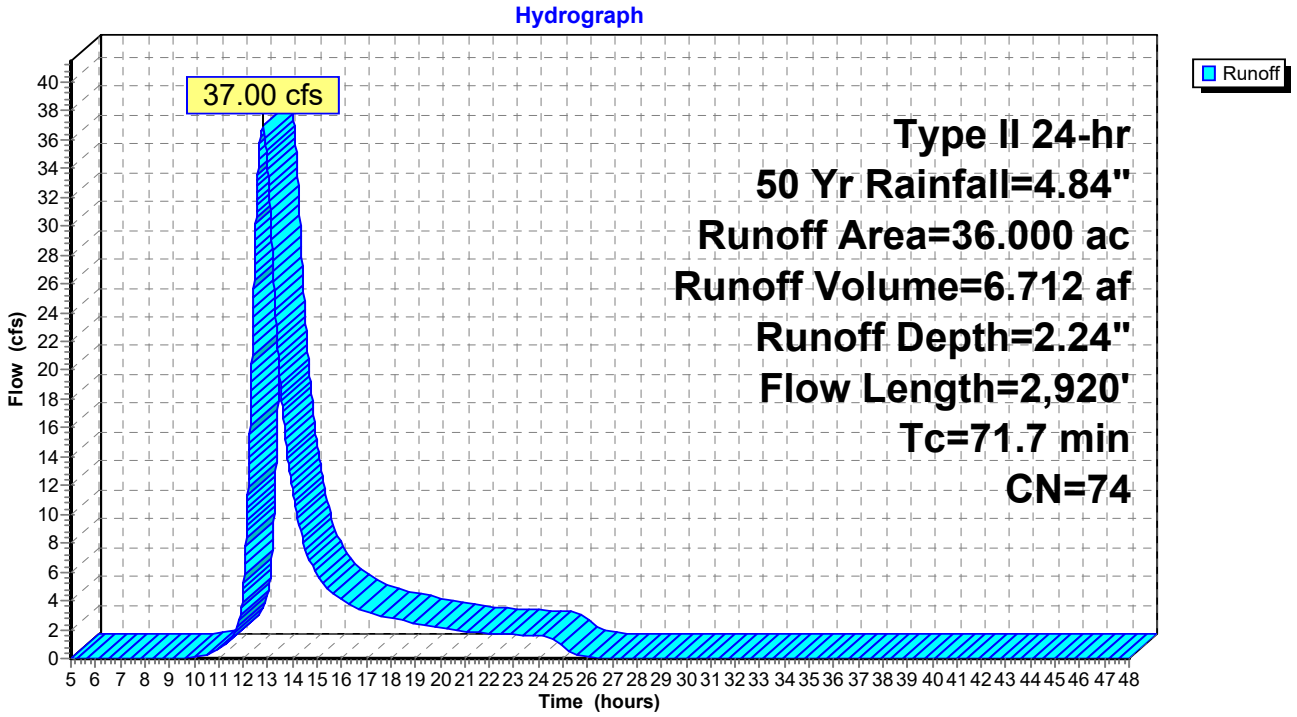
Runoff = 37.00 cfs @ 12.82 hrs, Volume= 6.712 af, Depth= 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
21.200	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
0.200	73	Woods, Fair, HSG C
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 2S: Pre DA-2



Summary for Subcatchment 3S: Pre DA-3

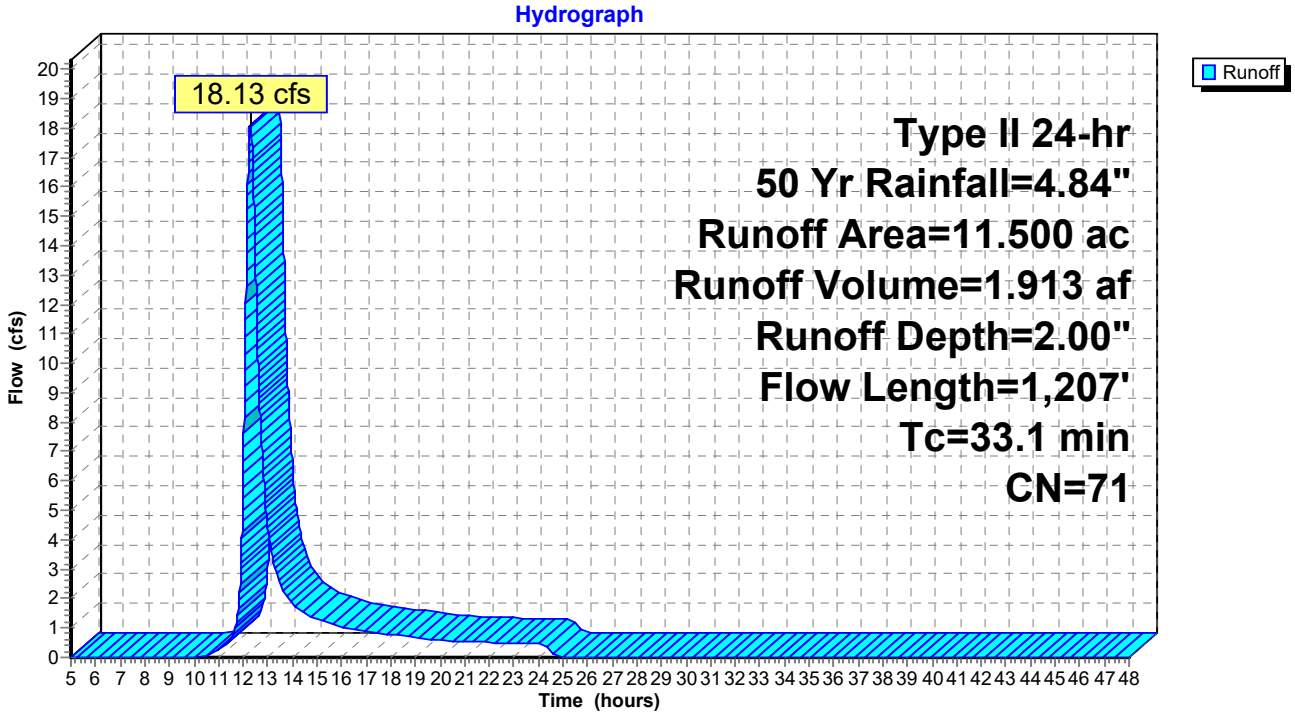
Runoff = 18.13 cfs @ 12.29 hrs, Volume= 1.913 af, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
11.200	71	Meadow, non-grazed, HSG C
0.300	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 3S: Pre DA-3



Summary for Subcatchment 4S: Post DA-1

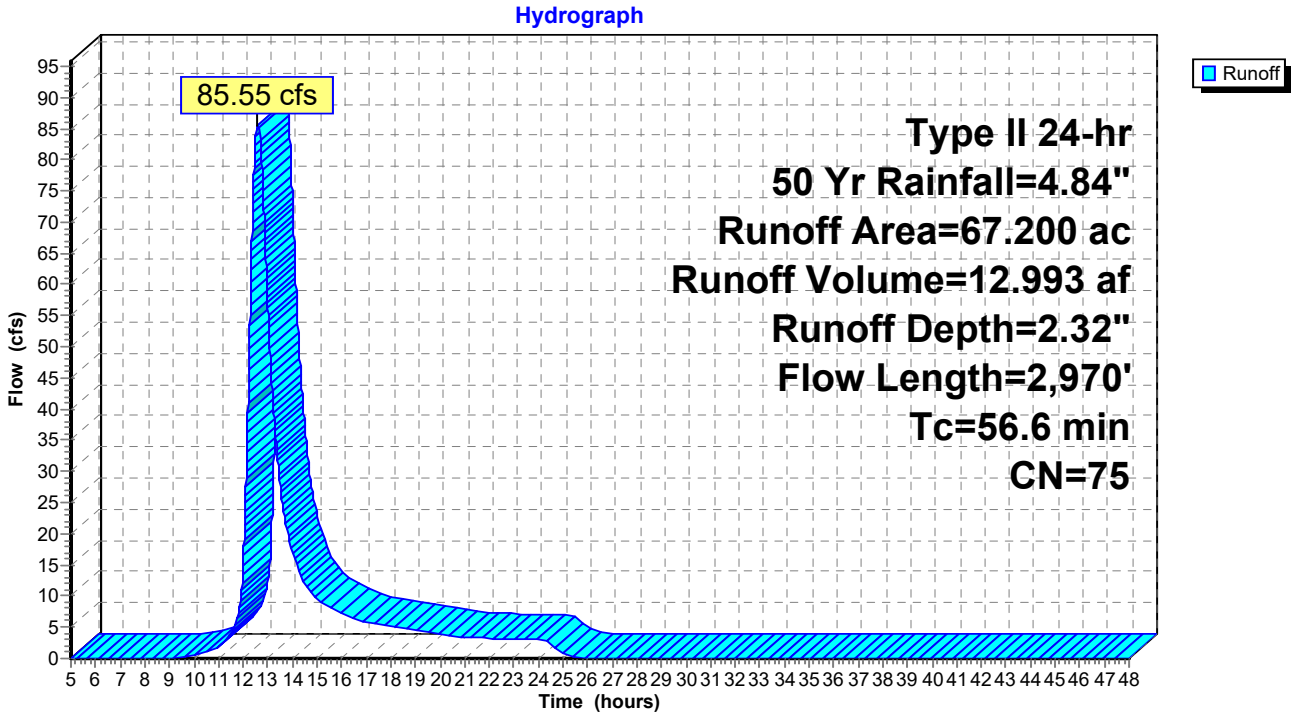
Runoff = 85.55 cfs @ 12.58 hrs, Volume= 12.993 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 4S: Post DA-1



Summary for Subcatchment 5S: Post DA-2

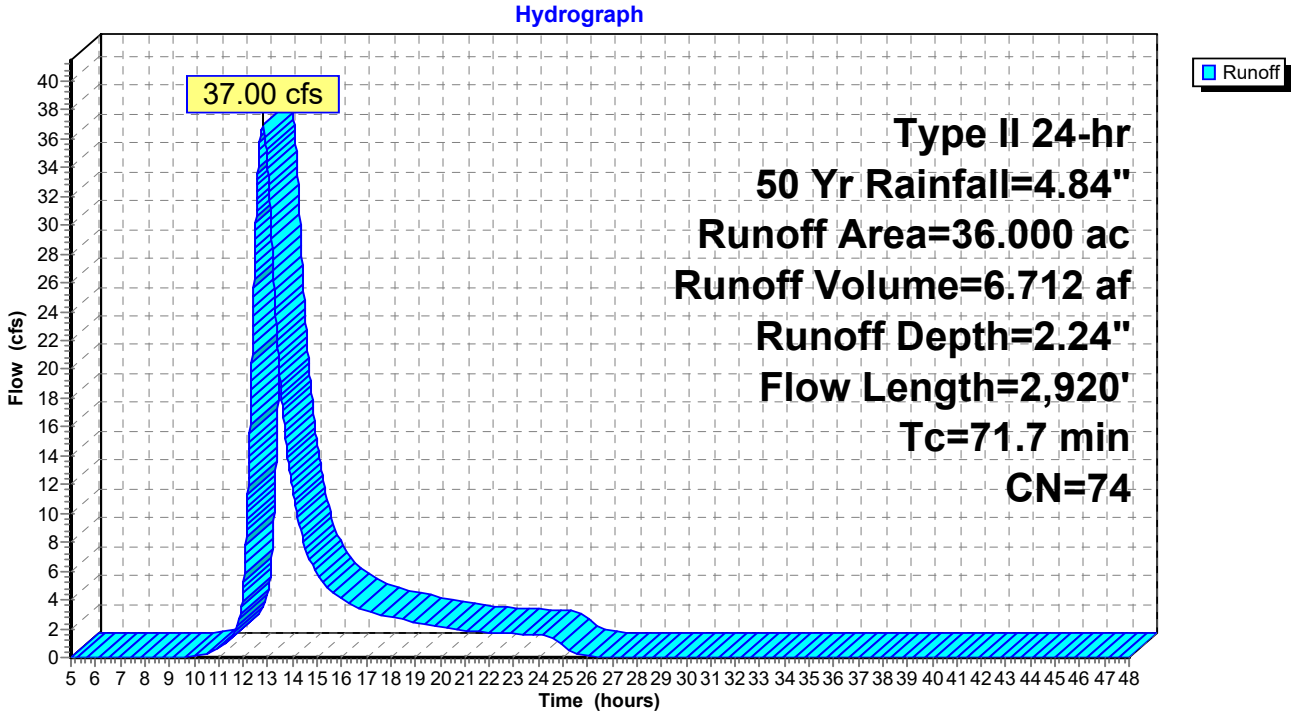
Runoff = 37.00 cfs @ 12.82 hrs, Volume= 6.712 af, Depth= 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 5S: Post DA-2



Summary for Subcatchment 6S: Post DA-3

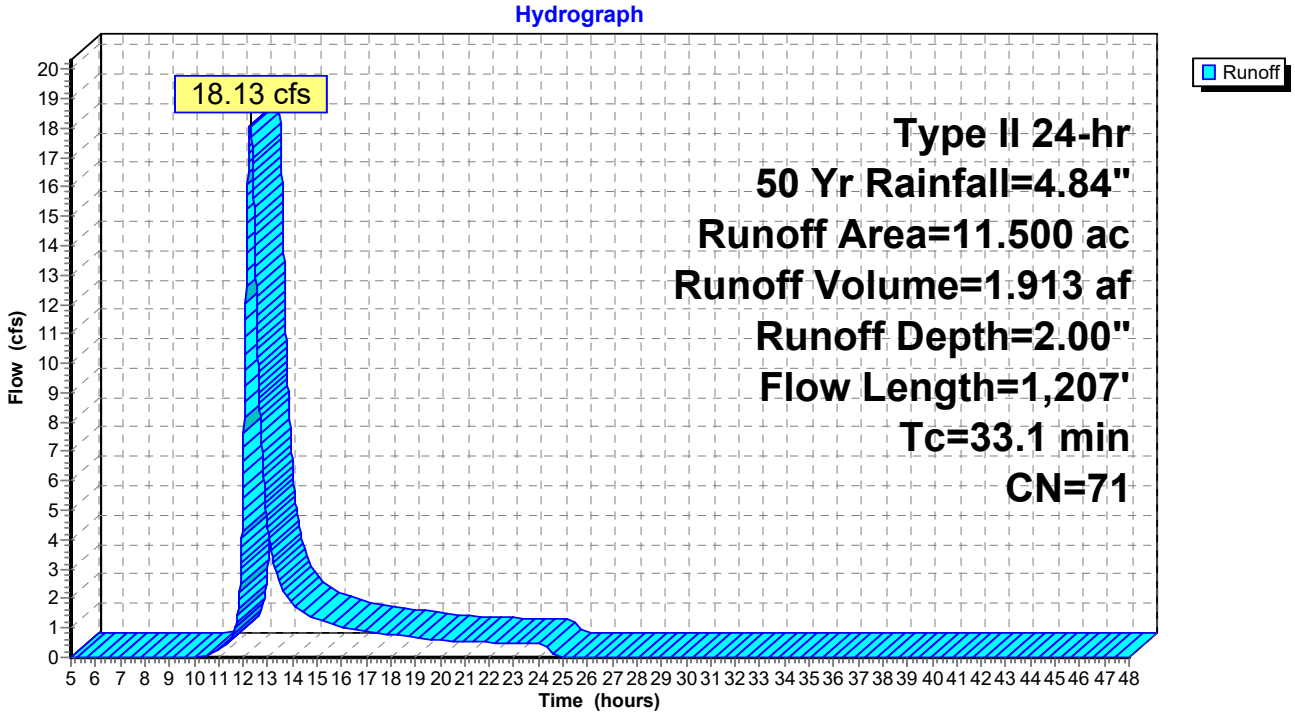
Runoff = 18.13 cfs @ 12.29 hrs, Volume= 1.913 af, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 6S: Post DA-3



