BARCLAY DAMON LLP

Ari M. Goldberg
Counsel

October 28, 2026

VIA ELECTRONIC MAIL

Town of Florida
Town Board and Planning Board
c/o Town Clerk, Emily Staley
214 Fort Hunter Road
Amsterdam, NY 12010
clerk@townofflorida.com

Re: Solar Energy Partners – Route 5S Solar Array
Site Plan, Special Use Permit, and Waiver Application
First Supplemental Submission

Dear Supervisor Mead, Honorable Members of the Town Board, and the Planning Board:

As you may recall, Barclay Damon LLP represents Solar Energy Partners, LLC ("Applicant"), record owner of land on State Highway 5S, SBL 56.-3-7.22 ("Property") in the Town. The approximately 19.24 acre Property is zoned IBP – Industrial Business Park under the Town Zoning Ordinance ("Ordinance"). Applicant proposes a 2.0 MWAC ground-mounted, fixed-tilt solar photovoltaic system on the Property ("Solar Array").

Initial Submission and Public Hearing

On August 7, 2026, Applicant submitted its initial Site Plan, Special Use Permit, and Waiver Application ("Application") with Exhibits 1–12. Applicant presented the Application to the Town Board on August 17, 2026, and appeared before the Planning Board on September 14, 2026, which recommended approval of the Special Use Permit.

Most recently, on October 19, 2026, the Town Board opened a public hearing on the Application and received comments from the public. The public hearing remains open. At the same meeting, the Town Board declared its intent to serve as Lead Agency for purposes of environmental review under the State Environmental Quality Review Act ("SEQRA") and referred the Application to the Montgomery County Planning Board under GML § 239-m.

First Supplemental Submission

In furtherance of the review of its Solar Array, and so that the Town's designated engineer, Barton & Loguidice, may begin its review, Applicant respectfully submits this first supplemental submission to its Application. Enclosed please find the following Exhibits:

Exhibit 13: October 13, 2026 NYSDEC Letter of No Jurisdiction – Wetlands

Exhibit 14: October 28, 2026 Certificate of Liability Insurance listing the Town of Florida as certificate holder

Exhibit 15: October 16, 2026 Letter from Solar Liberty Energy Systems describing grid capacity limits under Ordinance § 45.5.C.1(a)(9)

Exhibit 16: Revised Full Environmental Assessment Form Part 1 (*Replaces Exhibit 6*)

Exhibit 17: Proposed Involved and Interested Agency List

Exhibit 18: October 19, 2026 Revised Visual Impact Assessment (*Replaces Exhibit 9*)

Exhibit 19: Revised Site Plan Set (*Replaces Exhibit 2*)

- T-100 Title Page
- C-003 Slope Analysis
- C-100 Site Layout
- C-101 Landscape Plan
- C-102 Erosion Control Plan
- C-200 Notes & Details
- C-300 Fence Details
- E-200 DC Single Line Diagram
- E-201 AC Single Line Diagram
- E-601, 602, 603 Electrical Details
- E-800 Equipment Specification
- E-900 Labels & Markings
- S-100 Concrete Pad Details
- S-200, 201 Racking Elevation and Detail

Exhibit 20: Stormwater Pollution Prevention Plan

State Environmental Quality Review Act

The revised Full Environmental Assessment Form Part 1 ("FEAF," Exhibit 16) reflects the Solar Array's 2.0 MWAC capacity, current disturbance, and stormwater design. Applicant also proposes the enclosed list of involved and interested agencies (Exhibit 17) for the Town Board's coordinated review. Notably, NYSDEC has determined that the Property contains no state-regulated freshwater wetlands or adjacent areas (Exhibit 13). Exhibit 20 is Applicant's Stormwater Pollution Prevention Plan. Applicant will update it after Barton & Loguidice's initial review, including the site description, owner/operator, existing-condition modeling, and soil testing.

Corrections to Application

Applicant also corrects several minor items in its initial Application materials. The Solar Array is 2.0 MWAC, the capacity National Grid studied for this Project (Exhibit 12) and shown on the revised site plan set (Exhibit 19). The Property is approximately 19.24 acres, per the deed and survey, not 19.35 acres. For clarity, the record property owner is Solar Energy Partners, LLC, and not Solar Energy Partners Amsterdam LLC, an affiliate entity. As noted above, the Applicant also revised the FEAF in accordance with these corrections and other design considerations.

Waiver Request

Applicant's waiver request under Ordinance § 45.5.C.2(p) stands as submitted. Sheet C-100 sets the Solar Array back at least 50'-7" and the fence at least 25'-0" from the property line.

Conclusion

The Applicant remains excited to bring this community solar array to the Town of Florida and looks forward to continuing its discussions with the Town Board. Please reach out with any questions, and thank you for your consideration.

Very truly yours,



Ari M. Goldberg

Exhibit 13

October 13, 2026

NYSDEC Letter of No Jurisdiction

Freshwater Wetlands

NEW YORK STATE | Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Commissioner

LETTER OF NO JURISDICTION – FRESHWATER WETLANDS

10/13/2026
Carly Kremer
242 W Main St, Rochester, NY, 14614, USA
Sent via email to: ckremer@passero.com

Re: DEC Freshwater Wetlands Parcel Jurisdictional Determination for Parcel 27260056.-3-7.22, Montgomery County

Dear Carly Kremer,

The New York State Department of Environmental Conservation (DEC) has determined that there are currently no DEC regulated freshwater wetlands or regulated adjacent areas within the boundaries of the parcel identified in your request.

Please note that wetlands or wetland adjacent areas within the parcel boundaries that are not currently jurisdictional may become jurisdictional in the future consistent with ECL Article 24. Pursuant to ECL section 24-0703, this determination shall be a complete defense to the enforcement of ECL Article 24 as to this parcel for a period of five years (through 10/11/2031).

This determination pertains only to state-regulated freshwater wetlands and regulated adjacent areas. DEC also regulates protected streams, tidal wetlands, coastal erosion hazard areas, and other important environmental resources. Work affecting those areas may also require DEC permits. More information on other DEC permit programs is available online at https://dec.ny.gov/regulatory/permits-licenses/environmental-permits.

Please note that this letter does not relieve you of the responsibility of obtaining any other necessary permits or approvals from other local, state, or federal agencies.

If you have questions regarding this determination, please email fwwjurisdiction@dec.ny.gov.

Exhibit 14

October 28, 2026

Certificate of Liability Insurance

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
10/28/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
SBRM INSURANCE LLC
105 Ellington Creek Ln.
Greer, SC 29651

CONTACT NAME: Alan K Virgil
PHONE (A/C, No, Ext): (864)775-5020 **FAX (A/C, No):**
E-MAIL ADDRESS: avirgil@sbrmins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Houston Specialty Ins Co	
INSURER B : National Casualty Company	
INSURER C : Imperium Insurance Company	
INSURER D : Admiral Insurance Co	
INSURER E :	
INSURER F :	

INSURED
Solar Energy Partners, LLC
Solar Energy Partners Amsterdam LLC
2400 Herodian Way SE, Suite 350
Smyrna, GA 30080 GA 30080

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. *LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. LIMITS SHOWN ARE INCLUSIVE OF AMOUNTS REQUESTED BY THE CERTIFICATE HOLDER AND MAY NOT REFLECT POLICY LIMIT AMOUNTS IN EXCESS OF THOSE REQUESTED. **Not Applicable in WY**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:	x	x	MNGHSGL000008200	12/19/2025	12/19/2026	EACH OCCURRENCE	$	1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$	100,000
							MED EXP (Any one person)	$	5,000
							PERSONAL & ADV INJURY	$	1,000,000
							GENERAL AGGREGATE	$	2,000,000
							PRODUCTS - COMP/OP AGG	$	2,000,000
								$	
C	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY			MNGIICCA000116900	12/19/2025	12/19/2026	COMBINED SINGLE LIMIT (Ea accident)	$	1,000,000
							BODILY INJURY (Per person)	$	
							BODILY INJURY (Per accident)	$	
							PROPERTY DAMAGE (Per accident)	$	
								$	
A	[X] UMBRELLA LIAB [X] OCCUR EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $	x	x	MNGHSCX000004800	12/19/2025	12/19/2026	EACH OCCURRENCE	$	3,000,000
							AGGREGATE	$	3,000,000
								$	
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [Y] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	x	WCC340149A	3/1/2026	3/1/2027	[X] PER STATUTE [ ] OTH-ER		
							E.L. EACH ACCIDENT	$	1,000,000
							E.L. DISEASE - EA EMPLOYEE	$	1,000,000
							E.L. DISEASE - POLICY LIMIT	$	1,000,000
D	Professional Liability Contractor Pollution Liability			EO000065852-01	4/28/2026	4/28/2027	Ea Claim Aggregate		1,000,000 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Property Address: 1225 NY-5S, Amsterdam, NY 12010

CERTIFICATE HOLDER

Town of Florida, New York
214 Fort Hunter Road
Florida, NY 12010

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Alan K. Virgil

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Exhibit 15

October 16, 2026

Solar Liberty Energy Systems

Grid Capacity Letter

SOLAR LIBERTY®
THE FUTURE OF ENERGY INDEPENDENCE

Solar Liberty Energy Systems, Inc. | 866.807.3639 | solarliberty.com

10-16-26

Town of Florida
Members of the Reviewing Board

Re: SEP Amsterdam Solar Project — National Grid CESIR NY-513926

Dear Members of the Board,

Solar Liberty is providing this letter to explain the limits of the electrical system serving the SEP Amsterdam Solar Project. Based on the National Grid information discussed below, our assessment is that another large solar array connecting through the same Florida TB1 substation is extremely unlikely under the conditions shown, unless projects already in line are withdrawn or National Grid approves upgrades or another connection arrangement.

National Grid studied the SEP project at 2,000 kW AC, or 2 megawatts, in its August 18, 2023 interconnection study (CESIR NY-513926, p. 5). That study identifies the work needed to connect this particular project safely. It includes an estimated interconnection cost of $277,033, which SEP is funding (p. 12).

The attached National Grid maps, showing data refreshed October 1, 2026, help explain why another large project would face significant obstacles. The Florida TB1 substation is listed with 31.20 megawatts of thermal capacity, compared with 30.84 megawatts of generation already installed or waiting in line to connect. The difference is just 360 kW, which is less than 20% of this project's size. Therefore, there is *very* limited room for additional generation.

Although the local power line may have some room, a new project must also be accommodated by the substation it feeds into; space on the line alone is not enough to allow another large array to connect. The 2023 study also found that the wires could carry the project's electricity, but changes were needed to manage electricity flowing back toward the substation and to keep the system's protective equipment operating properly.

All indications are that there is not room for more large arrays on this same electrical system. Another large project would likely depend on projects dropping out of the queue, utility upgrades, or a different connection solution approved by National Grid. Those changes would involve substantial additional cost and time.

Sincerely,

Nathan Rizzo
Vice President

Exhibit A — Florida TB1 Substation Data

National Grid New York System Data Portal screenshot supplied for this letter. Displayed substation refresh date: October 1, 2026. Installed DG: 14.20 MW; queued DG: 16.64 MW; total: 30.84 MW.