Summary for Subcatchment 7S: Combined Cortlandville II and III Post DA-1

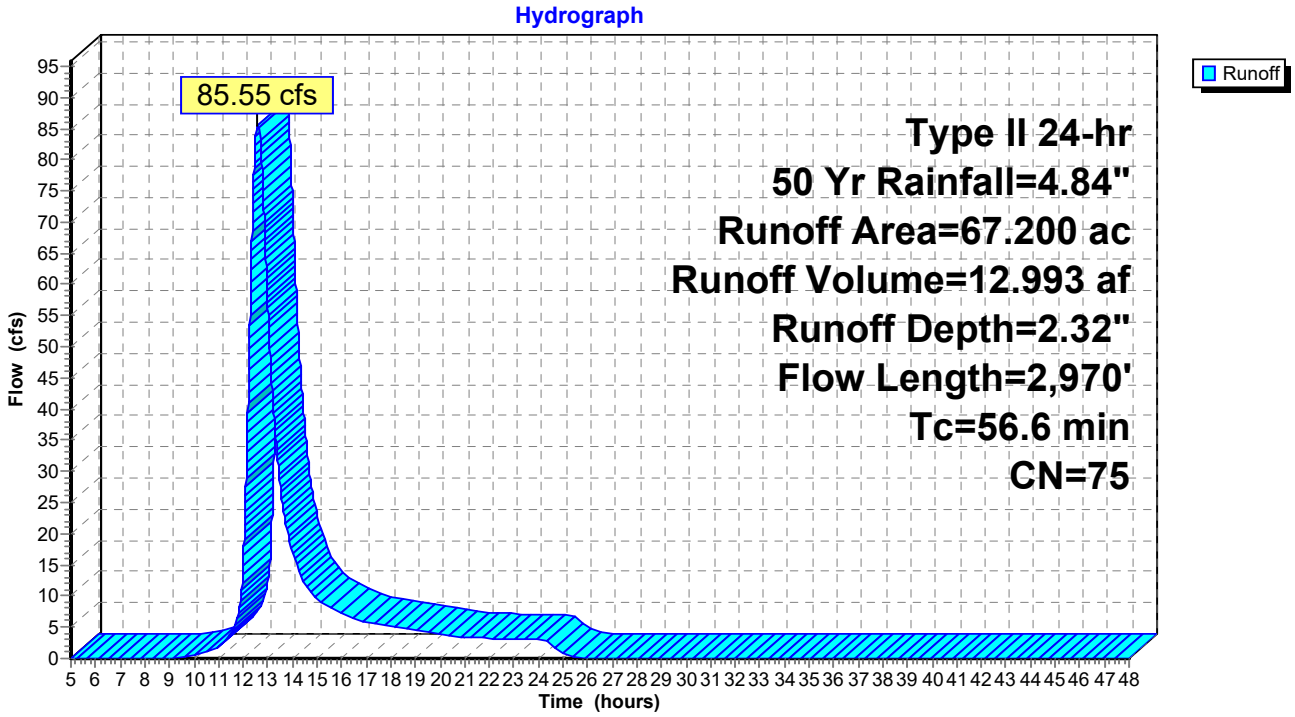
Runoff = 85.55 cfs @ 12.58 hrs, Volume= 12.993 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 7S: Combined Cortlandville II and III Post DA-1



Summary for Subcatchment 8S: Combined Cortlandville II and III Post DA-2

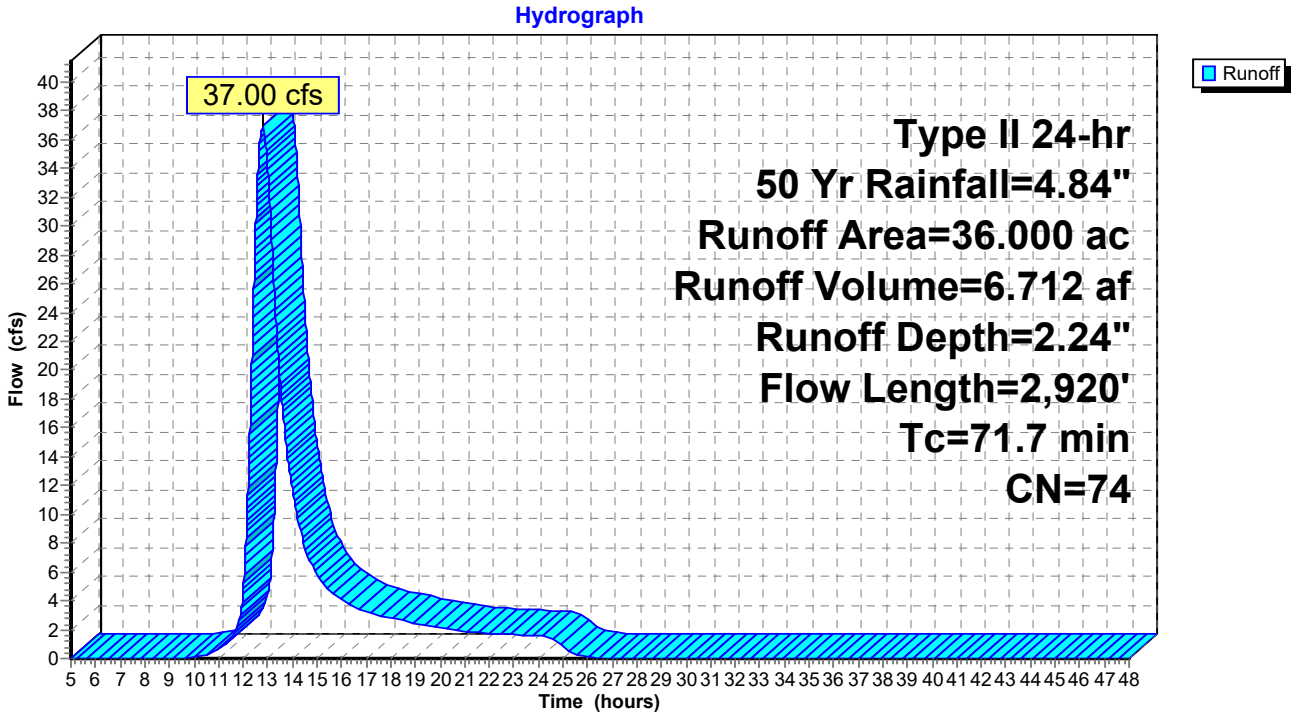
Runoff = 37.00 cfs @ 12.82 hrs, Volume= 6.712 af, Depth= 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.500	78	Meadow, non-grazed, HSG D
0.100	98	Unconnected pavement, HSG D
36.000	74	Weighted Average
35.900		99.72% Pervious Area
0.100		0.28% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 8S: Combined Cortlandville II and III Post DA-2



Summary for Subcatchment 9S: Combined Cortlandville II and III Post DA-3

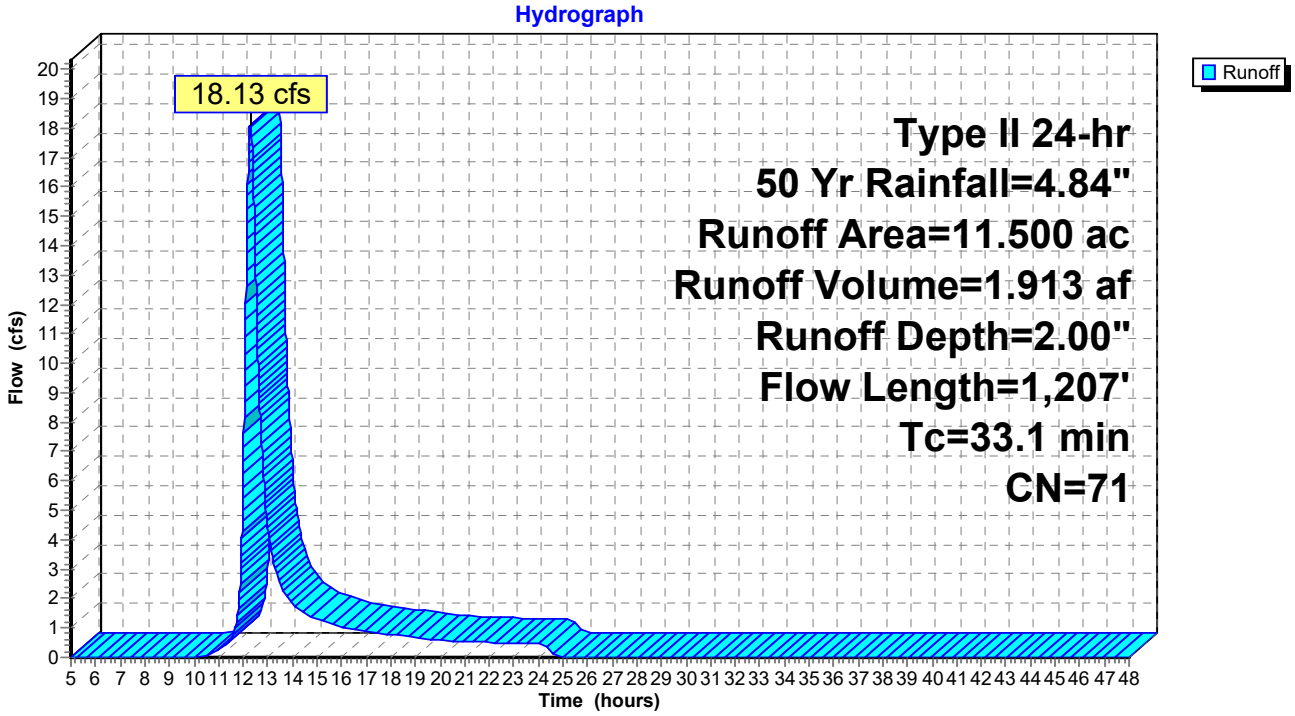
Runoff = 18.13 cfs @ 12.29 hrs, Volume= 1.913 af, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 50 Yr Rainfall=4.84"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 9S: Combined Cortlandville II and III Post DA-3



Time span=5.00-48.00 hrs, dt=0.01 hrs, 4301 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 1S: Pre DA-1 Runoff Area=67.200 ac 0.30% Impervious Runoff Depth=3.09"
Flow Length=2,970' Tc=56.6 min CN=76 Runoff=115.27 cfs 17.297 af

Subcatchment 2S: Pre DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=2.90"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=48.49 cfs 8.703 af

Subcatchment 3S: Pre DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=2.63"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=24.22 cfs 2.518 af

Subcatchment 4S: Post DA-1 Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=2.99"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=111.50 cfs 16.769 af

Subcatchment 5S: Post DA-2 Runoff Area=36.000 ac 0.00% Impervious Runoff Depth=2.90"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=48.49 cfs 8.703 af

Subcatchment 6S: Post DA-3 Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=2.63"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=24.22 cfs 2.518 af

Subcatchment 7S: Combined Cortlandville Runoff Area=67.200 ac 0.45% Impervious Runoff Depth=2.99"
Flow Length=2,970' Tc=56.6 min CN=75 Runoff=111.50 cfs 16.769 af

Subcatchment 8S: Combined Cortlandville Runoff Area=36.000 ac 0.28% Impervious Runoff Depth=2.90"
Flow Length=2,920' Tc=71.7 min CN=74 Runoff=48.49 cfs 8.703 af

Subcatchment 9S: Combined Cortlandville Runoff Area=11.500 ac 0.00% Impervious Runoff Depth=2.63"
Flow Length=1,207' Tc=33.1 min CN=71 Runoff=24.22 cfs 2.518 af

Total Runoff Area = 344.100 ac Runoff Volume = 84.498 af Average Runoff Depth = 2.95"
99.74% Pervious = 343.200 ac 0.26% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre DA-1

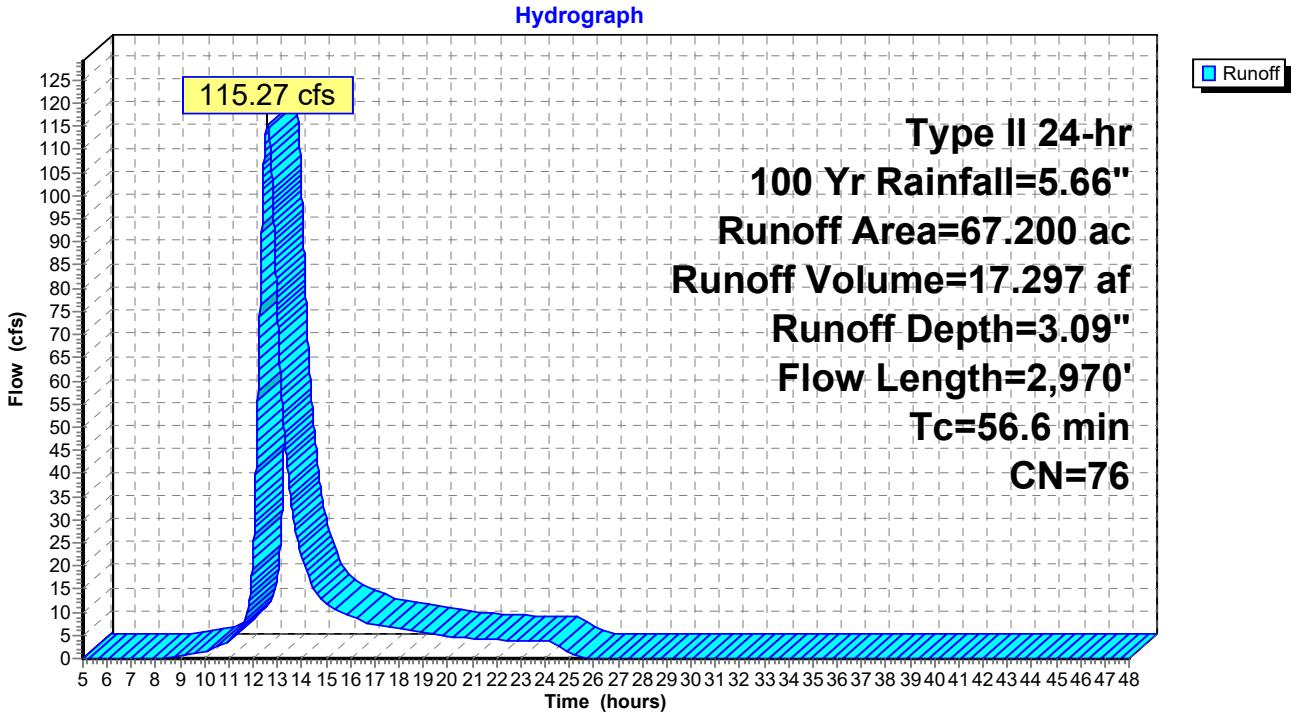
Runoff = 115.27 cfs @ 12.58 hrs, Volume= 17.297 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
18.600	71	Meadow, non-grazed, HSG C
37.000	78	Meadow, non-grazed, HSG D
5.500	73	Woods, Fair, HSG C
5.000	79	Woods, Fair, HSG D
67.200	76	Weighted Average
67.000		99.70% Pervious Area
0.200		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 1S: Pre DA-1