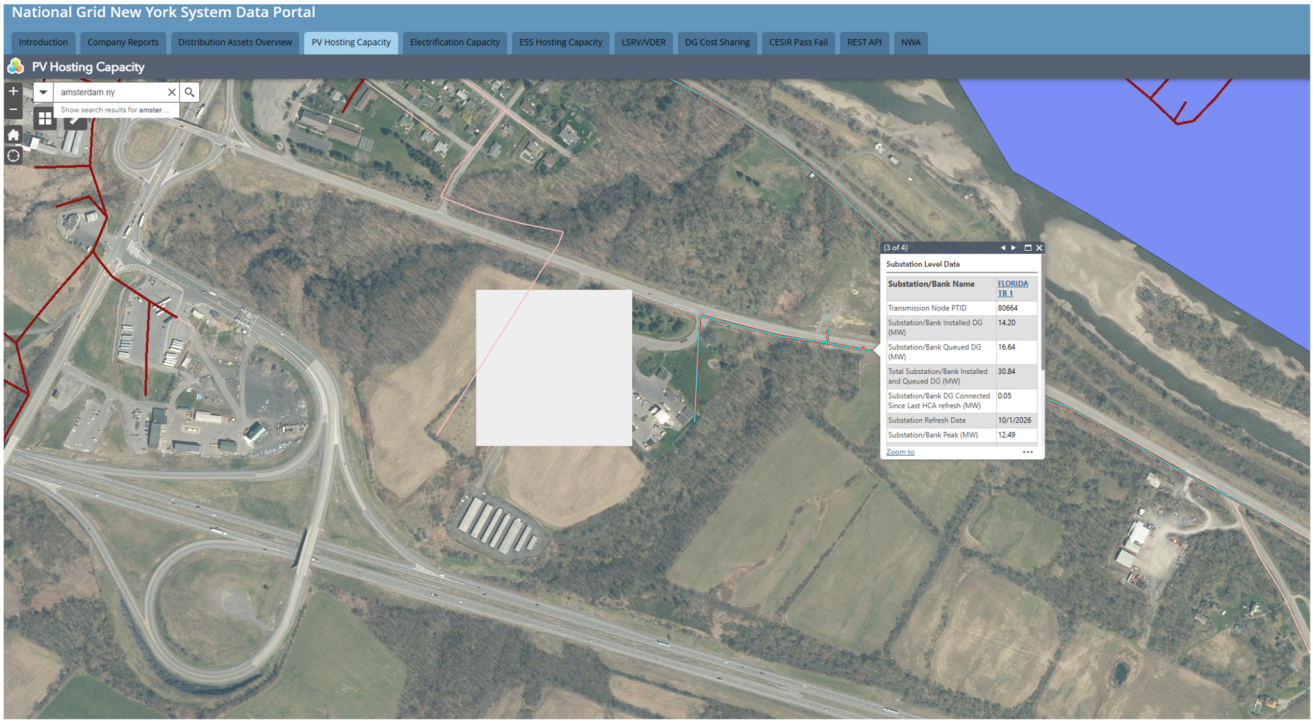


Exhibit B — Feeder 36_35_50153

Supplied feeder hosting-capacity screenshot. Displayed local minimum and maximum hosting-capacity values are 0.10 MW and 8.70 MW; these are not a confirmed additional project allocation. Connected DG: 0.24 MW; queued DG: 7.01 MW.

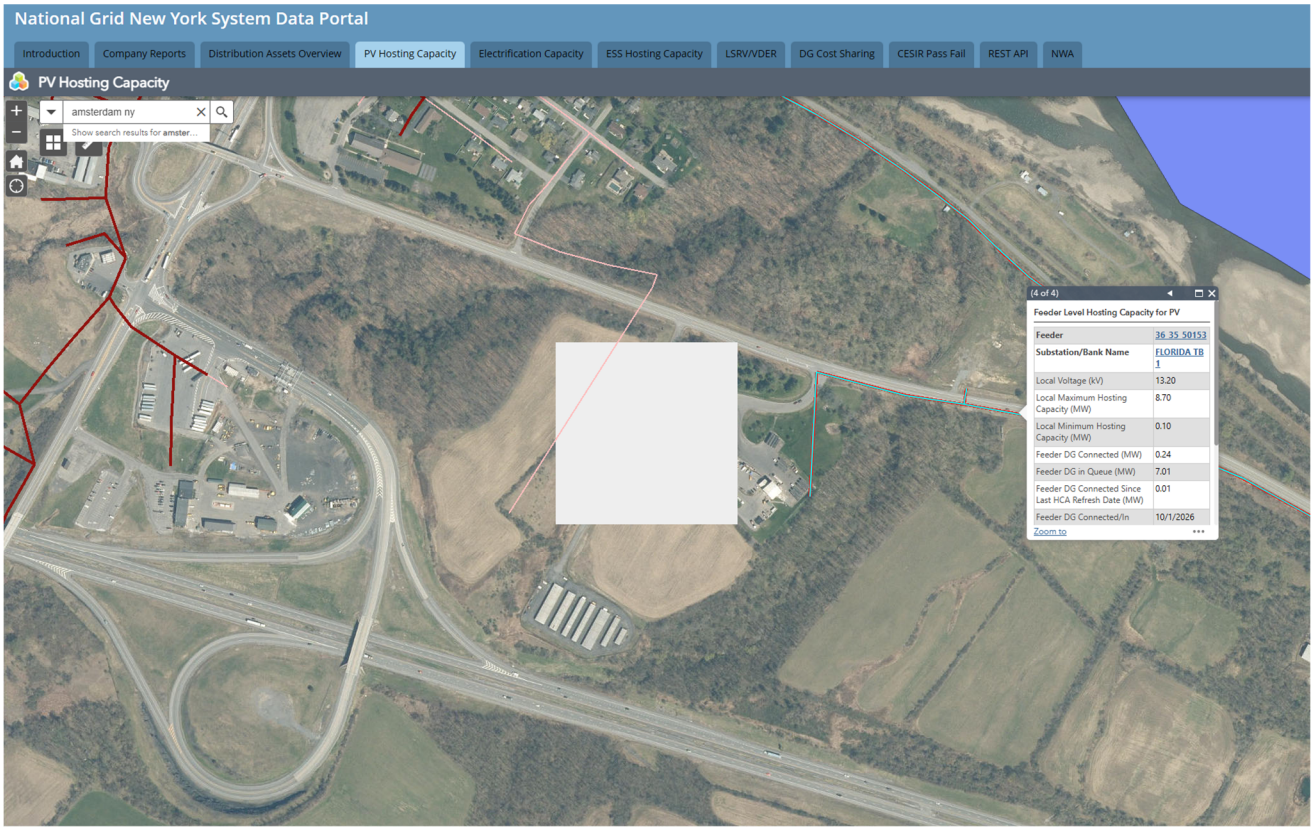


Exhibit C — Florida TB1 Thermal Capacity

Supplied continuation of substation data. Bank thermal capacity: 31.20 MW; installed-plus-queued DG: 30.84 MW; arithmetic difference: 0.36 MW. This subtraction is a screening comparison, not a National Grid determination of remaining hosting capacity.

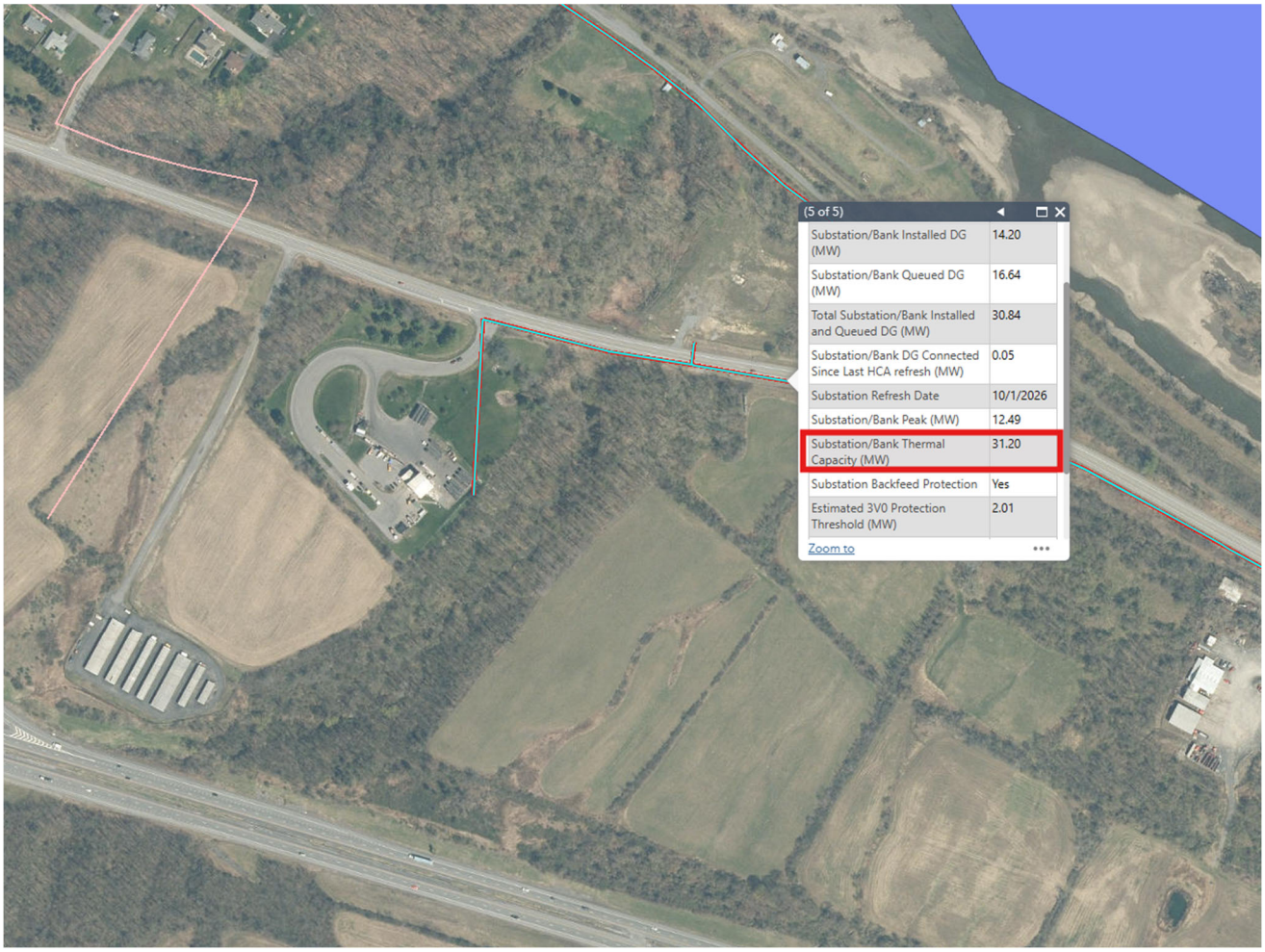


Exhibit 16

Revised Full Environmental Assessment Form

Part 1

(Replaces Exhibit 6)

Full Environmental Assessment Form
Part 1 - Project and Setting

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 that 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 following sub-questions. If the answer to the initial question is "No," proceed to the next question. Section F allows the project sponsor to identify and attach additional information. Section G requires the name and signature of the applicant or project sponsor to verify the information in Part 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Solar Energy Partners - Town of Florida		
Project Location (describe and attach a general location map): 1225 NY 5S, Amsterdam, NY 12010 SBL 56.-3-7.22		
Brief Description of Proposed Action (include purpose or need): Ground-mounted solar photovoltaic array in the Town of Florida rated at 2.0 MW AC (2,613.96 kW DC). No significant grading or excavation is required, and tree clearing is minimized to reduce shading, avoid wetland intrusion, and maintain existing buffers to adjoining properties. Additional landscaping is proposed to further screen the array. The installation will consist of driven piles for racking, driven fence posts, a gravel access road with an apron to NY Route 5S, utility poles with overhead lines, a concrete equipment pad, and stormwater management practices, including a bioretention area. The Project has been defined broadly to include all site work and construction activity.		
Name of Applicant/Sponsor: Solar Energy Partners, LLC	Telephone: (678) 679-2519 E-Mail: john@solarenergypartners.com	
Address: 2400 Herodian Way SE, Suite 350		
City/PO: Smyrna	State: GA	Zip Code: 30080
Project Contact (if not same as sponsor; give name and title/role): John Hurley, Solar Energy Partners, LLC	Telephone: (678) 679-2519 E-Mail: john@solarenergypartners.com	
Address: 2400 Herodian Way SE, Suite 350		
City/PO: Smyrna	State: GA	Zip Code: 30080
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

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 Council, Town Board, or Village Board of Trustees ☑Yes ☐No	Town Board - Special Use Permit and Waiver	August 7, 2026
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Planning Board - Site Plan	August 7, 2026
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☐Yes ☑No		
e. County agencies ☑Yes ☐No	GML 239-m referral	October 19, 2026 (referral)
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYSDEC - SPDES GP-0-25-001 coverage (wetland JD issued 10/13/2026); NYSDOT - highway work permit	JD: June 2026; NOI and DOT permit: before construction
h. Federal agencies ☑Yes ☐No	USACE - Jurisdictional Determination and possible permit	Requested June 2026; JD expected by end of 2026

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) that 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):

NYS Heritage Areas:Mohawk Valley Heritage Corridor

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):

d. Is the proposed action in a municipality with an adopted comprehensive or individual plan that addresses climate change? ☐ Yes ☑ No

If Yes , identify the elements of the plan that are relevant to the action:

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?
Industrial Business Park

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, what is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Greater Amsterdam

b. What police or other public protection forces serve the project site?
Montgomery County Sheriff's Office; New York State Police

c. Which fire protection and emergency medical services serve the project site?
Florida Fire Protection District

d. What parks serve the project site?
Erie Canal Trailway

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)?
solar array

b. a. Total acreage of the site of the proposed action? +/- 8.62 acres
b. Total acreage to be physically disturbed? +/- 3.0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? +/- 19.24 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
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)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
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: 6-12 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 4,926 modules

ii. Dimensions (in feet) of largest proposed structure: 9' 10" height; 7' 10" width; and 3' 9" length

iii. Approximate extent of building space to be heated or cooled: N/A 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):

***No solar array structures will be placed in any stream or wetland, and no crossings are proposed. NYSDEC issued a Letter of No Jurisdiction on 10/13/2026; USACE determination expected by end of 2026.

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 +/-0.48 acres (impervious surface)

_____ Square feet or +/- 19.24 acres (parcel size)

ii. Describe types of new point sources. Bioretention area outlet structure and HDPE outlet pipe with rip-rap spillway

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)?

On-site stormwater management practices (bioretention area and stone diaphragms)

- If to surface waters, identify receiving water bodies or wetlands: _____

On-site wetlands and the NY Route 5S roadside ditch, ultimately the Mohawk River

- 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, boilers, electric generation, surface coating)

_____

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

If Yes:

i. Is the proposed action subject to the Nonattainment New Source Review or Prevention of Significant Deterioration requirements discussed in 6 NYCRR Part 231? ☐ Yes ☐ No

ii. As calculated in the air permit application, the proposed action has the potential to emit:

- _____Tons/year (short tons) of carbon monoxide (CO)
- _____Tons/year (short tons) of oxides of nitrogen (NOx)
- _____Tons/year (short tons) of particulate matter (PM-10, PM-2.5)
- _____Tons/year (short tons) of volatile organic compounds (VOC)
- _____Tons/year (short tons) of sulfur dioxide (SO_2)

iii. Will emissions of air contaminants from the proposed action described above exceed the corresponding major source thresholds? ☐ Yes ☐ No

iv. Does the proposed action have the potential to emit 10 tons/year or more of any one designated hazardous air pollutant or 25 tons/year or more of any combination of such hazardous air pollutants (6NYCRR 200.1(ag))? ☐ Yes ☐ No

If Yes, provide the total potential to emit hazardous air pollutants in short tons/year: _____

h. Will the proposed action generate or emit annual direct and indirect greenhouse gas emissions, such as carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, or perfluorocarbons in excess of 10,000 metric tons of total carbon dioxide equivalents per year at any point in the lifetime of the proposed action (estimated using the carbon dioxide equivalent definition and global warming potentials provided in 6 NYCRR Part 496)? ☐ Yes ☑ No

If Yes:

i. Estimate the proposed action's metric tons of carbon dioxide equivalents in tons/year (metric): _____

ii. Describe any greenhouse gas capture, control, or elimination measures included in project design: _____

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 energy demand? ☐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: 7AM-5PM, or as permitted by code
- Saturday: 7AM-5PM, or as permitted by code
- Sunday: As permitted by code
- Holidays: As permitted by code

ii. During Operations:
- Monday - Friday: 24 hour unmanned
- Saturday: 24 hour unmanned
- Sunday: 24 hour unmanned
- Holidays: 24 hour unmanned

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:
Ambient noise levels will only be exceeded during the construction period.

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

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, insecticide) 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: 0.25 tons per month (unit of time)
- Operation : 0 tons per month (unit of time)

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

- Construction: Minor trash during construction from packaging materials
- Operation: None

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

- Construction: Typical rolloff dumpster
- Operation:

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:

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): Highway, waste transfer station

ii. If mix of uses, generally describe:

b. Land uses and cover types on the project site.

Land use or Cover type	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces (total)	0.000	0.48 (access road)	+ 0.48
• Industrial or manufacturing			
• Commercial			
• Residential			
• Forested	7.24	4.81	-2.43
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	10.80	4.04	-6.76
• Agricultural (includes active orchards, field, greenhouse, etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.20	0.20	0.00
• Wetlands (freshwater or tidal)	1.00	1.00	0.00
• Non-vegetated (bare rock, earth, or fill)			
• Other, Describe: Solar array envelope	0.00	8.71	+8.71

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:

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 that 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:
Adjoins the site of the proposed action.
iii. Describe any development constraints due to the prior solid waste activities: _____
None

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? > 5 feet

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

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

DaB-Darien silt loam, 3-8%	26.3 %
DaC-Darien silt loam, 8-15%	28.8 %
LaC-Lansing silt loam, 8-15%	31.9 %

d. What is the average depth to the water table on the project site? Average: 0.5' to > 6.5' feet

e. Drainage status of project site soils:
☑ Well Drained: 45.2 % of site
☐ Moderately Well Drained: ____% of site
☑ Poorly Drained 54.8 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 45 % of site
☑ 10-15%: 45 % of site
☑ 15% or greater: 10 % 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 Stream A, Stream B, Swale Classification A: 840 LF, B: 285 LF, Swale: 95 LF
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Wetlands A and B Approximate Size A: 0.93 ac; B:0.07 ac
- 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

m. Identify the predominant wildlife species that occupy or use the project site:
typical transient wildlife | deer, squirrel, bird, rodent

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

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 listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYSOffice 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 New York 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 five miles of any officially designated and publicly accessible federal, state, or local scenic, or aesthetic resource? ☒Yes ☐No

If Yes:

i. Identify resource: Erie Canalway Trail (part of the Empire State Trail)

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail, or scenic byway, etc.): State-designated recreational trail (Empire State Trail / Erie Canalway Trail)

iii. Distance between project and resource: < 1 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

E.4. Disadvantaged Communities Designated Pursuant to ECL Article 75

a. Is the project located within, or within ½ mile of, a disadvantaged community? ☒Yes ☐No

If No, could impacts(see examples below in E.4.b) from the project affect a disadvantaged community? ☐Yes ☐No

If Yes to either question in E.4.a, answer the remaining questions in this section.

b. Will there be direct or indirect impacts that may affect a disadvantaged community, such as those listed below? ☒Yes ☐No

i. new noise sources or expansions/modification of existing noise sources;
- noise from operational sources
- noise from construction activities

ii. emissions of air pollutants including, mobile emissions;

iii. wastewater discharges;

iv. generation of odors;

v. light pollution;

vi. new or modified radiation sources;

vii. new or modified sources of solid waste generation, management, or disposal.

If Yes, describe the impacts: There will be limited ambient noise from temporary construction activities.

c. Do any of the State agency approvals identified in question B.g include any of the following DEC permits?

State Pollutant Discharge Elimination System (SPDES)	☒Yes	☐No
Solid Waste Management Facility	☐Yes	☒No
Hazardous Waste Management Facility	☐Yes	☒No
Air Pollution Control (Title V or Air State Facility)	☐Yes	☒No
Water Withdrawal over 20 MGD for Cooling Water	☐Yes	☒No
Waste Transporter	☐Yes	☒No

E.5 Future Physical Climate Risks

Will the proposed action be vulnerable to the following future physical climate risks under current or projected future conditions:

a. Is the proposed action vulnerable to damage from a projected 100-year flood? ☐ Yes ☒ No

b. Is the proposed action vulnerable to damage from a projected 500-year flood? ☐ Yes ☒ No

c. Is the proposed action in an area potentially affected by sea level rise? Yes ☒ No

d. Will the proposed action increase the vulnerability of human or ecological communities to the following:

i. drought? ☐ Yes ☒ No

ii. temperature extremes (hot or cold)? ☐ Yes ☒ No

iii. extreme storms, including high winds? ☐ Yes ☒ No

iv. landslides? ☐ Yes ☒ No

v. coastal erosion? ☐ Yes ☒ No

vi. stormwater flooding? ☐ Yes ☒ No

vii. other climate or weather hazards? ☐ Yes ☒ No If Yes, describe: _____

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 John Hurley, Solar Energy Partners, LLC Date 10/28/2026

Signature  Title Director

EAF Mapper Summary Report

Monday, August 3, 2026 4:15 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources to confirm data provided by the Mapper or to obtain data not provided by the Mapper.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:Mohawk Valley Heritage Corridor
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.h.ii [Surface Water Features]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	Yes

E.2.l. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No
E.4.a [Disadvantaged Community]	Yes

Exhibit 17

Proposed Involved and Interested Agency List

Distribution List for Lead Agency Solicitation Letter

1. Town of Florida Town Board
   c/o Emily Staley, Town Clerk
   Town Hall
   214 Fort Hunter Road
   Amsterdam, NY 12010

2. Town of Florida Planning Board
   c/o Emily Staley, Secretary
   'Old' Town Hall
   167 Fort Hunter Road
   Amsterdam, NY 12010

3. Town of Florida Zoning Board
   c/o Frank Staley, Chairman
   Town Hall
   214 Fort Hunter Road
   Amsterdam, NY 12010