Summary for Subcatchment 2S: Pre DA-2

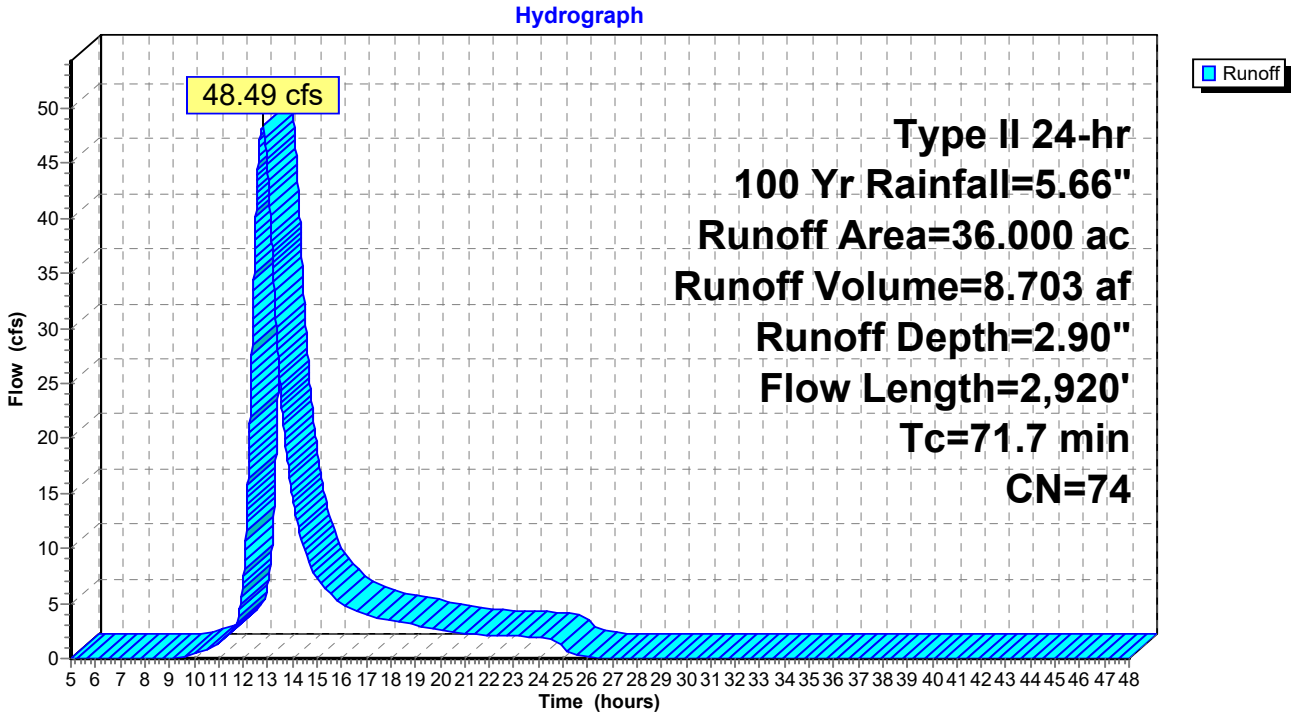
Runoff = 48.49 cfs @ 12.82 hrs, Volume= 8.703 af, Depth= 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
21.200	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
0.200	73	Woods, Fair, HSG C
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 2S: Pre DA-2



Summary for Subcatchment 3S: Pre DA-3

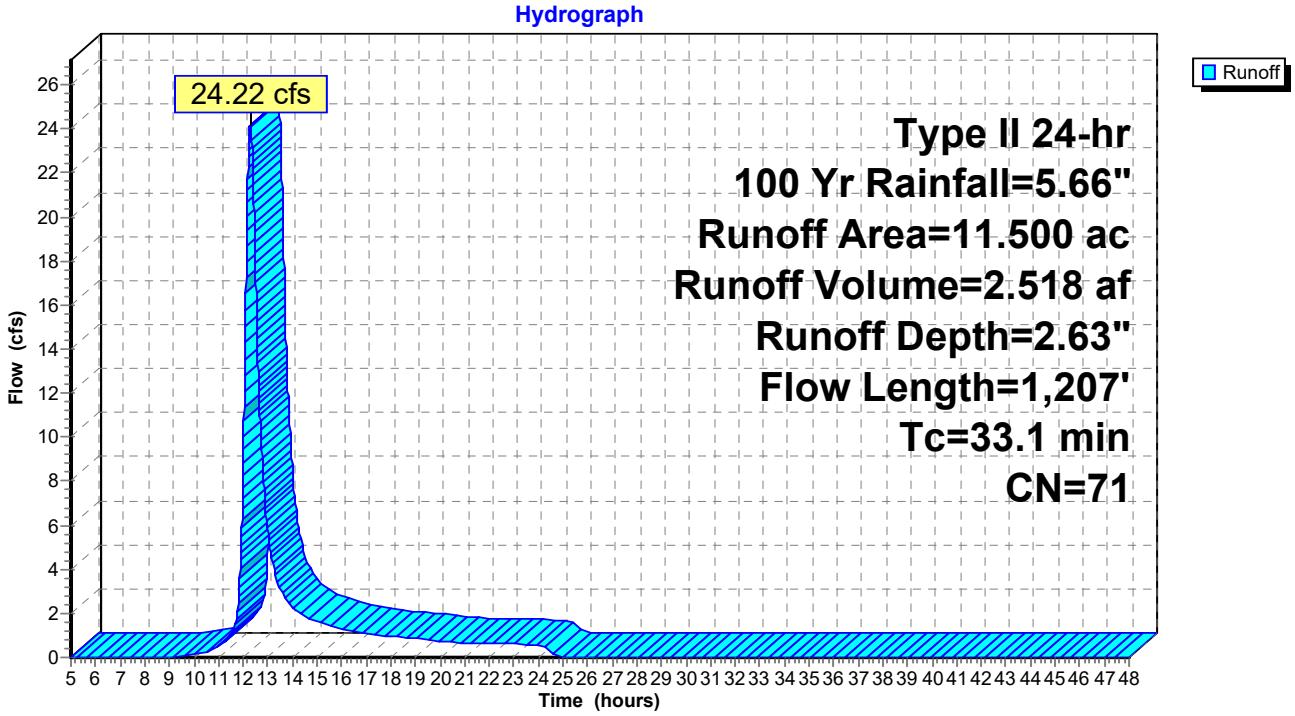
Runoff = 24.22 cfs @ 12.29 hrs, Volume= 2.518 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
11.200	71	Meadow, non-grazed, HSG C
0.300	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 3S: Pre DA-3



Summary for Subcatchment 4S: Post DA-1

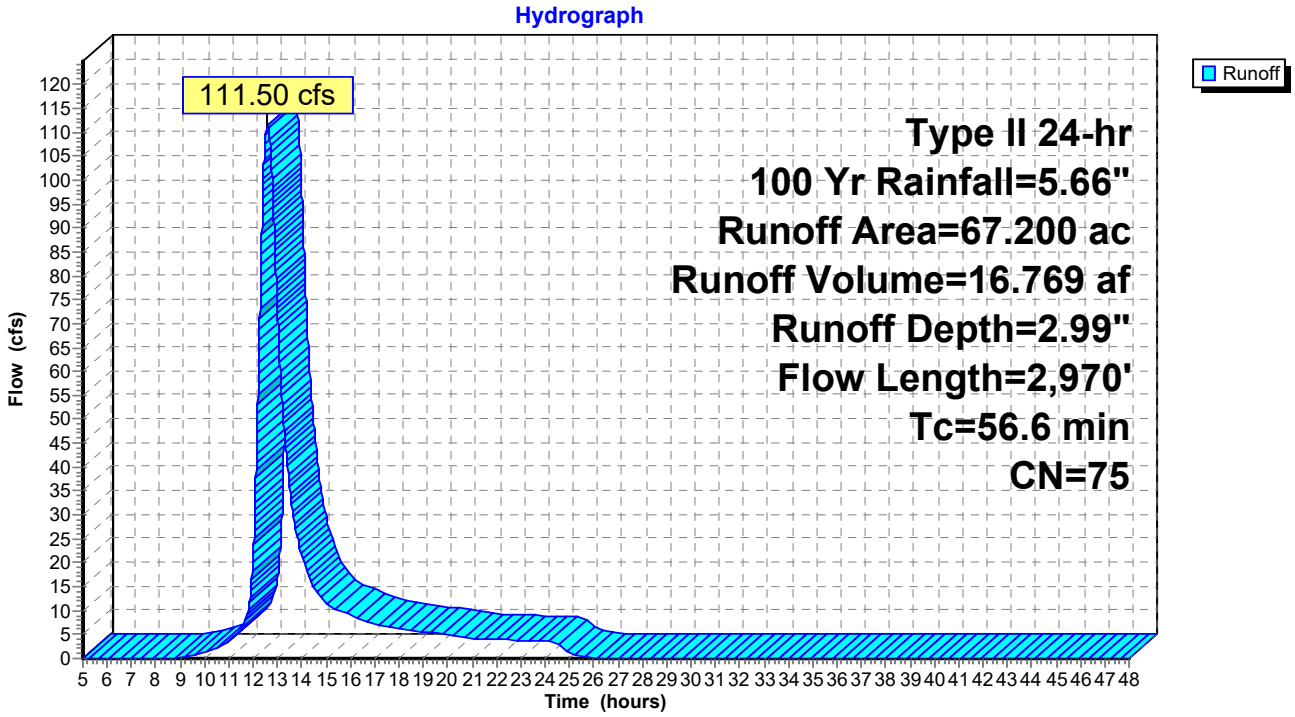
Runoff = 111.50 cfs @ 12.58 hrs, Volume= 16.769 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 4S: Post DA-1



Summary for Subcatchment 5S: Post DA-2

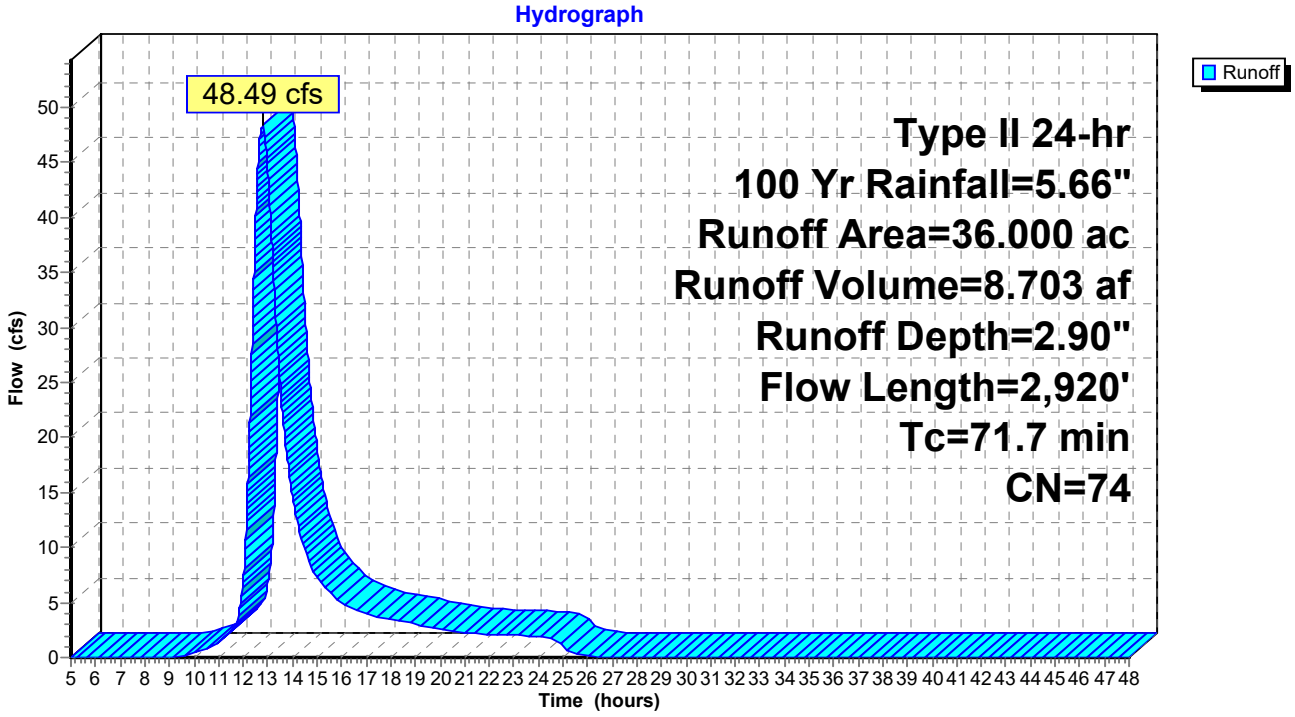
Runoff = 48.49 cfs @ 12.82 hrs, Volume= 8.703 af, Depth= 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.600	78	Meadow, non-grazed, HSG D
36.000	74	Weighted Average
36.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 5S: Post DA-2



Summary for Subcatchment 6S: Post DA-3

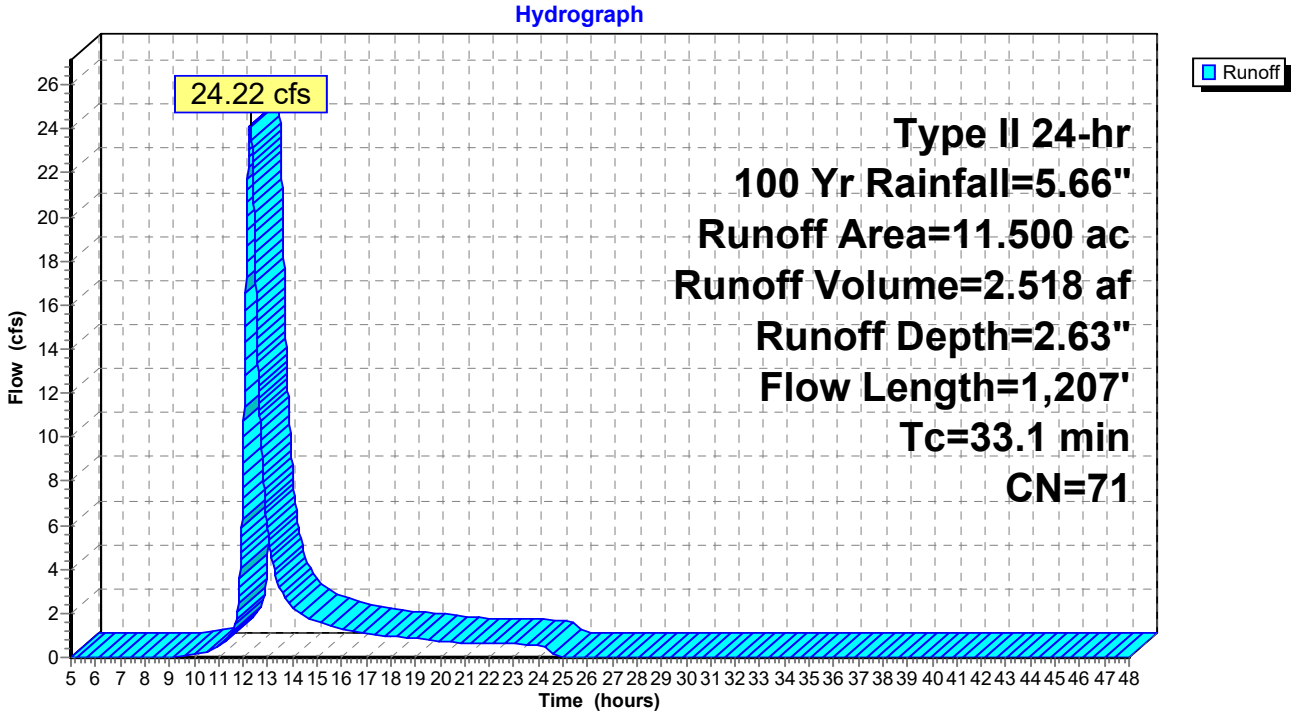
Runoff = 24.22 cfs @ 12.29 hrs, Volume= 2.518 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 6S: Post DA-3