4. Town of Florida Highway Department
   c/o Steven Anderson, Highway Superintendent
   Town Hall
   214 Fort Hunter Road
   Amsterdam, NY 12010

5. Florida Volunteer Fire Department
   Chief Les Bramer
   6252 State Highway 30
   Amsterdam, NY 12010

6. Town of Florida Zoning/Code Enforcement
   c/o Cliff (Tim) Oathout
   Town Hall
   214 Fort Hunter Road
   Amsterdam, NY 12010

7. City of Amsterdam
   c/o Office of the Mayor
   City Hall
   61 Church Street
   Amsterdam, NY 12010

8. Montgomery County Emergency Management Office
   c/o Jonathan Bellamy, Director
   200 Clark Drive P.O. Box 338
   Fultonville, NY 12072

9. Montgomery County Soil & Water Conservation District
   c/o Corey Nellis, District Manager
   4001 State Highway 5S
   Fultonville, NY 12072

10. Montgomery County Public Health Department
    c/o Sara Boerenko, Director of Public Health
    1 Venner Road
    Amsterdam, NY 12010

11. Montgomery County Department of Public Works
    c/o Eric Mead, Commissioner
    County Highway Building
    113 Park Drive
    P.O. Box 277
    Fultonville, NY 12072

12. Montgomery County Business Development Center
    c/o Ken Rose, Director
    113 Park Drive
    P.O. Box 277
    Fultonville, NY 12072

13. Montgomery County Planning Board
    c/o Mark Hoffman, Chairperson
    113 Park Drive
    Fultonville, NY 12072

14. New York State Department of Environmental Conservation, Region 4
    c/o Schenectady Headquarters
    Sean Mahar, Regional Director
    1130 North Westcott Road
    Schenectady, NY 12306

15. New York State Department of Transportation
    Mohawk Valley District, Region 2
    c/o Matthew Howard, Regional Director
    Utica State Office Building
    207 Genesee Street
    Utica, NY 13501

16. New York State Thruway Authority
    c/o Frank G. Hoare, Executive Director
    200 Southern Boulevard
    P.O. Box 189
    Albany, NY 12201-0189

17. New York State Office of Parks, Recreation and Historic Preservation
    c/o New York State Historic Preservation Office
    Jessica Vavrasek, Scientist – Archaeology/NAGPRA
    P.O. Box 189
    Peebles Island
    Waterford, NY 12188

18. New York State Energy Research and Development Authority
    17 Columbia Circle
    Albany, NY 12203-6399

19. United States Army Corps of Engineers, New York District
    Upstate Regulatory Field Office
    1 Buffington Street, Building 10, 3rd Floor North
    Watervliet, NY 12189-4000

20. United States Fish & Wildlife Service
    Sharon Marino, Acting Regional Director Northeast Region
    300 Westgate Center Drive
    Hadley, MA 01035

21. United States Environmental Protection Agency
    Region 2
    290 Broadway
    New York, NY 10007-1866

Exhibit 18

October 19, 2026

Revised Visual Impact Assessment

(Replaces Exhibit 9)

SEP Amsterdam City Visual Impact Assessment

Facility Description

The Facility will include ground-mounted, fixed-tilt solar panel arrays, concrete equipment pad, perimeter fencing. It will be secured within fence surrounding the solar panels and equipment and can be accessed via gates located off the proposed access route.

The Facility will include the following site features:

- ~ 4,998 PV Panels
- Area within fence- 8.62 Acres.
- Seven (7)-foot Agricultural Fence
- Underground conduit and wires
- One (1) Transformer Pad

The Facility will produce electricity delivered to National Grid's local distribution system utilizing existing lines within the facility's footprint. Interconnection to National Grid's system will include both underground and overhead wires along with new utility poles located on the Property.

The solar PV modules will be installed on fixed metal racking structures secured to the ground utilizing direct push/driven pile foundations. Direct Current (DC) wiring with the Facility will be secured behind the modules, collected at a common point and transition underground at the end of each PV row where wiring will be connected to inverters.

From the inverters, AC wiring will run underground until a point where it will be combined via an equipment and transformer pad. From this pad, AC wiring will continue to a series of utility poles on the Property with equipment necessary for connecting to National Grid's system.

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Visual Impact Assessment

Aerial Views: Aerial View of System location highlighted in Figure 1 below.

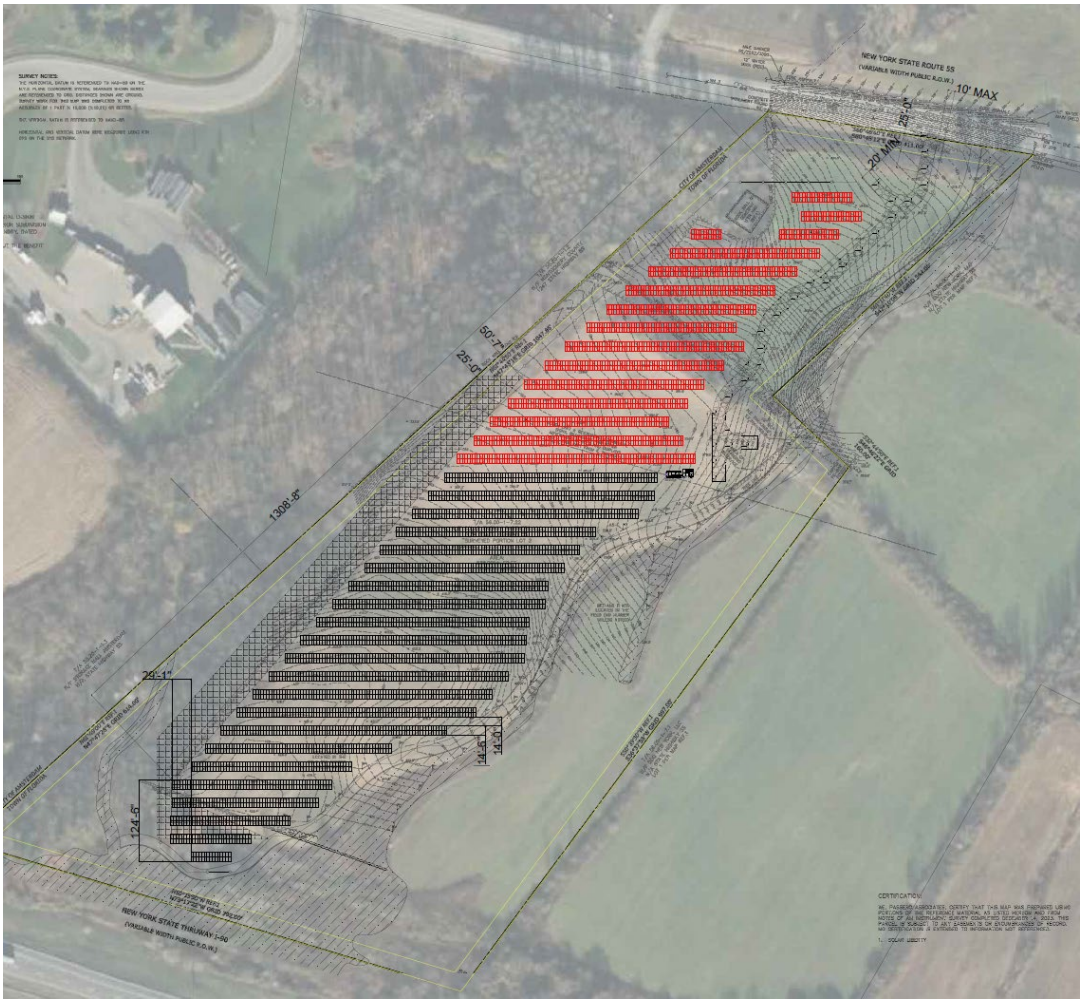


Figure 1: Aerial View

Solar Panels & Racking:

The project area has slopes ranging from 2 - 15%. Panels are facing south. Placing the panels in this manner uses the natural topography and existing vegetation to block the majority of views of the site from vantage points.

Solar panels will be installed at a 25º angle, facing in a southernly direction. The leading edge of each panel will be approximately 3 feet from the finished grade. The back edge will be 9 feet from finished grade. The figures below show the mounting systems being proposed for this project.

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Figure 2 – Front View of Mounted Solar Panels

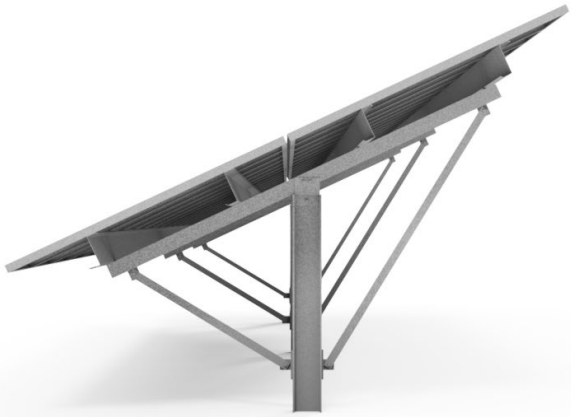


Figure 3 – Side View of Mounted Solar Panels

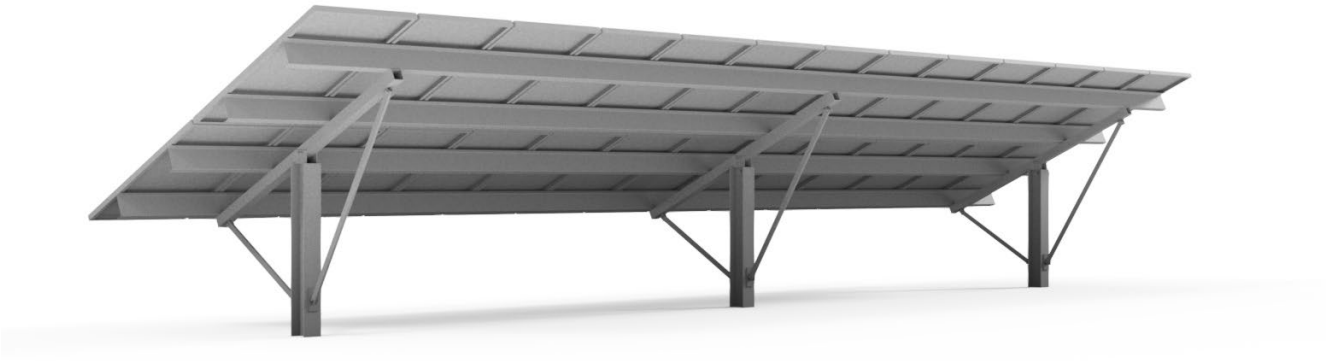


Figure 4 – Isometric Rear View of Mounted Solar Panels

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Figure 5 – Isometric Front View of Solar Panels

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Vegetated Buffers:
The project site as designed, is situated on an area of the property that takes advantage best the existing vegetation of mature trees, brush, and topography to buffer views.