Summary for Subcatchment 7S: Combined Cortlandville II and III Post DA-1

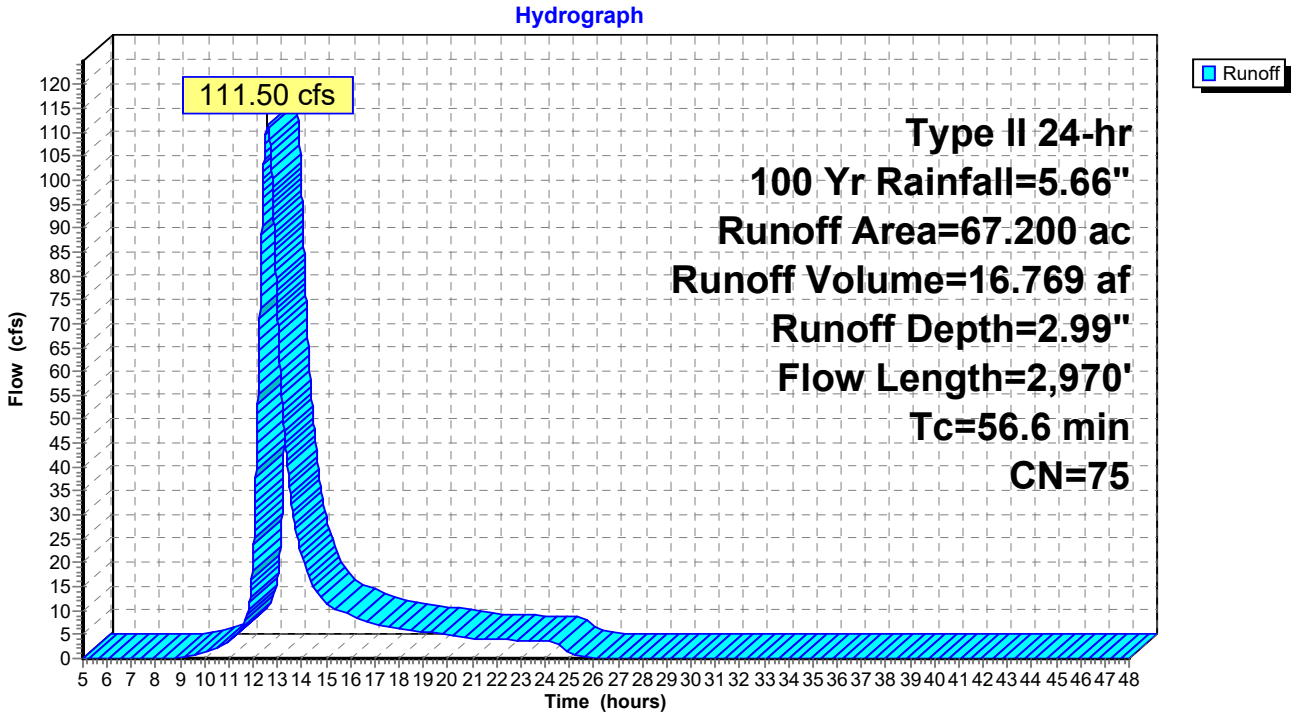
Runoff = 111.50 cfs @ 12.58 hrs, Volume= 16.769 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.900	58	Meadow, non-grazed, HSG B
21.500	71	Meadow, non-grazed, HSG C
39.200	78	Meadow, non-grazed, HSG D
2.600	73	Woods, Fair, HSG C
2.700	79	Woods, Fair, HSG D
67.200	75	Weighted Average
66.900		99.55% Pervious Area
0.300		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
2.7	196	0.0306	1.22		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
13.8	1,439	0.0618	1.74		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
17.0	1,006	0.0199	0.99		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	229	0.0873	2.07		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
56.6	2,970	Total			

Subcatchment 7S: Combined Cortlandville II and III Post DA-1



Summary for Subcatchment 8S: Combined Cortlandville II and III Post DA-2

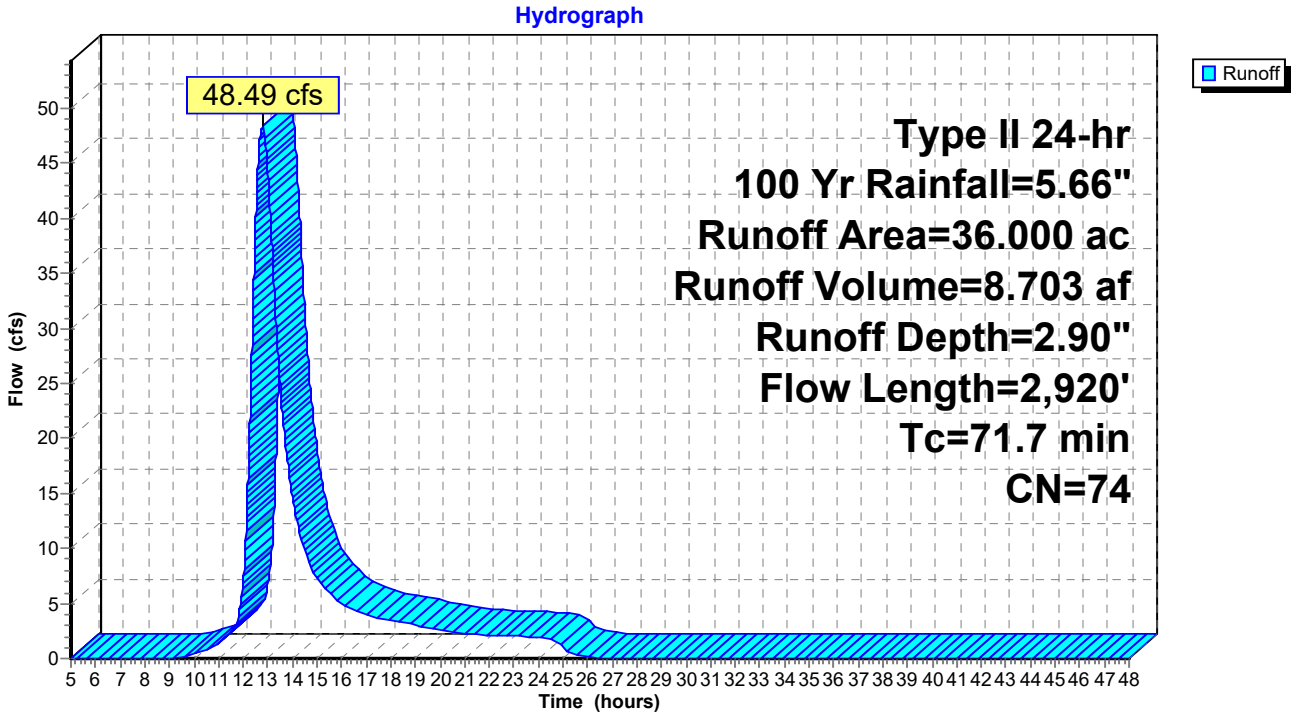
Runoff = 48.49 cfs @ 12.82 hrs, Volume= 8.703 af, Depth= 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
21.400	71	Meadow, non-grazed, HSG C
14.500	78	Meadow, non-grazed, HSG D
0.100	98	Unconnected pavement, HSG D
36.000	74	Weighted Average
35.900		99.72% Pervious Area
0.100		0.28% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	100	0.0100	0.08		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
14.3	1,506	0.0631	1.76		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
30.8	696	0.0029	0.38		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
3.5	336	0.0536	1.62		**Shallow Concentrated Flow, D E** Short Grass Pasture Kv= 7.0 fps
1.8	282	0.1348	2.57		**Shallow Concentrated Flow, E F** Short Grass Pasture Kv= 7.0 fps
71.7	2,920	Total			

Subcatchment 8S: Combined Cortlandville II and III Post DA-2



Summary for Subcatchment 9S: Combined Cortlandville II and III Post DA-3

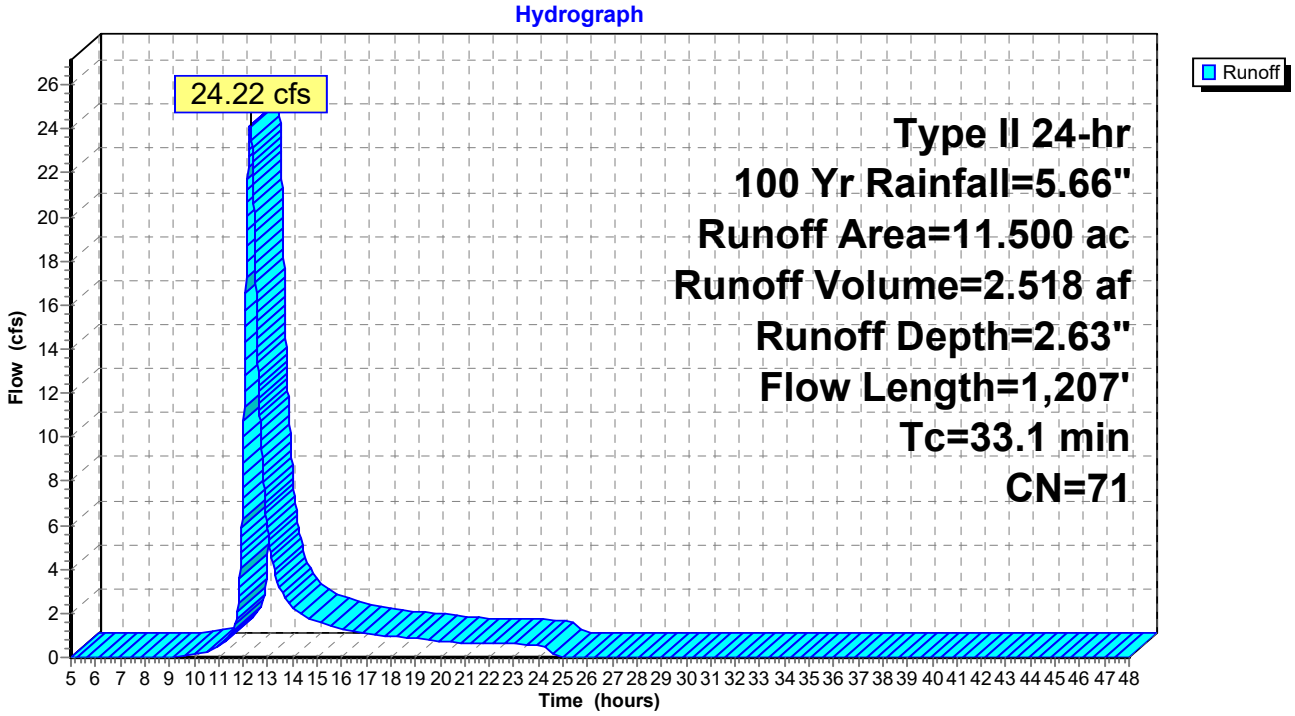
Runoff = 24.22 cfs @ 12.29 hrs, Volume= 2.518 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Yr Rainfall=5.66"

Area (ac)	CN	Description
11.300	71	Meadow, non-grazed, HSG C
0.200	73	Woods, Fair, HSG C
11.500	71	Weighted Average
11.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.1	100	0.0200	0.10		**Sheet Flow, A B** Grass: Dense n= 0.240 P2= 2.50"
4.3	321	0.0312	1.24		**Shallow Concentrated Flow, B C** Short Grass Pasture Kv= 7.0 fps
12.7	786	0.0216	1.03		**Shallow Concentrated Flow, C D** Short Grass Pasture Kv= 7.0 fps
33.1	1,207	Total			

Subcatchment 9S: Combined Cortlandville II and III Post DA-3



Version 1.8
Last Updated: 11/09/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	No

Design Point:	1	
P=	1.10	*inch*

Manually enter P, Total Area and Impervious Cover.

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	114.70	0.30	0%	0.05	23,978	Filter Strips
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	114.70	0.30	0%	0.05	**23,978**	**Subtotal 1**
Total	114.70	0.30	0%	0.05	**23,978**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	114.70	0.30	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**114.70**	**0.30**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	114.70	0.30	0%	0.05	23,978
Subtract Area	-114.70	-0.30			
WQv adjusted after Area Reductions	**0.00**	**0.00**	0%	0.05	0
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	0.00	0.00	0%	0.05	**0**
WQv reduced by Area Reduction techniques					23,978

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A	0.00	55%
B	1.40	40%
C	60.90	30%
D	**52.40**	20%
Total Area	114.7	
Calculate the Minimum RRv		
S =	**0.26**	
Impervious =	0.30	*acre*
Precipitation	1.1	*in*
Rv	0.95	
Minimum RRv	**291**	***ft3***
	0.01	af

Filter Strip

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	114.70	0.30	0.00	0.05	23977.97	1.10	Filter Strips

Design Elements			
Is another area based practice applied to this area?	*No*	*Y/N*	
Amended Soils & Dense Turf Cover?		*Y/N*	
Is area protected from compaction from heavy equipment during construction?	*Yes*	*Y/N*	
Small Area of Impervious Area & close to source?	*Yes*	*Y/N*	
Composte Amendments?	*No*	*Y/N*	
Boundary Spreader?	*Yes*	*Y/N*	*Gravel Diaphram at top*
Boundary Zone?	*Yes*	*Y/N*	*25 feet of level grass*
Specify how sheet flow will be ensured.			*level spreader shall be used for buffer slopes ranging from 3-15%*
Average contributing slope	1	*%*	*3% maximum unless a level spreader is*
Slope of first 10 feet of Filter Strip	2	*%*	*2% maximum*
Overall Slope	2	*%*	*8% maximum*
Contributing Length of Pervious Areas (PC)	0	*ft*	*150 ft maximum*
Contributing Length of Impervious areas (IC)	25	*ft*	*75 ft maximum*
Maximum PC Contributing Length for combination of PC & IC	125	*ft*	
Soil Group (HSG)	D		
Filter Strip Width	50	*ft*	*50 ft minimum for slopes 0-8%* *75 ft minimum for slopes 8-12%* *100 ft minimum for slopes 12-15%* *HSG C or D increase by 15-20%*
Are All Criteria for Filter Strips in Section 5.3.2 met?	*Yes*		

Area Reduction Adjustments		
Subtract	**114.70**	***Acres from total Area***
Subtract	**0.30**	***Acres from total Impervious Area***

FALSE

APPENDIX F

CONTRACTOR/SUBCONTRACTOR CERTIFICATIONS

CONTRACTOR CERTIFICATION STATEMENT

SSC Cortlandville II LLC 4242 Bell Crest Drive, Cortlandville, NY 13045

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

Signature: _____ Date: _____

Name: _____

Title: _____

Company: _____

Address: _____

Phone: _____

Fax: _____

Trained Contractor responsible for SWPPP Implementation:

Name: _____

Title: _____

Responsible for the following elements of the SWPPP:

_____

_____

_____

_____

_____

_____

APPENDIX G

STORMWATER INSPECTION CHECKLISTS

APPENDIX E
EROSION AND SEDIMENT CONTROL
PLAN REVIEW CHECKLIST

Project Name _____ Site Location _____

Applicant's Name & Address _____
_____

General

A narrative statement shall be provided that describes the proposed project nature and purpose; the existing site conditions including topography, vegetation and drainage; adjacent and off-site areas affected by the project; description of the soils on the site and key properties; notations of critical areas such as steep slopes, channels or wetlands; the overall phasing, sequencing and stabilization plan; total disturbed area and, areas not to be disturbed, and soil restoration plan.