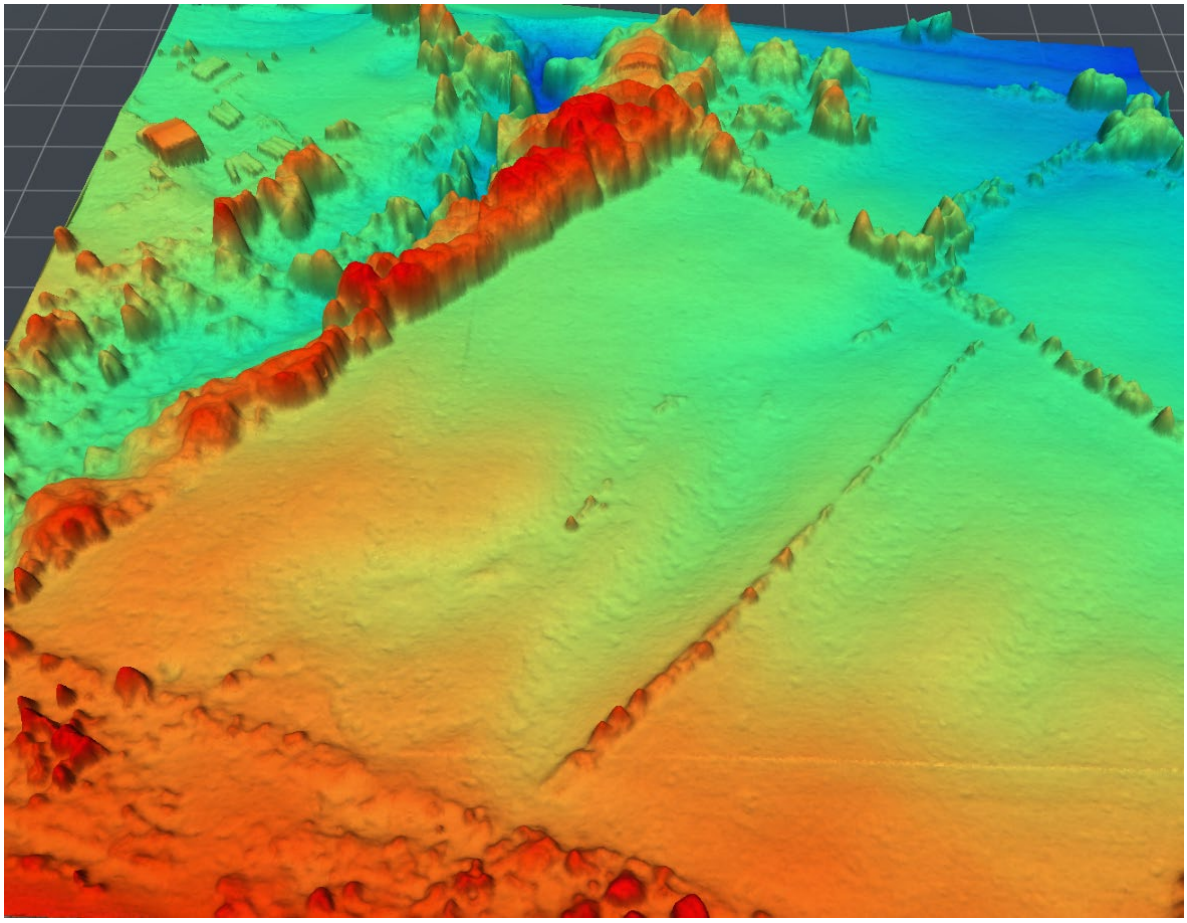
Corporate Headquarters
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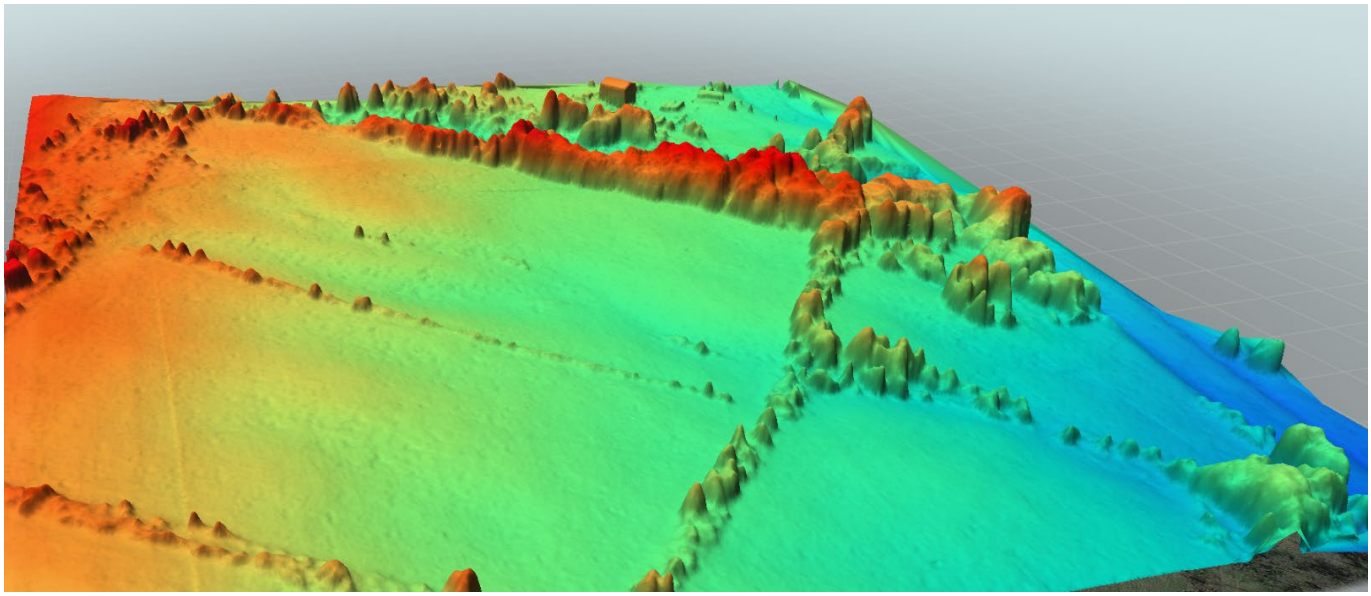
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Topography Across Parcel via LIDAR:





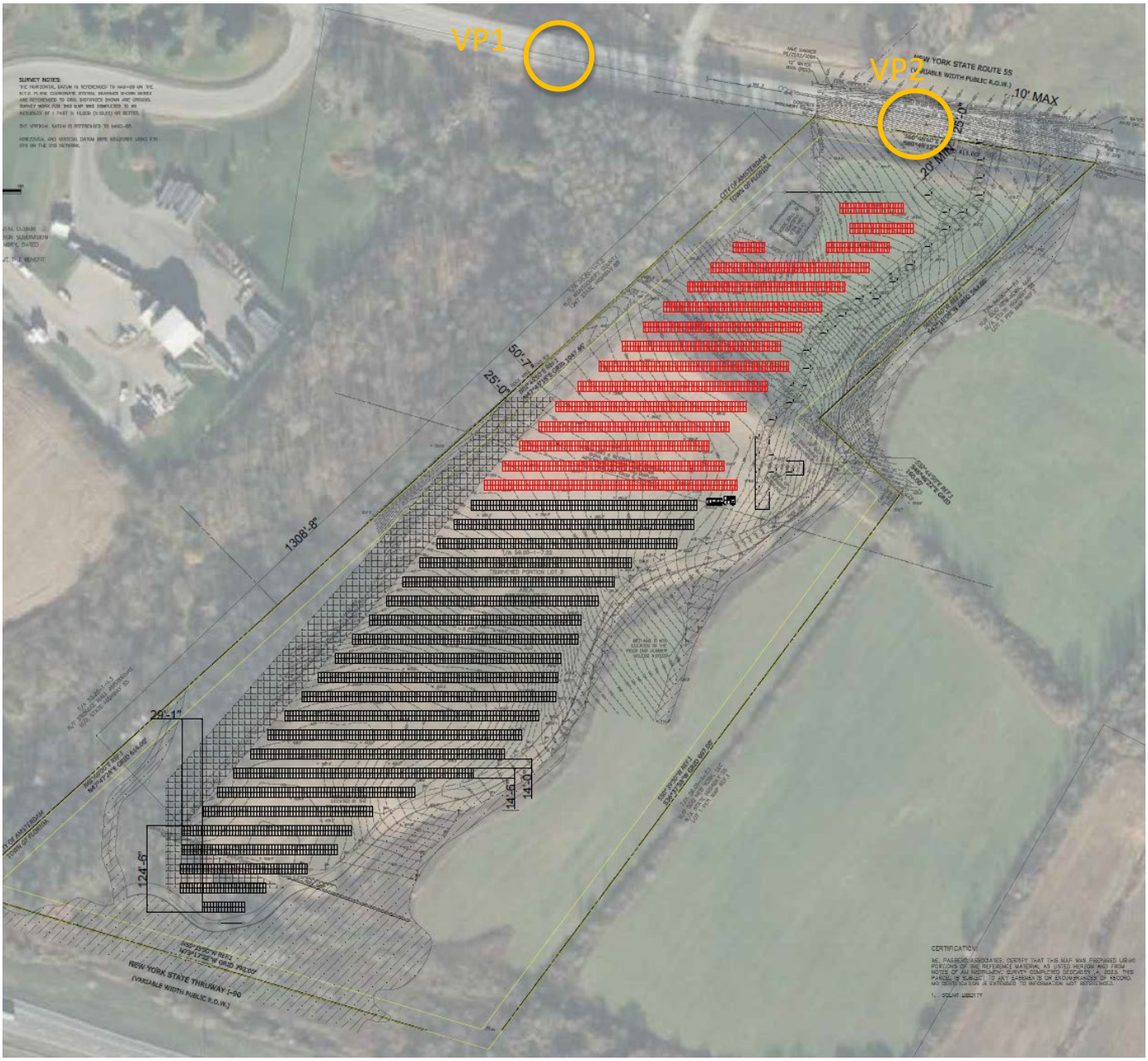
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Visual Impact

The project will have limited visual impact from the proposed solar project. As such, the following review outlines the impact topography and vegetation has on the visual impact of the solar project from several sample locations. Each location below is reviewed against the topography of the project location. The scale outline's location of the view point, vegetation and solar arrays. The topography data and graphs utilize USGS National Mapping Services: https://apps.nationalmap.gov/viewer/



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Person 6’