I. Construction Drawings

Are the following items shown on the construction drawings:	Yes	No
1. Vicinity Map with scale and north arrow	____	____
2. Legend, scales, N arrow on plan view	____	____
3. Existing and proposed topography shown with contours labeled with spots elevations in critical areas	____	____
4. Scope of the plan noted in the Title Block	____	____
5. Limits of clearing and grading shown , and methods of spoil disposal	____	____
6. Existing vegetation delineated	____	____
7. Soil boundaries shown on the existing and proposed plan views	____	____
8. Existing drainage patterns, 100 year floodplain and sub-areas shown, runoff outfall locations identified	____	____
9. Existing and proposed development facilities/ improvements shown	____	____
10. Location of Erosion and Sediment control practices as phased with construction, with dimensions and material specifications	____	____
11. Phasing plan with 5 acre threshold limits shown	____	____
12. Stockpile locations, staging areas, access points, and concrete trunk washout locations clearly defined	____	____
13. Street profiles, utility locations, property boundaries and, easement delineations shown	____	____
14. Soil Restoration Plan detailed on the site plan	____	____

II. Construction Notes & Details	Yes	No
1. Specific sequence of operation given for each phase	____	____
2. Inspection and maintenance schedule shown for the specific practices	____	____
3. Design details show all dimensions and installation details necessary for construction	____	____
4. Implementation schedule for E&S practices is provided with removal criteria stated	____	____
5. Site pollution and construction waste management plan incorporated in the notes	____	____
6. Site Inspections during construction are noted on the drawings and are in accordance with the General Permit for Stormwater Discharges from Construction Activities	____	____

III. Erosion & Sediment Control Practices

A. General	Yes	No
1. Practice meets purpose and design criteria	____	____
2. Standard details and construction notes are provided	____	____
3. Special timing of practice noted if applicable	____	____
4. Provisions for traffic crossings shown on the drawings where necessary	____	____

B. Practices Controlling Runoff	Yes	No
1. Positive drainage is maintained with contributing drainage area shown	____	____
2. Flow grades properly stabilized	____	____
3. Adequate outlet or discharge condition stabilized	____	____
4. Necessary dimensions, gradations, calculations, and materials shown	____	____

C. Practices Stabilizing Soil	Yes	No
1. Seeding rates and areas properly shown on the drawings	____	____
2. Mulch materials and rates specified on the drawings	____	____
3. Sequencing and timing provisions limit soil exposure to 7 to14 days as appropriate	____	____

C. Practices Stabilizing Soil (cont'd)	Yes	No
4. Rolled Erosion Control Products (RECP's) used are specified to location and appropriate weight/tie down	____	____
5. All soil seed bed preparation and amendments are specified on the drawings or in the specifications	____	____
6. The seeding dates are specified to cover the entire year for both temporary and permanent seedings	____	____
7. Maximum created slopes are no steeper than 2 foot horizontal to 1 foot vertical with Cut and Fill slopes shown	____	____

D. Practices Controlling Sediment	Yes	No
1. Sediment traps/basins are sized in accordance with criteria	____	____
2. The contributing drainage area is shown on the grading plan	____	____
3. All scaled dimensions and volumes are shown on the plan	____	____
4. Maintenance requirements and clean out elevations established for all sediment control practices (50% capacity)	____	____
5. All access points of the project are shown to be stabilized	____	____
6. Storm drain inlets adequately protected	____	____
7. Buffer filter strips are appropriately sited and installed	____	____
7. Silt fences are shown on the contour lines with no more than one quarter acre per 100 foot drainage to it	____	____
8. Temporary sediment traps are not being used at locations of future stormwater infiltration facilities	____	____
9. Dewatering devices for traps and basins are adequately designed with details shown on the plans	____	____
10. Geotextile filter bags are properly sited, sized, and have their maintenance requirements detailed on the drawings	____	____
11. Turbidity curtains are properly located with installation, anchoring, and maintenance details shown on the plans	____	____

Additional Comments and Notes

Plan Reviewed By: _____ Date: _____

APPENDIX H

CONSTRUCTION SITE LOG

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. Pre-Construction Meeting Documents
   a. Preamble to Site Assessment and Inspections
   b. Pre-Construction Site Assessment Checklist

II. Construction Duration Inspections
   a. Directions
   b. Modification to the SWPPP

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA
[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

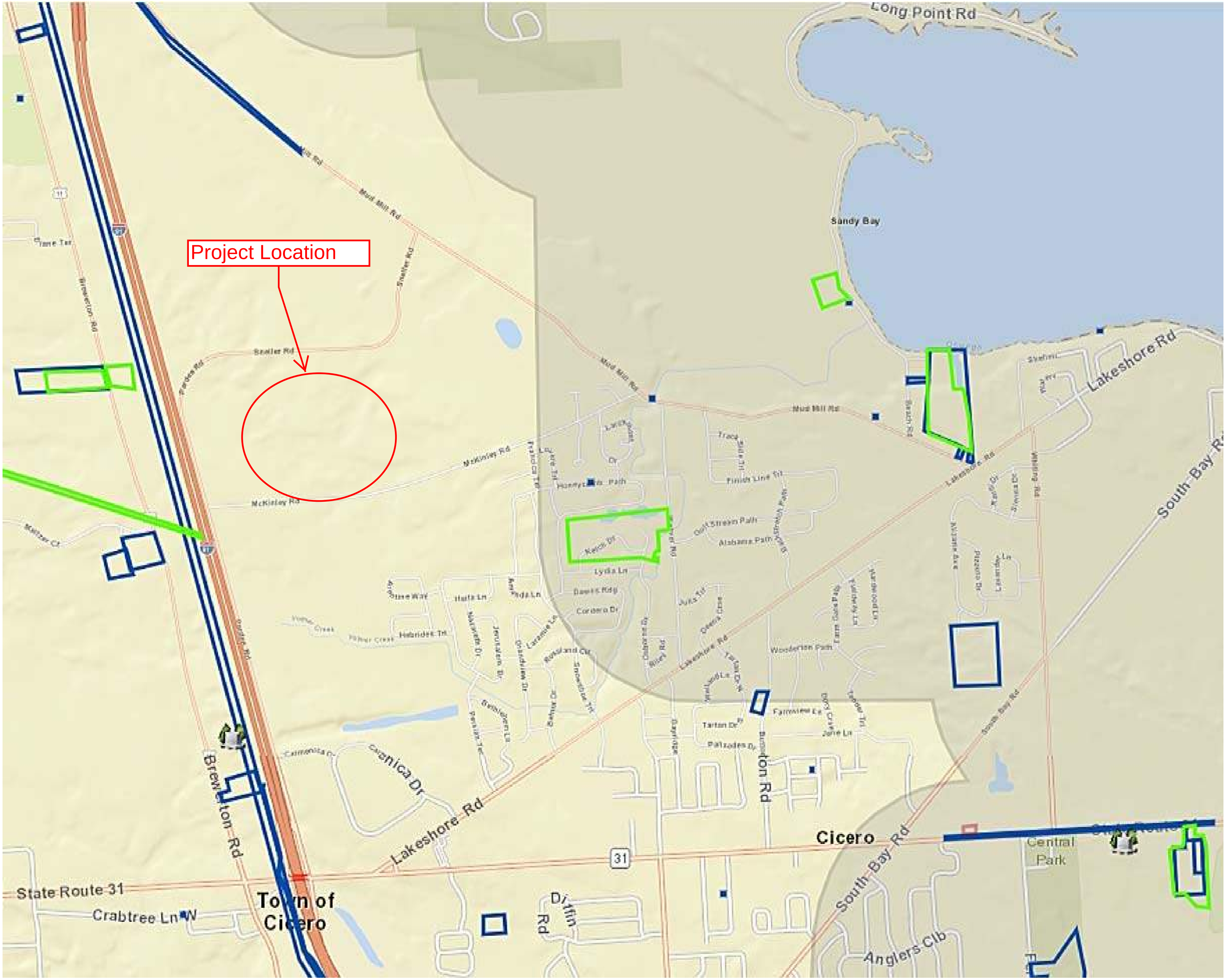
The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX I

OPRHP DOCUMENTATION


Project Location
Long Point Rd
Sandy Bay
Mud Mill Rd
McKinley Rd
Lakeshore Rd
South Bay Rd
Brewerton Rd
Carmenica Dr
Cicero
31
Central Park
State Route 31
Crabtree Ln W
Town of Cicero
Anglers Clb

APPENDIX J

FLOOD INSURANCE RATE MAP

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3182
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from digital orthophotography provided by the New York State Office of Cyber Security & Critical Infrastructure Coordination. This information was produced as one-foot and two-foot resolution natural color orthoimagery from photography dated April 2006.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

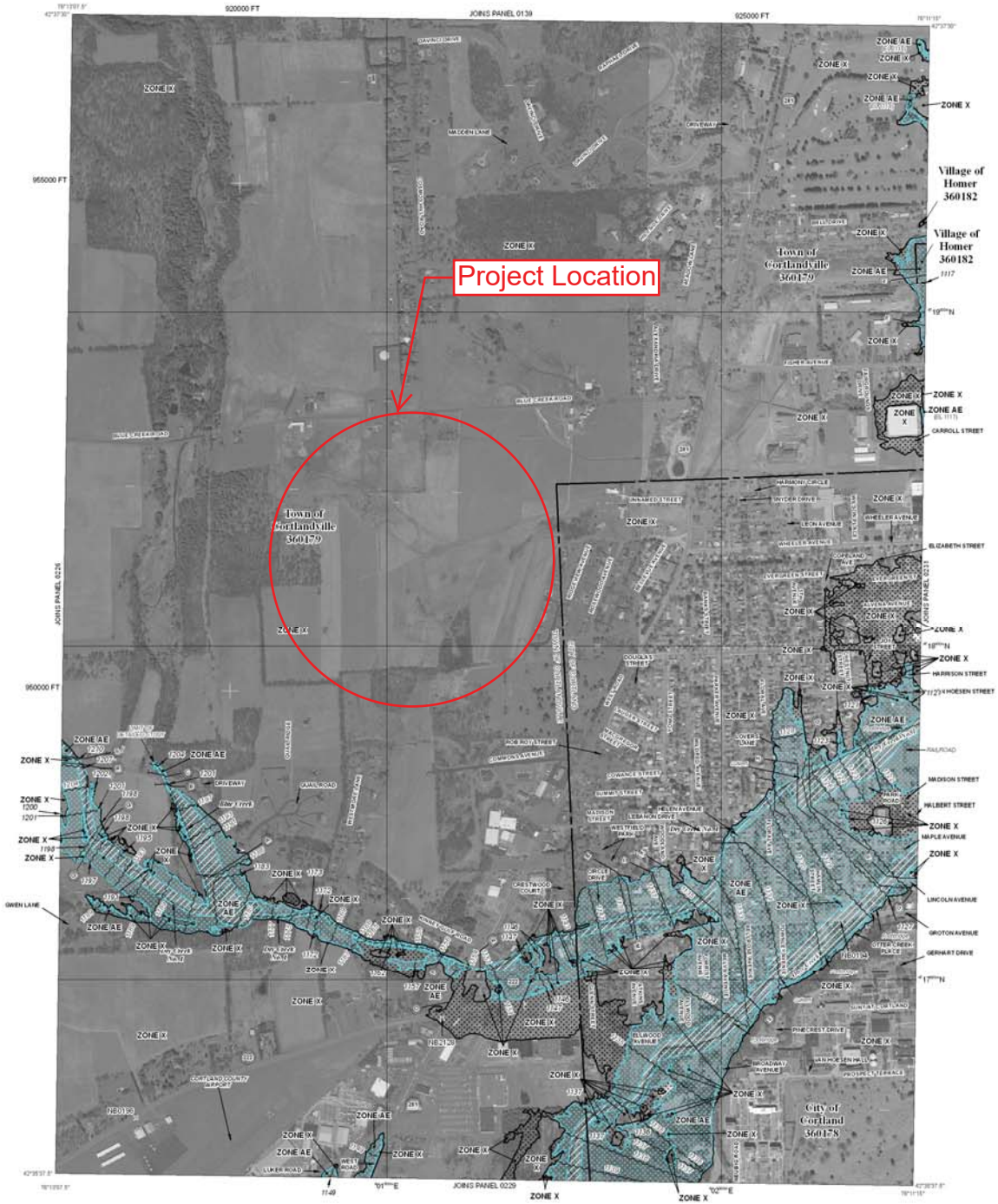
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

CTP Cooperating Technical Partners

This digital FIRM was produced through a unique cooperative partnership between the New York State Department of Environmental Conservation (NYSDEC) and FEMA. As part of the effort, NYSDEC has joined in a Cooperative Technical Partnership agreement to produce and maintain FEMA's digital FIRM.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL. 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Limited detail cross section line
- B — B — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4276000 FT — 1000-meter Universal Transverse Mercator grid values, zone 18
- 600000 FT — 5000-foot grid ticks: New York State Plane coordinate system, Central zone (FIPSZONE 3102), Transverse Mercator projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 2, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0227D

FIRM

FLOOD INSURANCE RATE MAP

for CORTLAND COUNTY, NEW YORK (ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
CORTLAND, CITY OF	360178
CORTLANDVILLE, TOWN OF	360179
HOMER, VILLAGE OF	360182

PANEL 227 OF 440
MAP SUFFIX: D
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

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
36023C0227D

EFFECTIVE DATE
MARCH 2, 2010

Federal Emergency Management Agency

APPENDIX K

ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION STATEMENT

SSC Cortlandville II LLC
4242 Bell Crest Drive
Town of Cortlandville, NY

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law"

DELTA ENGINEERS, ARCHITECTS, LAND SURVEYORS, & LANDSCAPE ARCHITECTS
860 Hooper Road
Endwell, New York 13760
(607) 231-6625

Signature:

Date:

Name: Joseph J. Mieczkowski NYSPE# 082669-1

Title: Director Transportation Services

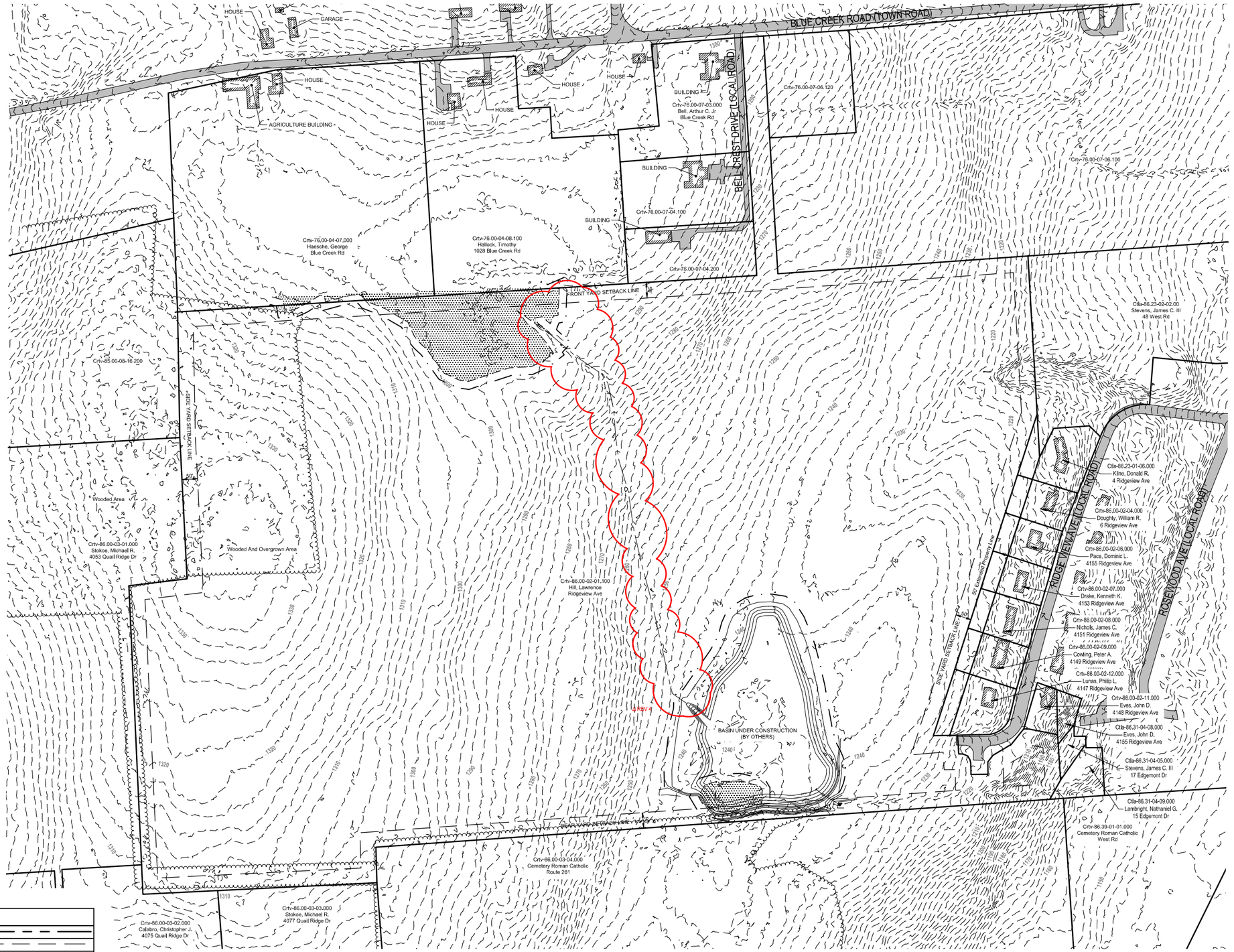
APPENDIX L

SWPPP MODIFICATIONS

Modifications

APPENDIX M

STORMWATER PLANS & DETAILS



EXISTING CONDITIONS LEGEND:	
PROPERTY LINE	
SETBACK LINE	
EXISTING GROUND CONTOUR	360
WETLAND BOUNDARY	
EXISTING OVERHEAD ELECTRIC LINE	OH OH OH
EXISTING PAVEMENT AREA	
EXISTING TREE LINE	

GENERAL NOTES:

1. GROUND CONTOUR LINES SHOWN IN THIS DRAWING WERE ADDED USING INFORMATION FROM THE NEW YORK STATE CLEARING HOUSE WEBSITE.
2. PROPERTY LINES ARE APPROXIMATE AND BASED ON TAX MAP INFORMATION.
3. WETLANDS WERE RECENTLY MAPPED AND UNKNOWN TO STATE AND FEDERAL AGENCIES.

1 / CVII-100 **EXISTING SITE CONDITIONS**
SCALE: 1" = 150'

NORTH

0' 75' 150' 300'
SCALE: 1"=150'

SUMMIT SOLAR

SSC Cortlandville II LLC
334 Arapahoe Ave
Boulder, Colorado 80302
Tel: 561.866.8234
Email: john@summitsolarcapital.com

Key Plan

NOT FOR CONSTRUCTION

No.	Revision	Date
5	Revised Tree Planting Detail	11/17/2020
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
1	Revised Solar Layout	8/17/2020
0	Original Submission	7/22/2020

Project Name

SSC CORTLANDVILLE II LLC

TOWN OF CORTLANDVILLE, NEW YORK STATE

DELTA
ENGINEERS, ARCHITECTS, & SURVEYORS
860 Hooper Road
Endwell, New York 13760
Tel: 607.231.6600
Fax: 607.231.6650
Email: mail@delta-eas.com
www.delta-eas.com

Seal

STATE OF NEW YORK · WILLIAM C. NICHOLS · 73447 · LICENSED PROFESSIONAL ENGINEER

Phase
PLANNING BOARD

Project No.
2020.260.001

Date
2020.10.13

Drawing Title

EXISTING SITE CONDITIONS

Drawing No.

CVII-100

EXISTING CONDITIONS LEGEND:	
PROPERTY LINE	
SETBACK LINE	
EXISTING GROUND CONTOUR	360
WETLAND BOUNDARY	
EXISTING OVERHEAD ELECTRIC LINE	OH OH OH
EXISTING PAVEMENT AREA	
EXISTING TREE LINE	

EROSION AND SEDIMENT CONTROL LEGEND:	
SILT FENCE	
PERVIOUS ACCESS ROAD	
STABILIZED CONSTRUCTION ENTRANCE	
25' VEGETATIVE BUFFER	
CLEAR AND GRUB AREA	

1 / CVII-101 **EROSION AND SEDIMENT CONTROLS PLAN**
SCALE: 1" = 150'

NORTH

#	KEY NOTES
1	PROVIDE SILT FENCE. ADJUST AS NEEDED AS LAND CLEARING PROGRESSES, TYP. SEE DETAIL 2/CVII-301.
2	PROVIDE STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL 1/CVII-301.
3	MAINTAIN 25' VEGETATED BUFFER WITH SELECTIVE CLEARING AT WETLAND BOUNDARIES AND STORMWATER, TYP.
4	CLEARING AND GRUBBING AREA, TYP.

0' 75' 150' 300'
SCALE: 1"=150'

SUMMIT SOLAR

SSC Cortlandville II LLC
334 Arapahoe Ave
Boulder, Colorado 80302
Tel: 561.866.8234
Email: john@summitsolarcapital.com

Key Plan

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No.	Revision	Date
5	Revised Tree Planting Detail	11/17/2020
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
1	Revised Solar Layout	8/17/2020
0	Original Submission	7/22/2020

Δ REV 5

Project Name

SSC CORTLANDVILLE II LLC

TOWN OF CORTLANDVILLE, NEW YORK STATE

DELTA
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860 Hooper Road
Endwell, New York 13760
Tel: 607.231.6600
Fax: 607.231.6650
Email: mail@delta-eas.com
www.delta-eas.com

Seal

STATE OF NEW YORK · WILLIAM C. NICHOLS · 73447 · LICENSED PROFESSIONAL ENGINEER

Phase
PLANNING BOARD

Project No.
2020.260.001

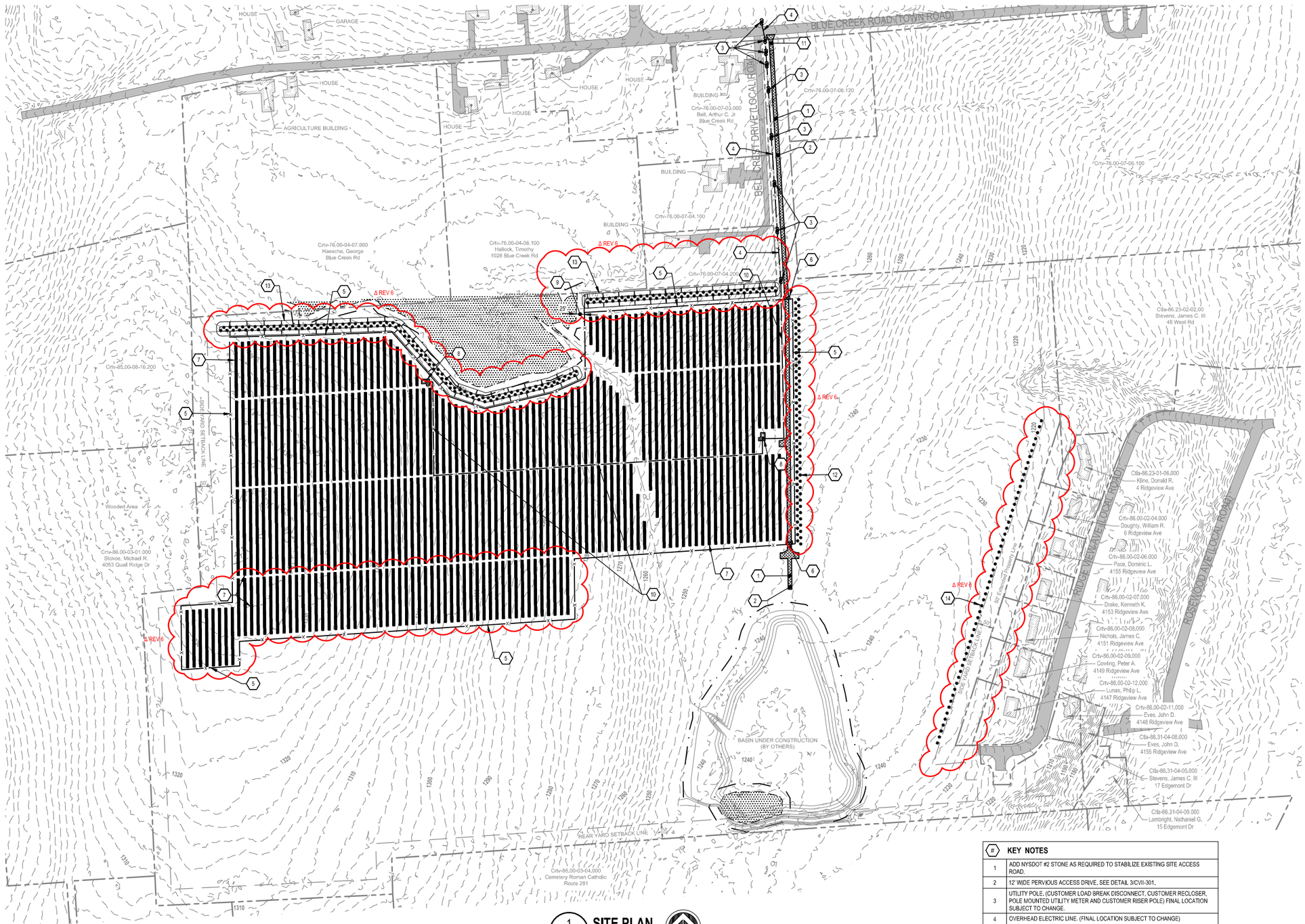
Date
2020.10.13

Drawing Title

EROSION AND SEDIMENT CONTROLS PLAN

Drawing No.

CVII-101



1 CVII-200 **SITE PLAN**
SCALE: 1" = 150'

NORTH

EXISTING CONDITIONS LEGEND:	
PROPERTY LINE	
SETBACK LINE	
EXISTING GROUND CONTOUR	360
WETLAND BOUNDARY	
EXISTING OVERHEAD ELECTRIC LINE	OH OH OH
EXISTING PAVEMENT AREA	

SITE PLAN LEGEND:	
UTILITY POLE	
OVERHEAD ELECTRIC LINE	O/H
UNDERGROUND ELECTRIC LINE	U/E
SECURITY FENCE	X
25' VEGETATIVE BUFFER	
PHOTOVOLTAIC (PV) MODULE	
GRAVEL ACCESS ROAD	
STABILIZED CONSTRUCTION ENTRANCE	

PARCEL ACREAGE:	±114.4 ACRES
PROJECT ACREAGE:	±34.6 ACRES
PROPOSED SOLAR:	19,016 PANELS

Δ REV 6

#	KEY NOTES
1	ADD NYSDOT #2 STONE AS REQUIRED TO STABILIZE EXISTING SITE ACCESS ROAD.
2	12' WIDE PERVIOUS ACCESS DRIVE, SEE DETAIL 3/CVII-301.
3	UTILITY POLE, (CUSTOMER LOAD BREAK DISCONNECT, CUSTOMER RECLOSER, POLE MOUNTED UTILITY METER AND CUSTOMER RISER POLE) FINAL LOCATION SUBJECT TO CHANGE.
4	OVERHEAD ELECTRIC LINE. (FINAL LOCATION SUBJECT TO CHANGE)
5	6' HEIGHT CHAIN LINK SECURITY FENCE WITH 12" OF 3 - STRAND BARBED WIRE. SEE DETAIL 1/CVII-300.
6	DOUBLE SWING CHAIN LINK FENCE GATE. SEE DETAIL 2/CVII-300.
7	PHOTOVOLTAIC (PV) MODULE,TYP.
8	PV INVERTER, TRANSFORMER, ENERGY STORAGE EQUIPMENT (IF APPLICABLE) AND NEUTRAL GROUND REACTOR EQUIPMENT SET ON CONCRETE PAD OR DRIVEN PILE FOUNDATION. SEE DETAIL 4/CVII-300.
9	MAINTAIN A 25' SETBACK FROM WETLANDS.
10	MEDIUM VOLTAGE UNDERGROUND ELECTRIC LINE. (FINAL LOCATION SUBJECT TO CHANGE), SEE DETAIL 3/CVII-300.
11	MINOR COMMERCIAL DRIVEWAY. SEE DETAIL 4/CVII-301.
12	VIEW MITIGATION PLANTING. SEE DETAIL 6/CVII-301.
13	VIEW MITIGATION PLANTING WITH BERM. SEE DETAIL 7/CVII-301.
14	VIEW MITIGATION PLANTING. (SINGLE ROW 10' TREES, 20' APART)

0' 75' 150' 300'
SCALE: 1"=150'

SUMMIT SOLAR

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Key Plan

NOT FOR CONSTRUCTION

No.	Revision	Date
6	Revised View Screening	12/14/2020
5	Revised Tree Planting Detail	11/17/2020
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
1	Revised Solar Layout	8/17/2020
0	Original Submission	7/22/2020

Project Name

SSC CORTLANDVILLE II LLC

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www.delta-eas.com

Seal

STATE OF NEW YORK · WILLIAM C. NICHOLS · 73447 · LICENSED PROFESSIONAL ENGINEER

Phase
PLANNING BOARD

Project No.
2020.260.001

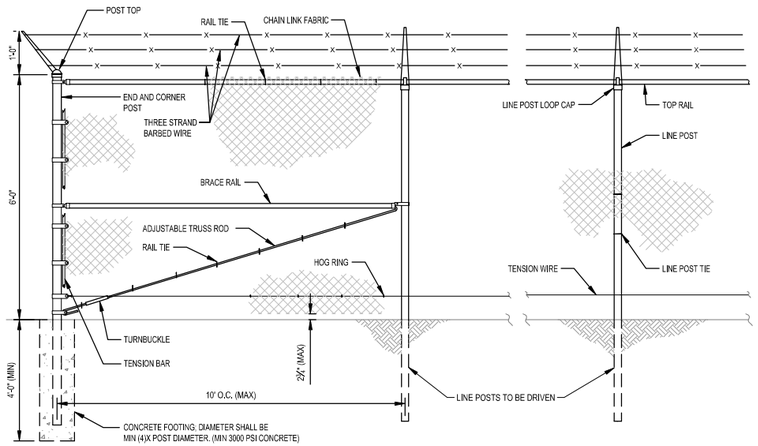
Date
2020.10.13

Drawing Title

SITE PLAN

Drawing No.