Buffer



Buffer



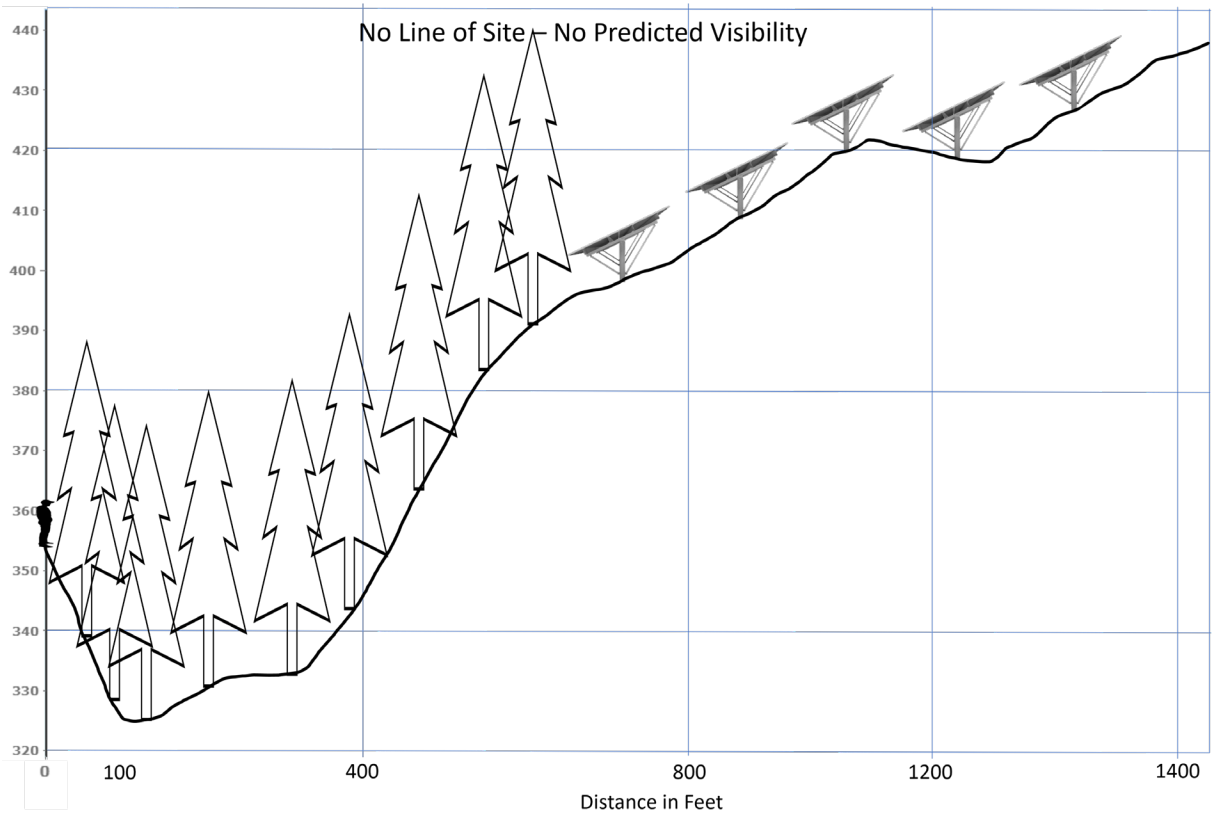
Array

Visual Point 1





Based upon our evaluation, visual point 1 will not be impacted by the solar array given the existing vegetation and topography of the land.

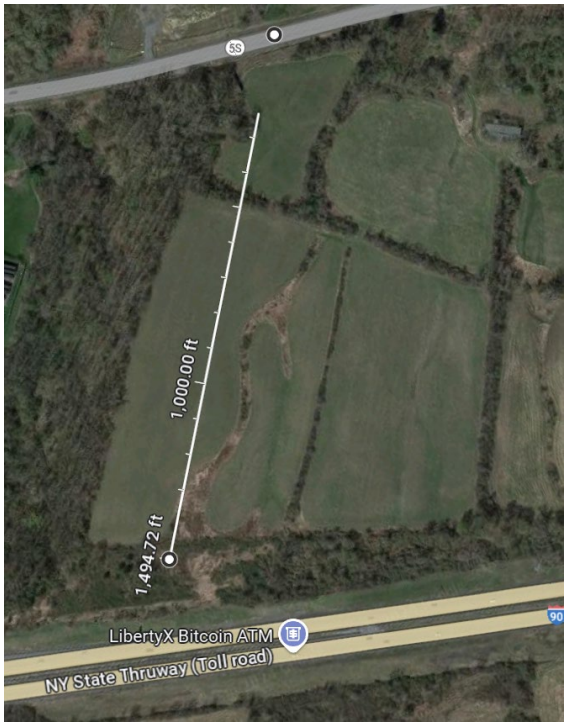


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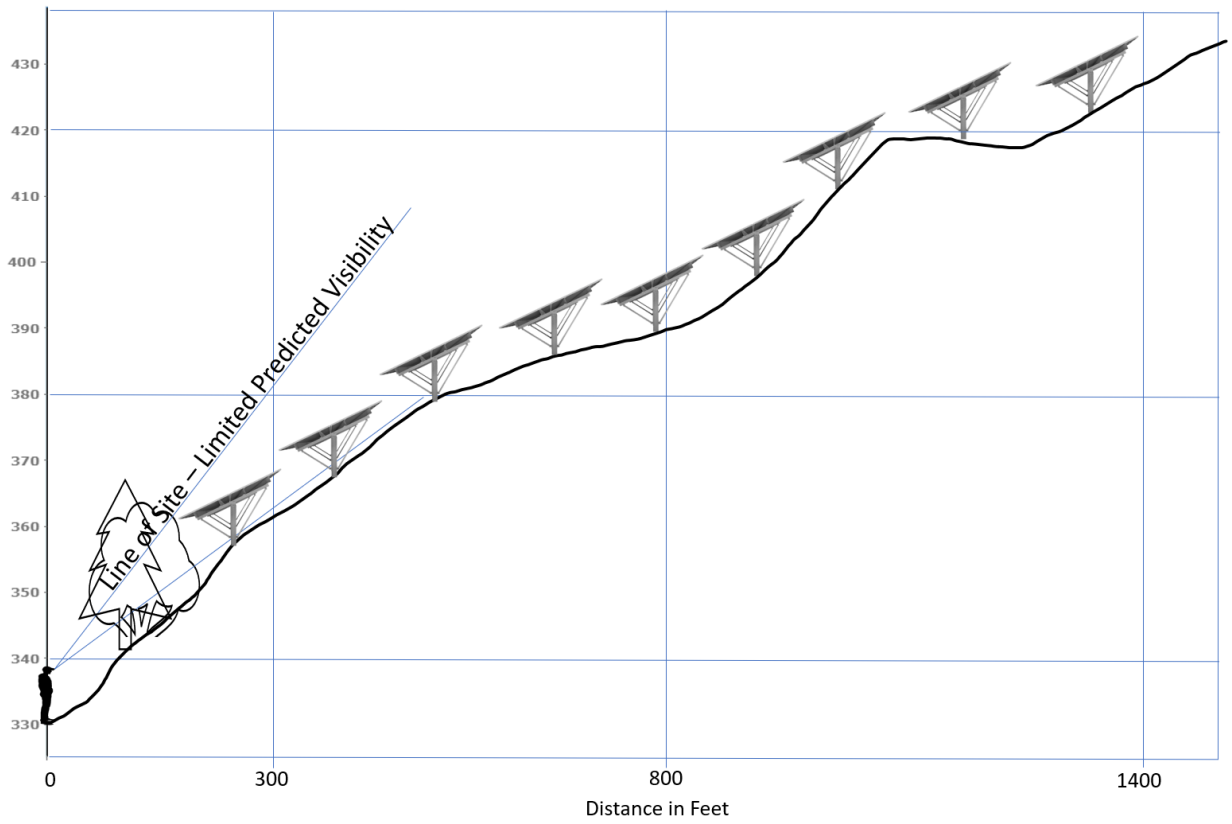
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Visual Point 2





Based upon our evaluation, visual point 2 will have minimum impact by the solar array given the vegetative screening and topography of the land. Once vegetation is mature array will not be visible.



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Rendered Visual Point 2 View



OVERALL VISUAL IMPACT

The SEP Amsterdam Solar Project is sited in a way that will take full advantage of natural topography and existing vegetative buffers to shield the site views.

Existing vegetative buffers surrounding the project location will minimize any views. Solar Liberty is willing to discuss this analysis with the Town and Planning Board. Should any updates be required, or portions of the project require screening, Solar Liberty will work with the Town to mitigate any concerns.

Sincerely,
Solar Energy Systems, Inc.

Nathan Rizzo
Vice President

Corporate Headquarters
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Exhibit 19

Revised Site Plan Set

(Replaces Exhibit 2)

SOLAR ELECTRIC SYSTEM

SEP AMSTERDAM
1225 NY-5S
AMSTERDAM, NY 12010

GENERAL NOTES

SCOPE OF WORK

THE PROJECT ENTAILS THE INSTALLATION OF A 2,613,960 W DC RATED PHOTOVOLTAIC SYSTEM AT 1225 NY-5S, AMSTERDAM, NY.

THIS PHOTOVOLTAIC SYSTEM WILL FUNCTION WITH 1500V DC PHOTOVOLTAIC MODULES (SOURCE CIRCUITS) INSTALLED ON A GROUND MOUNTED 25° TILTED SYSTEM AT THE SPECIFIED PROJECT LOCATION.

PHOTOVOLTAIC DIRECT CURRENT POWER WILL BE INVERTED TO AC POWER BY THE SPECIFIED UL APPROVED INVERTER. SEE ELECTRICAL PAGES AND INVERTER SPECIFICATION SHEETS.

INTERCONNECTION

THIS PHOTOVOLTAIC SYSTEM WILL CONNECT WITH THE EXISTING ELECTRICAL SYSTEM AT ONE PLACE SPECIFIED AS THE POINT OF COMMON COUPLING (POCC).

THIS SYSTEM IS INTENDED TO BE OPERATED IN PARALLEL WITH THE UTILITY SERVICE PROVIDER. ANTI-ISLANDING PROTECTION IS A REQUIREMENT OF UL 1741 AND IS INTENDED TO PREVENT THE OPERATION OF THE PV SYSTEM WHEN THE UTILITY GRID IS NOT OPERATIONAL.

IN ORDER TO INTERCONNECT THE PHOTOVOLTAIC SYSTEM, A POWER OUTAGE AND CLEARANCE OF FACILITY EQUIPMENT MAY NEED TO OCCUR. THIS SHALL BE COORDINATED WITH THE FACILITY AND UTILITY SERVICE PROVIDER.

PERMISSION TO OPERATE THE SYSTEM IS NOT AUTHORIZED UNTIL FINAL INSPECTIONS AND APPROVALS ARE OBTAINED FROM THE LOCAL AUTHORITY HAVING JURISDICTION AND THE LOCAL UTILITY SERVICE PROVIDER.

SYSTEM DESCRIPTION

(1,776) HANWHA Q.PEAK DUO XLG11S.3/BFG 585 WATT SOLAR MODULES
(24) MODULES IN SERIES, (74) TOTAL STRINGS
(3,150) FIRSTSOLAR FS-7500A-TR1 500 WATT SOLAR MODULES
(5) MODULES IN SERIES, (630) TOTAL STRINGS
(7) SOLIS S6-GU250K-EVH-US-M12 INVERTERS (250,000 WATTS EA., 98.5% CEC EFFICIENCY)
(2) SOLIS S6-GU250K-EVH-US-M12 INVERTERS (125,000 WATTS EA., 98.5% CEC EFFICIENCY)

2,613,960 WATTS DC TOTAL
2,000,000 WATTS AC TOTAL

APPLICABLE CODES

2025 NEW YORK STATE BUILDING CODE
2024 INTERNATIONAL BUILDING CODE
2023 NATIONAL ELECTRICAL CODE
NATIONAL FIRE PROTECTION ASSOCIATION 70E

U.L. LISTINGS

PHOTOVOLTAIC MODULES ARE U.L. LISTED FOR THEIR PURPOSE. ALL OF THE ELECTRICAL EQUIPMENT USED IN THIS SOLAR ELECTRIC SYSTEM SHALL BE U.L. LISTED AND IN OUTDOOR AREAS ENCLOSURES AND CABINETS WILL MEET APPROPRIATE NEMA STANDARDS.

ELECTRICAL COMPONENTS AND MATERIALS SUCH AS MODULES, INVERTERS, COMBINER BOXES, DISCONNECTS, CONDUIT, WIRING, ETC, SHALL BE LISTED FOR ITS PURPOSE AND INSTALLED IN A WORKMAN LIKE MANNER.

ATTACHMENT

SOLAR MODULES WILL BE SUPPORTED BY A FIXED STRUCTURE

THE FIXED STRUCTURE SHALL MEET DEAD LOAD, WIND LOAD, AND SEISMIC STANDARDS LISTED IN ASCE 7-22.

STRUCTURAL STABILITY AND THE MEANS OF ATTACHMENT WILL BE CERTIFIED BY A LICENSED ENGINEER. SEE STRUCTURAL PAGES, AND ATTACHMENTS IF PROVIDED, FOR MORE DETAILS

ALL FASTENERS ARE TO BE STAINLESS STEEL UNLESS OTHERWISE NOTED. CONNECTORS SHALL BE TORQUED PER DEVICE LISTING OR ENGINEERING RECOMMENDATIONS. HEX OR SQUARE DRIVE SOCKET HEAD SCREWS ARE RECOMMENDED.

INSTALLATION

ALL ELECTRICAL WORK TO BE INSTALLED BY A QUALIFIED LICENSED ELECTRICIAN AND APPRENTICES WORKING UNDER THE DIRECT SUPERVISION OF THE LICENSED CONTRACTOR.

ALL FABRICATION AND MANUFACTURING SHALL BE PERFORMED BY CERTIFIED INDIVIDUALS IN APPROVED ASSEMBLY AND FABRICATION SHOPS. ELECTRICAL OUTDOOR ENCLOSURES SHALL BE NEMA 4 RATED. ALL ELECTRICAL EQUIPMENT TO BE U.L. LISTED FOR ITS PURPOSE.

PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES NOTED AMONG SITE CONDITIONS, MANUFACTURER RECOMMENDATIONS, OR AUTHORITY HAVING JURISDICTION.

CHANGES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER IN THE FORM OF A "RFI", REQUEST FOR INFORMATION, PRIOR TO MAKING ANY CHANGES. APPROVED CHANGES SHALL REQUIRE A DRAWING REVISION TO MAINTAIN CONTROL OVER THE ENGINEER APPROVED DESIGN. ALL CHANGES SHALL BE SUBMITTED TO THE ENGINEER AND UTILITY FOR APPROVAL PRIOR TO IMPLEMENTING CHANGE.

THE ELECTRICAL CONTRACTOR IS ADVISED THAT ALL DRAWINGS AND COMPONENT MANUALS ARE TO BE UNDERSTOOD PRIOR TO INSTALLATION. THE CONTRACTOR IS ADVISED TO HAVE ALL SWITCHES IN THE "OFF" POSITION AND FUSES REMOVED PRIOR TO INSTALLATION OF FUSE-BEARING COMPONENTS.

Sheet List Table

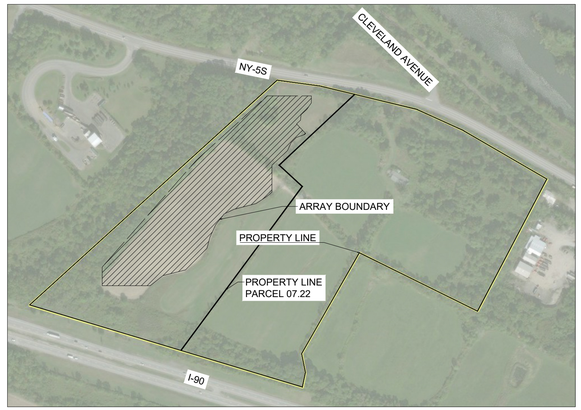
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T-100	TITLE PAGE
C-003	SLOPE ANALYSIS
C-100	SITE LAYOUT
C-101	LANDSCAPE PLAN
C-300	FENCE DETAILS
E-200	DC SINGLE LINE DIAGRAM
E-201	AC SINGLE LINE DIAGRAM
E-601	ELECTRICAL DETAILS
E-602	ELECTRICAL DETAILS
E-603	ELECTRICAL DETAILS
E-800	EQUIPMENT SPECIFICATION
E-900	LABELS & MARKINGS
S-100	CONCRETE PAD DETAILS
S-200	RACKING ELEVATION
S-201	RACKING DETAIL

BILL OF MATERIALS

(1,776) HANWHA Q.PEAK DUO XLG11S.3/BFG 35MM 580 WATT SOLAR MODULES
(3,150) FIRSTSOLAR FS-7500A-TR1 500 WATT SOLAR MODULES
(7) SOLIS S6-GU250K-EVH-US-M12 INVERTERS (250,000 WATTS EA. 98.5% CEC EFFICIENCY)
(2) SOLIS S6-GU250K-EVH-US-M12 INVERTERS (125,000 WATTS EA. 98.5% CEC EFFICIENCY)
(1) 600V LOW VOLTAGE PANELBOARD
- AUX. 120/240V BREAKERS W/ DRY TYPE TRANSFORMER
(1) 15 KV GANG OPERATED AIR BREAK SWITCH
(1) 2000KVA STEP UP TRANSFORMERS (600V TO 13.2KV)
(LOT) 10KV, 8.4KV MCOV LIGHTNING ARRESTERS
(LOT) ALSO ENERGY MONITORING PACKAGE
(LOT) GROUND MOUNT RACKING 20° TILT

AZIMUTH OF 180°
TILT OF 25°

VINCINITY MAP



NORTH

PROJECT DEVELOPER

SOLAR LIBERTY
6500 SHERIDAN DR.
SUITE #120
BUFFALO, NY 14221

PROJECT ENGINEER:

ERIK VICKERD
ERIK.VICKERD@
SOLARLIBERTY.COM
(716) 634-3780 EXT 105

CONTRACTOR

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6500 SHERIDAN DR.
SUITE #120
BUFFALO, NY 14221

SITE CONTACT

SOLAR LIBERTY
6500 SHERIDAN DR.
SUITE #120
BUFFALO, NY 14221

STRUCTURAL ENGINEER

ELECTRICAL ENGINEER

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EDWARD ALONSO
100 FRANKLIN SQUARE DR,
SUITE 200
SOMERSET, NJ 08873
(732) 390-5858
NY PE REG# 089144-1

ENVIRONMENTAL ENGINEER

PASSERO ASSOCIATES
242 WEST MAIN STREET, SUITE 100
ROCHESTER, NY 14614

(585) 325-1000
Fax: (585) 760-8580

FOR OFFICIAL USE ONLY

WHITMAN
Environmental • Engineering • Energy
Waste Management • EH&S Services
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SOLARLIBERTY
THE FUTURE OF ENERGY INDEPENDENCE
SOLAR LIBERTY ENERGY SYSTEMS, INC.
6500 SHERIDAN DR.
BUFFALO, NY 14211
716-634-3780

SOLAR ELECTRIC SYSTEM CLIENT:
SEP AMSTERDAM
1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
TITLE PAGE

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

STAMP:

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ENGINEER: EV
APPROVED BY: ---

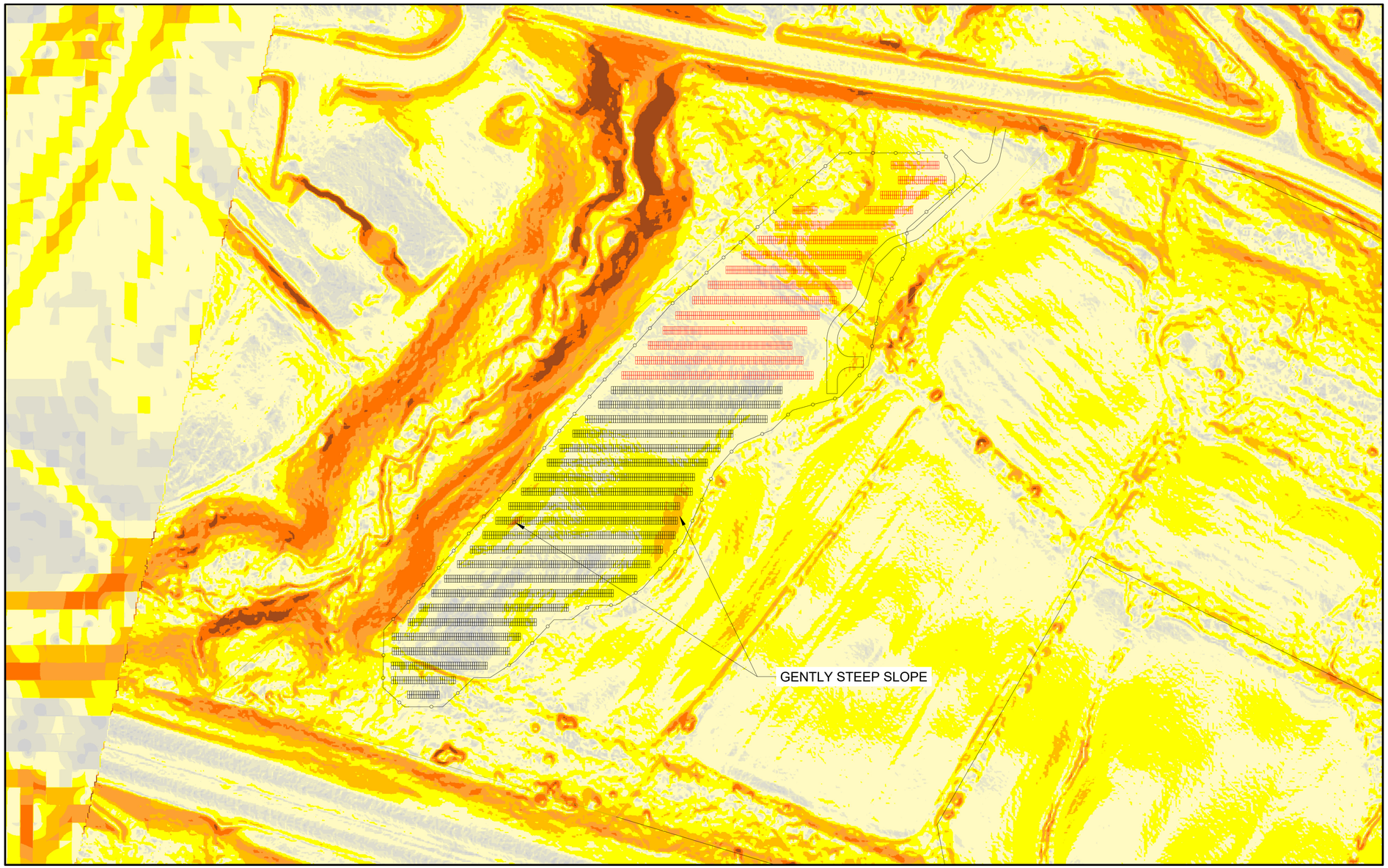
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2	REVISED PERMIT SET	07/23/26
3	UPDATED PERMIT SET	08/06/26
4	UPDATED PERMIT SET	08/07/26
5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

SCALE:
N.T.S.