CVII-200

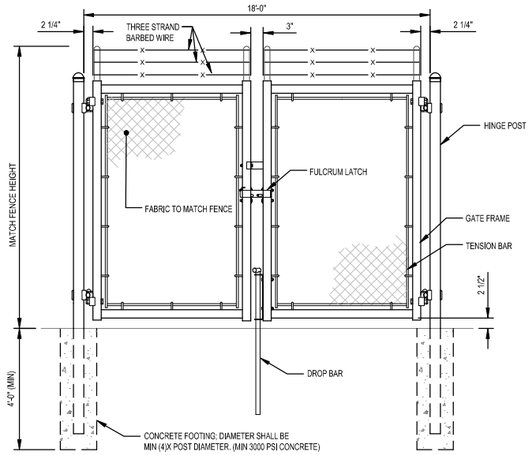


NOTE:

1. ONLY EXTERIOR CHAIN LINK FENCE LINES INCORPORATE THREE (3) LINE BARBED WIRE.

1 CVII-300 CHAIN LINK FENCE DETAIL

SCALE: NONE

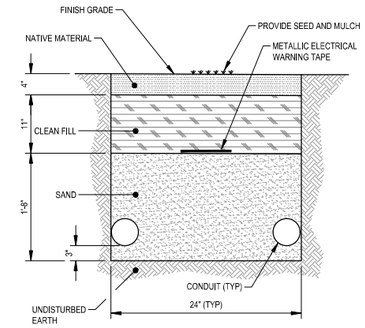


NOTE:

1. ONLY EXTERIOR CHAIN LINK FENCE GATES INCORPORATE THREE (3) LINE BARBED WIRE.

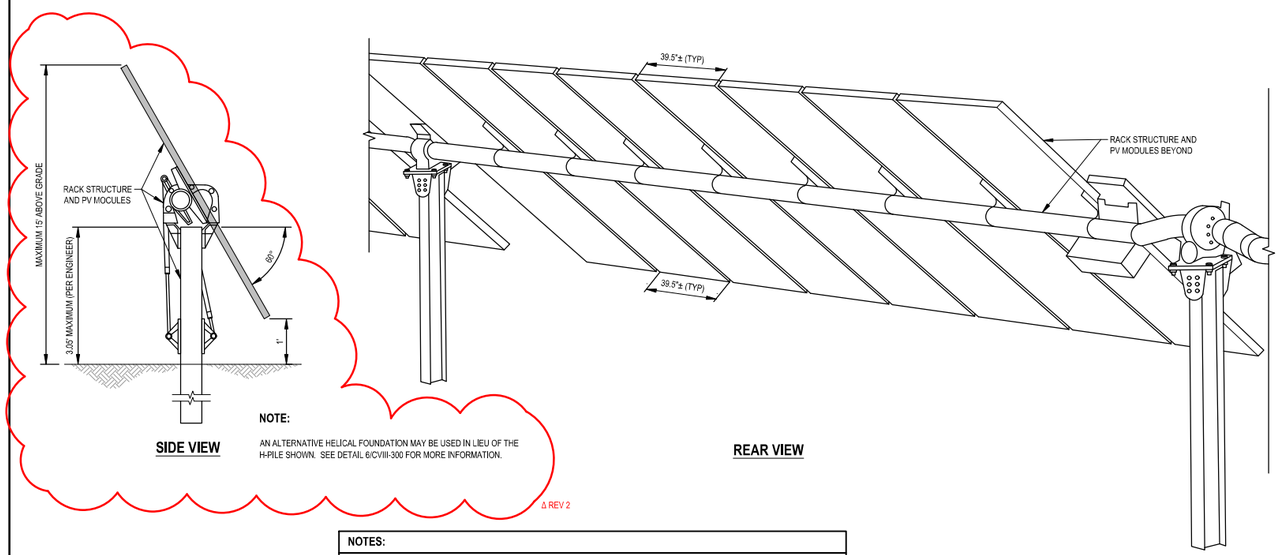
2 CVII-300 DOUBLE CHAIN LINK FENCE GATE DETAIL

SCALE: NONE



3 CVII-300 MEDIUM VOLTAGE CABLE TRENCH DETAIL (MV)

SCALE: NONE



SIDE VIEW

REAR VIEW

NOTE:

AN ALTERNATIVE HELICAL FOUNDATION MAY BE USED IN LIEU OF THE H-PILE SHOWN. SEE DETAIL 6/CVIII-300 FOR MORE INFORMATION.

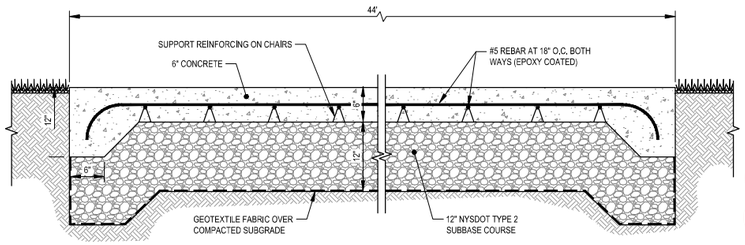
Δ REV 2

NOTES:

1. RACK STRUCTURE AND PV MODULES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY, ACTUAL COMPONENTS MAY VARY.
2. DIMENSIONS SHOWN ARE BASED ON A 25-DEGREE (MINIMUM) SLANT ANGLE AND MAY VARY SLIGHTLY.
3. ARRAY ROW SPACING MUST ALWAYS BE EQUAL TO OR GREATER THAN ARRAY HORIZONTAL COVERAGE.
4. SUPPORTS VARY BASED ON SITE SOIL CONDITIONS AND TYPICALLY VARY IN EMBEDMENT LEGNTHS FROM 4'-0" TO 7'-0"

4 CVII-300 SOLAR RACKING DETAIL

SCALE: NONE



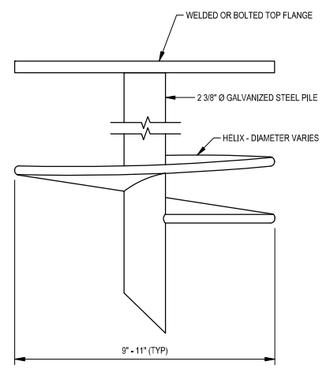
Δ REV 5

NOTE:

1. DRIVEN PILE FOUNDATIONS MAY BE USED IN LIEU OF CONCRETE EQUIPMENT PADS AS SHOWN.

5 CVII-300 THICKENED EDGE 6" THICK CONCRETE PAD DETAIL

SCALE: NONE



6 CVII-300 ALTERNATIVE HELIX FOUNDATION DETAIL

SCALE: NONE

Δ REV 2

SUMMIT SOLAR

SSC Cortlandville II LLC
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Email: john@summitsolarcapital.com

Key Plan

NOT FOR CONSTRUCTION

No.	Revision	Date
5	Revised Tree Planting Detail	11/17/2020
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
1	Revised Solar Layout	8/17/2020
0	Original Submission	7/22/2020

Project Name

SSC CORTLANDVILLE II LLC

TOWN OF CORTLANDVILLE, NEW YORK STATE

DELTA
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Seal

STATE OF NEW YORK WILLIAM C. NICOLL 73447 LICENSED PROFESSIONAL ENGINEER

Phase
PLANNING BOARD

Project No.
2020.260.001

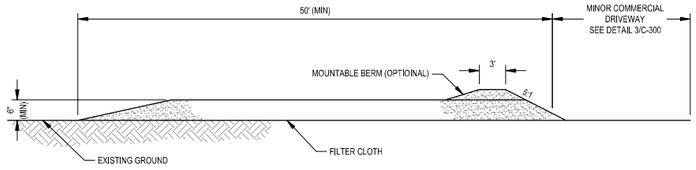
Date
2020.10.13

Drawing Title

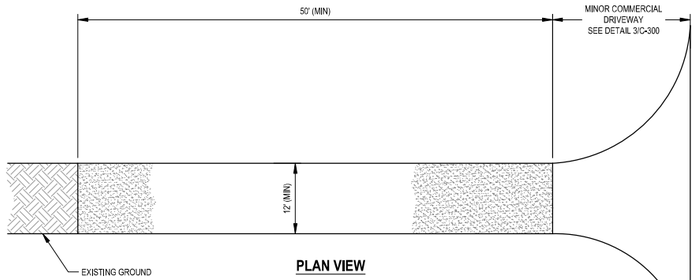
DETAILS

Drawing No.

CVII-300



PROFILE

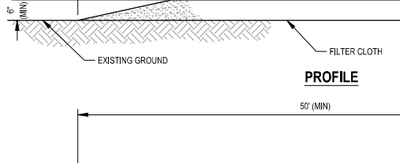


PLAN VIEW

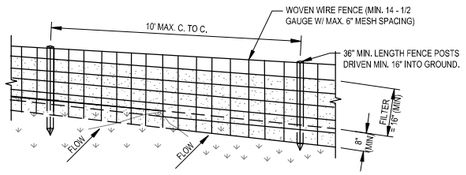
CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE: USE NYS DOT # 2 STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. THICKNESS: NOT LESS THAN SIX (6) INCHES.
3. TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
4. FILTER CLOTH: WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
5. SURFACE WATER: ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
7. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN DURING CONSTRUCTION.
9. CONSTRUCTION SPECIFICATIONS SUBJECT TO CHANGE PURSUANT TO NYSDOT REQUIREMENTS.

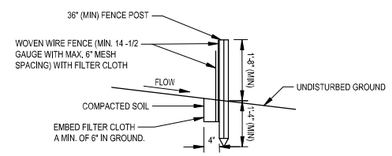
1 / CVII-301 **STABILIZED CONSTRUCTION ENTRANCE DETAIL**
SCALE: NONE



4 / CVII-301 **GRAVEL DRIVEWAY DETAIL**
SCALE: NONE



PERSPECTIVE VIEW

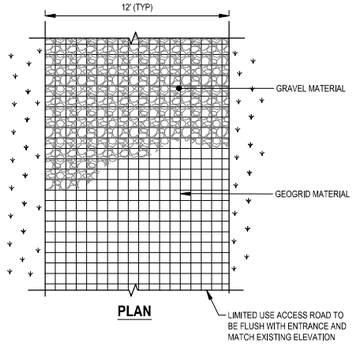


SECTION VIEW

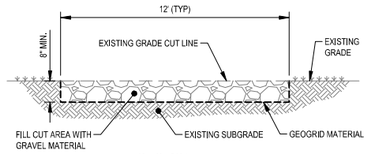
CONSTRUCTION SPECIFICATIONS:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 -1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED, FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT,
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

2 / CVII-301 **SILT FENCE DETAIL**
SCALE: NONE



PLAN



SECTION

3 / CVII-301 **LIMITED USE PERVIOUS ROAD 0% TO 10% SLOPES DETAIL**
SCALE: NONE

GENERAL NOTES:

1. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
2. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY. FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
3. REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS AS DIRECTED BY THE PROJECT ENGINEER. COMPACT TO THE DEGREE OF THE NATIVE INSITU SOIL. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE
4. GRADE ROADWAY WHERE NECESSARY TO NATIVE SOIL AND DESIRED ELEVATION. MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
5. REMOVE UNSUITABLE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
6. TO ENSURE THAT SOIL IS NOT TRACKED ONTO THE LIMITED USE PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF THE LIMITED USE PERVIOUS ACCESS ROAD IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, A STANDARD NEW YORK STATE STABILIZED CONSTRUCTION ACCESS SHALL BE CONSTRUCTED AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON OR OFFSITE. MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
7. THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS WHERE UPGRADIENT SOIL DISTURBANCES (E.G CLEARING AND GRUBBING, GRADING, ETC) HAVE ACHIEVED FINAL STABILIZATION.

GEOGRID MATERIAL NOTES (0-10% SLOPES);

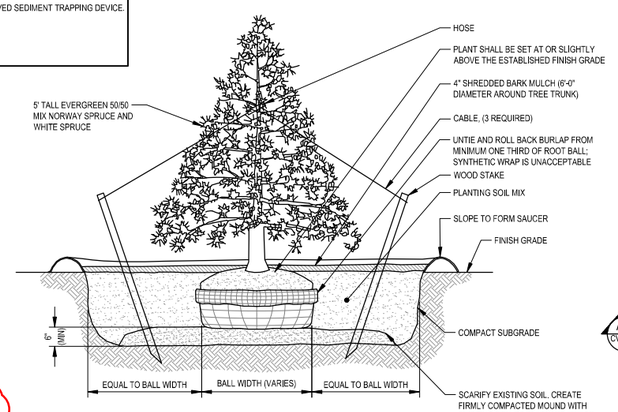
1. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF AND SPREAD WITH A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
2. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES,
3. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
4. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
5. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS

   BASIS OF DESIGN: TENCATE MIRAFI BXG110; GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, CA (800) 685-9990, OR (706) 693-2226: WWW.MIRAFI.COM

WOVEN GEOTEXTILE MATERIAL NOTES (POORLY DRAINED SOILS) :

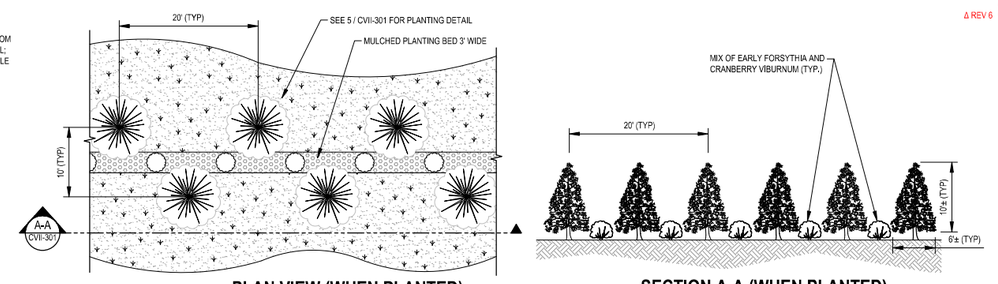
1. SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONOE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOLS GROUP (HSG) OF C OR D OR AS SPECIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST, OR GEOTECHNICAL DATA.

   BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE. PENDERGRASS, GA; (800) 685-9990 OR (706) 693-2226; WWW.MIRAFI.COM



5 / CVII-301 **CONIFEROUS TREE PLANTING DETAIL**
SCALE: NONE

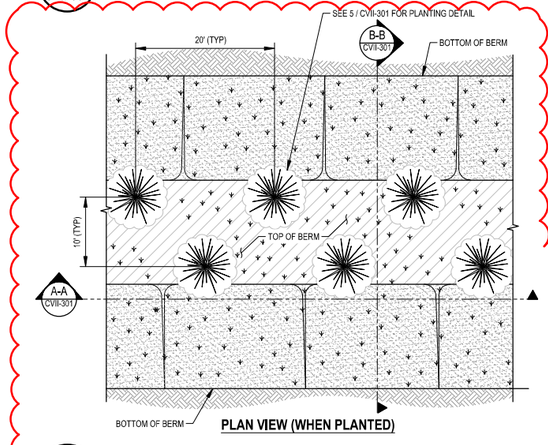
Δ REV 6



PLAN VIEW (WHEN PLANTED)

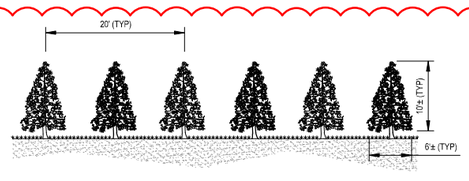
SECTION A-A (WHEN PLANTED)

6 / CVII-301 **VIEW SCREENING PLANTINGS DETAIL (WHEN PLANTED) - 10' TALL PLANTINGS**
SCALE: 1" = 10'

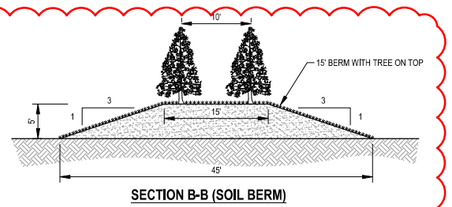


PLAN VIEW (WHEN PLANTED)

Δ REV 6



SECTION A-A (WHEN PLANTED)



SECTION B-B (SOIL BERM)

7 / CVII-301 **VIEW SCREENING WITH SOIL BERM DETAIL**
SCALE: 1" = 10'

SUMMIT SOLAR

SSC Cortlandville II LLC
334 Arapahoe Ave
Boulder, Colorado 80302
Tel: 561.866.8234
Email: john@summitsolarcapital.com

Key Plan

NOT FOR CONSTRUCTION

Δ REV 6

No.	Revision	Date
6	Revised View Screening Detail	12/14/2020
5	~~Revised Planning Board~~	~~11/17/2020~~
4	Incorporated Planning Board Comments Dated 10/27	11/5/2020
3	Incorporated Planning Board Comments Dated 9/29	10/13/2020
2	Incorporated Planning Board Comments Dated 8/25	9/18/2020
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Seal

STATE OF NEW YORK · WILLIAM C. NIGRO · 73447 · LICENSED PROFESSIONAL ENGINEER

Phase
PLANNING BOARD

Project No.
2020.260.001

Date
2020.10.13

Drawing Title

DETAILS

Drawing No.

CVII-301

APPENDIX N

STATE AND FEDERAL REPORTING REQUIREMENTS FOR HAZARDOUS SUBSTANCE SPILLS, LEAKS AND DISCHARGES

Exhibit 1.1-1

State and Federal Reporting Requirements for Petroleum Spills, Leaks, and Discharges

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Petroleum from any source	Navigation Law Article 12; 17 NYCRR 32.3 and 32.4	DEC Hotline 1-800-457-7362	The notification of a discharge must be immediate, but in no case later than two hours after discharge. 1. Name of person making report and his relationship to any person which might be responsible for causing the discharge. 2. Time and date of discharge. 3. Probable source of discharge. 4. The location of the discharge, both geographic and with respect to bodies of water. 5. Type of petroleum discharges. 6. Possible health or fire hazards resulting from the discharge. 7. Amount of petroleum discharged. 8. All actions that are being taken to clean up and remove the discharge. 9. The personnel presently on the scene. 10. Other government agencies that have been or will be notified.	Any person causing discharge of petroleum. Owner or person in actual or constructive control must notify DEC unless that person has adequate assurance that such notice has already been given.
All aboveground petroleum and underground storage facilities with a combined storage capacity of over 1100 gallons.	ECL §17-1007; 6 NYCRR §613.8	DEC Hotline 1-800-457-7362	1. Report spill incident within two hours of discovery. 2. Also when results of any inventory, record, test, or inspection shows a facility is leaking, that fact must be reported within two hours of discovery.	Any person with knowledge of a spill, leak, or discharge.
Petroleum contaminated with PCB.	Chemical Bulk Storage Act 6 NYCRR Parts 595, 596, 597	DEC Hotline 1-800-457-7362	Releases of a reportable quantity of PCB oil.	Owner or person in actual or constructive possession or control of the substance, or a person in contractual relationship, who inspects, tests, or repairs for owner.

Exhibit 1.1-1

State and Federal Reporting Requirements for Petroleum Spills, Leaks, and Discharges (continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Any liquid (petroleum included) that if released would be likely to pollute lands or waters of the state.	ECL §17-1743	DEC Hotline 1-800-457-7362	Immediate notification that a spill, release, or discharge of any amount has occurred. Owner or person in actual or constructive possession or control of more than 1,100 gallons of the liquid.	
Petroleum Discharge in violation of §311(b)(3) of the Clean Water Act	40 CFR §110.10 (Clean Water Act)	1. National Response Center (NRC) 1-800-424-8802. 2. If not possible to notify NRC, notify Coast Guard or predesignated on-scene coordinator. 3. If not possible to notify either 1 or 2, reports may be made immediately to nearest Coast Guard units, provided NRC notified as soon as possible.	Immediate notification as soon as there is knowledge of an oil discharge that violates water quality standards or causes sheen on navigable waters. Procedures for notice are set forth in 33 CFR Part 153, Subpart B, and in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300, Subpart E.	Person in charge of vessel or on-shore or off-shore facility.
Petroleum, petroleum by-products or other dangerous liquid commodities that may create a hazardous or toxic condition spilled into navigable waters.	33 CFR 126.29 (Ports and Waters Safety Act)	Captain of the Port or District Commander	As soon as discharge occurs, owner or master of vessel must immediately report that a discharge has occurred.	Owner or master of vessel or owner or operator of the facility at which the discharge occurred.

Exhibit 1.1-1

State and Federal Reporting Requirements for Petroleum Spills, Leaks, and Discharges (continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Petroleum or hazardous substance from a vessel, on-shore or off-shore facility in violation of §311(b)(3) of the Clean Water Act.	33 CFR 153.203 (Clean Water Act)	1. NRC U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593; 1-800-424-8802. 2. Where direct reporting not practicable, reports may be made to the Coast Guard (District Offices), the 3rd and 9th district of the EPA regional office at 26 Federal Plaza, NY, NY 10278; 1-201-548-8730. 3. Where none of the above is possible, may contact nearest Coast Guard unit, provided NRC notified as soon as possible.	Any discharger shall immediately notify the NRC of such discharge.	Person in charge of vessel or facility.

Exhibit 1.1-2

State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Any hazardous substance pursuant to Article 37. Does not include petroleum.	Chemical Bulk Storage Act 6 NYCRR Parts 595, 596, 597; ECL 40-0113(d)	DEC Hotline 1-800-457-7362	Releases of a reportable quantity of a hazardous substance.	Owner or person in actual or constructive possession or control of the substance, or a person in contractual relationship, who inspects, tests, or repairs for owner.
Hazardous materials or substances as defined in 49 CFR §171.8 that are transported. (See federal reporting requirements.)	Transportation Law 14(f); 17 NYCRR 507.4(b)	Local fire department or police department or local municipality	Immediate notification must be given of incident in which any of the following occurs as a direct result of a spill of hazardous materials: 1. Person is killed. 2. Person receives injuries requiring hospitalization. 3. Estimated damage to carrier or other property exceeds $50,000. 4. Fire, breakage, spillage, or suspected contamination due to radioactive materials. 5. Fire, breakage, spillage, or suspected contamination involving etiologic agents. 6. Situation is such that, in the judgment of the carrier, a continuing danger to life or property exists at the scene of the incident.	All persons and carriers engaged in the transportation of hazardous materials.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Hazardous materials (wastes included) that are transported, whose carrier is involved in an accident.	Department of Transportation Regulations 49 CFR 171.15; 17 NYCRR Part 924; 17 NYCRR Part 507	1. U.S. Department of Transportation 1-800-424-8802 2. DEC Hotline 1-800-457-7362 3. Rail Carrier <u>On-Duty</u> 518-457-1046 <u>Off-Duty</u> 518-457-6164 4. Notify local police or fire department.	Notice should be given by telephone at the earliest practicable moment and should include: 1. Name of reporter. 2. Name and address of carrier represented by reporter. 3. Phone number where reporter can be contacted. 4. Date, time, and location of incident. 5. The extent of injuries, if any. 6. Classification, name and quantity of hazardous materials involved, if available. 7. Type of incident and nature of hazardous material involved and whether a continuing danger to life exists at scene. 8. Each carrier making this report must also make the report required by §171.16.	Each carrier that transports hazardous materials involves in an accident that causes any of the following as a direct result: 1. A person is killed 2. A person receives injuries requiring hospitalization 3. Estimated damage to carrier or other property exceeds $50,000 4. Fire, breakage, spillage, suspected or otherwise involving radioactive material. 5. Fire, breakage, spillage, suspected contamination involving etiologic agents. 6. Situation is such that carrier thinks it should be reported in accordance with paragraph b.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Reportable quantity of a hazardous substance into navigable waters or adjoining shorelines. Substances are listed in 40 CFR 302.4.	Department of Transportation Regulations 49 CFR §171.16 as authorized by the Hazardous Materials Transportation Act	U.S. Coast Guard National Response Center (NRC), 1-800-424-8802 or 1-202-267-2675	As soon as person in charge becomes aware of a spill incident, he must notify NRC and provide the following information: 1. The information required by 49 CFR §171.15 (see above). 2. Name of shipper of hazardous substance. 3. Quantity of hazardous substance discharged, if known. 4. If person in charge is incapacitated, carrier shall make the notification. 5. Estimate of quantity of hazardous substance removed from the scene and the manner of disposition of any unremoved hazardous substance shall be entered in Part (H) of the report required by 49 CFR 171.16 (see above).	Person in charge of aircraft, vessel, transport vehicle, or facility. Must inform NRC directly, or indirectly through carrier.
Reportable quantity of a hazardous substance from vessel, on-shore or off-shore facility. Substances and requirements specified in 40 CFR §117.3.	40 CFR §117.21 as authorized under the FWPCA	NRC 1-800-424-8802. If not practicable report may be made to the Coast Guard (3rd or 9th Districts) District Offices or to EPA, designated On-Scene Coordinator, Region II, 26 Federal Plaza, NY, NY 10278; 1-201-548-8730	Immediate notification is required.	Person in charge of vessel, or on-shore or off-shore facility

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Facilities where a hazardous chemical is produced, used, or stored, and there is a reportable quantity of any extremely hazardous substance as set out in Appendix A to 40 CFR 355 or a CERCLA hazardous substance as specified in 40 CFR 302.4. (This section does not apply to a release that does not go beyond the facility, that emanates from a facility that is federally permitted, is continuous as defined under §103(f) of CERCLA or to any release exempt from CERCLA §103(a) reporting under §101(22) of CERCLA.)	40 CFR 355.40 (SARA) Releases of CERCLA Hazardous Substances are subject to release reporting requirements of CERCLA §103, codified at 40 CFR Part 302, in addition to being subject to the requirements of this Part.	Community emergency coordinator for the local emergency planning committee of any area likely to be affected and the State Emergency Response Commission of any state likely to be affected by the release. If there is no local emergency planning commission notification shall be made to relevant local emergency response personnel.	Immediately notify agencies at left and provide the following information when available: 1. Chemical name or identity of any substance involved in the release. 2. Indication of whether the substance is an extremely hazardous substance. 3. An estimate of the quantity released. 4. Time and duration of release. 5. Medium or media into which the release occurred. 6. Known health risks associated with emergency and where appropriate advice regarding medical attention for those exposed. 7. Proper precautions/actions that should be taken, including evacuation. 8. Names and telephone numbers of person to be contacted for further information. As soon as practicable after release, followup notification by providing the following information: 1. Actions taken to respond to and contain the release. 2. Health risks. 3. Advice on medical attention for exposed individuals.	Owner or operator of facility

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Hazardous liquids transported in pipelines, a release of which results in any circumstances as set out in 195.50(a) through (f). Also any incident that results in circumstances listed in 195.52(g).	49 CFR 195.50, 195.52 and 195.54 (Hazardous Liquid Pipeline Safety Act).	NRC, 1-800-424-8802	Notice must be given at the earliest practicable moment and the following information provided: 1. Name and address of the operator. 2. Name and telephone number of the reporter. 3. Location of the failure. 4. The time of the failure. 5. The fatalities and personal injuries, if any. 6. All other significant facts known by the operator that are relevant to the cause of the failure or extent of the damages.	Operator of system.
Hazardous wastes in transport	40 CFR §263.30(a) (RCRA)	1. Local authorities 2. If required by 49 CFR 171.15, notify the NRC at 1-800-424-8802 or 1-202-426-2675 3. Report in writing to Director of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590	Notification must be immediate. For discharge of hazardous waste by air, rail, highway, or water, the transporter must: 1. Give notice as in 49 CFR 161.15 (if applicable). 2. Report in writing as in 49 CFR 171.16. Wastes transporter (bulk shipment) must give same notice as required by 33 CFR 153.20.	Transporter by air, rail, highway, or water.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Vinyl Chloride from any manual vent valve, or polyvinyl chloride plants	Clean Air Act 40 CFR 61.64	Administrator of EPA	Within 10 days of any discharge from any manual vent valve, report must be made, in writing, and the following information provided: 1. Source, nature and cause of the discharge 2. Date and time of the discharge 3. Approximate total vinyl chloride loss during discharge 4. Method used for determining loss 5. Action taken to prevent the discharge 6. Measures adopted to prevent future discharges.	Owner or operator of plant.
Radioactive Materials	6 NYCRR §380.7	Commissioner of DEC	1. Notify immediately by telephone when concentration, averaged over a 24-hour period, exceeds or threatens to exceed 5000 times the limits set forth in Schedule 2 of 380.9 (in uncontrolled areas). 2. Notify within 24 hours by telephone when concentration, averaged over 24- hour period, exceeds or threatens to exceed 500 times the limits set forth in Schedule 2 above (in uncontrolled areas). 3. Report within 30 days the concentration and quantity of radioactive material involved, the cause of the discharge, and corrective steps taken or planned to ensure no recurrence of the discharge.	Operator of the radiation installation.

Exhibit 1.1-2
State and Federal Reporting Requirements for Hazardous Substance Spills, Leaks, and Discharges
(continued)

Materials Covered	Act or Regulation	Agency to Notify	What Must Be Reported and When	Who Must Report
Low Level radioactive wastes in transport. Any suspected or actual uncontrolled releases.	6 NYCRR 381.16 ECL §27-0305 Waste Transporter Permits	DEC and Department of Health	Immediate notification.	Transporter