DRAWING NO.:
T-100

SEP Amsterdam Slope Analysis



5/22/2024

Terrain: Slope Map

- Flat (0°)
- Nearly level (1°)
- Gently level (2°)
- Gently sloping (3° - 5°)
- Strongly sloping (6° - 10°)
- Gently steep (11° - 15°)
- Moderately Steep (16° - 20°)
- Steep (21° - 30°)
- Very steep (31° - 90°)

1 / C.003 SITE PLAN
Scale: 1" = 100'
0' 50' 100' 200' NORTH

1:4,296
0 0.03 0.05 0.1 mi
0 0.04 0.09 0.17 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community,

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Waste Management • EH&S Services
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SEP AMSTERDAM

1225 NY-5S
AMSTERDAM, NY 12010

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SLOPE ANALYSIS

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ENGINEER:	EV
APPROVED BY:	---

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0	PERMITTING SET	12/13/23
1	UPDATED PERMIT SET	05/26/26
2	REVISED PERMIT SET	07/23/26
3	UPDATED PERMIT SET	08/06/26
4	UPDATED PERMIT SET	08/07/26
5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

SCALE:
AS NOTED

DRAWING NO.:
C-003

PV SYSTEM SUMMARY	
TOTAL STC DC SYSTEM SIZE	2,613.96 kW
SOLAR MODULE 1 DC SYSTEM SIZE	1,038.96 kW
SOLAR MODULE 1 MODEL	Q.PEAK DUO XL-G11S.3/BFG
SOLAR MODULE 1 STC DC RATING	585W
SOLAR MODULE 1 INFO	95.1" x 44.7" x 1.38", 75.8lbs
SOLAR MODULE 1 COUNT	1,776
SOLAR MODULE 1 STRINGING	3 x [24M x 21S] 1 x [24M x 11S]
SOLAR MODULE 2 DC SYSTEM SIZE	1,575.00 kW
SOLAR MODULE 2 MODEL	FS-7500A-TR1
SOLAR MODULE 2 STC DC RATING	500W
SOLAR MODULE 2 INFO	90.5" x 47.84" x 0.24", 87.5lbs
SOLAR MODULE 2 COUNT	3,150
SOLAR MODULE 2 STRINGING	3 x [[5M x 6S] x 24], 1 x [[5M x 6S] x 22], 1 x [[5M x 6S] x 11]
RACKING SYSTEM	TERRASMART SINGLE POST RACKING
PITCH OF ARRAY	25°
INVERTER MODEL	7 x SOLIS S6-GU250K-EHV-US-M12 2 x SOLIS S6-GU250K-EHV-US-M12 (DERATE TO 125kW)
ARRAY AZIMUTH	180°
PANEL CLEARANCE	3'
MAX PANEL HEIGHT	9'-10"
INTERCONNECTION VOLTAGE	13.2kV, 3-PH 4-WIRE, NATIONAL GRID

LEGEND

- SOLAR MODULE
- INVERTER RACK
- ACCESS ROAD
- EQUIPMENT PAD
- UNDERGROUND TRENCH
- FENCE
- WETLAND A - EMERGENT WETLAND/PHRAGMITES MARSH
- TREE CLEARING AREA
- JURSDICTIONAL REVIEW AREA

AQUATIC RESOURCE SUMMARY

WETLAND A
0.93 ACRE
STREAM A - INTERMITTENT STREAM
840 LINEAR FEET
STREAM B - INTERMITTENT STREAM
285 LINEAR FEET

DISTURBANCE AREA NOTES

TOTAL AREA INSIDE FENCE
8.62 ACRES
ARRAY ENVELOPE
6.76 ACRES
GROUND DISTURBANCE
TOTAL ACREAGE TO BE PHYSICALLY DISTURBED: 0.48 ACRES (DOESN'T INCLUDE TREE CLEARING)

TOTAL PARCEL AREA
19.85 ACRES
JURISDICTIONAL REVIEW AREA
10.13 ACRES

NATIVE POLLINATOR SEEDING NOTE

TO PROVIDE THE FOLLOWING SEED MIXTURES DURING CONSTRUCTION:
TEMPORARY SEEDING:
RYEGRASS (ANNUAL OR PERENNIAL) @ 30LBS. PER ACRE OR 0.7 LBS. PER 1000 SQUARE FEET.
PERMANENT SEEDING:
65% KENTUCKY BLUEGRASS BLEND @ 85LBS. PER ACRES OR 2.0-2.6 LBS. PER 1000 SQUARE FEET 20%
PERENNIAL RYEGRASS @ 26-35 LBS. PER ACRE OR 0.6-0.8 LBS. PER 1000 SQUARE FEET
15% FINE FESCUE @ 19-26 LBS. PER ACRE OR 0.4-0.6 LBS. PER 1000 SQUARE FEET
FOR ALL SEEDING & STABILIZATION MEASURES IT IS THE RESPONSIBILITY OF THE OWNER & DEVELOPER TO ENSURE THAT FINAL STABILIZATION OCCURS AS REQUIRED BY THE NYSDEC. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 7 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN(s).

MINIMUIM POLE-TO-POLE DISTANCE
JURISDICTIONAL REVIEW AREA
EXISTING CEMETARY
25'-0"
10' MAX
20' MIN
POI - EXISTING POLE
NATIONAL GRID 13.2kV DISTRIBUTION LINE # 36_35_50153
U(POI POLE)-1 UTILITY RECLOSER ON NEW UTILITY OWNED POLE
C(POI POLE)-1 C511 GENERATOR DISCONNECT POLE
C(POI POLE)-2 UTILITY PRIMARY METERING POLE (POLE BY SL)
C(POI POLE)-3- CR512 CUSTOMER RECLOSER POLE
C(POI POLE)-4 CUSTOMER RISER POLE WITH C513 SOLID BLADE DISCONNECT
ARRAY TO PROPERTY LINE MINIMUM
FENCE TO PROPERTY LINE MINIMUM
50'-7"
25'-0"
ARRAY MODULE 1 QCELL 585W
596' CONDUCTOR LENGTH ARRAY TO INTERCONNECTION SEE E-603 FOR TYPICAL TRENCH DETAIL
TRANSFORMER, LV COMBINER GEAR, CUSTOMER METERING, & GROUNDING XFMR ON CONCRETE PAD
1308'-8"
TREE CLEARING 2.43 ACRES
STREAM A - INTERMITTENT STREAM
29'-1"
ARRAY MODULE 2 FIRST SOLAR 500W
STREAM B - INTERMITTENT STREAM
124'-6"
14'-6"
14'-0"
8' AGRICULTURAL FENCE
APPROX. PROPERTY LINE PARCEL 07.22
WETLAND A - EMERGENT WETLAND/ PHRAGMITES MARSH

1 / C-100 SITE PLAN
Scale: 1" = 80'
0' 40' 80' 160' NORTH

WHITMAN
Environmental • Engineering • Energy
Waste Management • EH&S Services
100 Franklin Square Drive, Suite 200
Somerset, NJ 08873
TEL: (732) 390-5858
FAX: (732) 390-9406

SOLARLIBERTY
THE FUTURE OF ENERGY INDEPENDENCE
SOLAR LIBERTY ENERGY SYSTEMS, INC.
6500 SHERIDAN DR.
BUFFALO, NY 14211
716-634-3780

SOLAR ELECTRIC SYSTEM CLIENT:
SEP AMSTERDAM
1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
ARRAY 1
SITE PLAN

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"
0 ½" 1"

STAMP:

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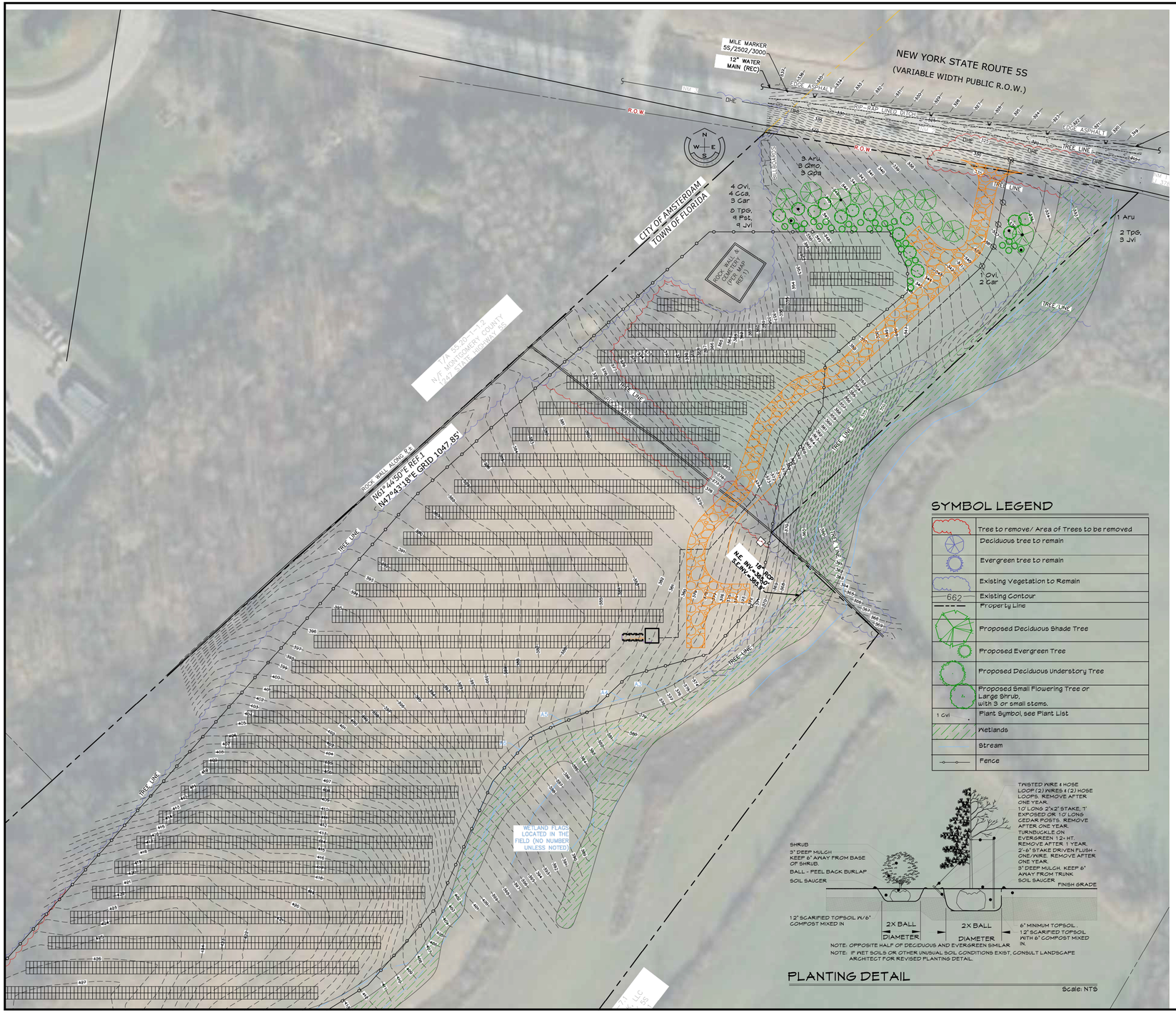
DATE: 10/26/2026
DRAWN BY: EV
ENGINEER: EV
APPROVED BY: ---

NO.	REVISION	DATE
0	PERMITTING SET	12/13/23
1	UPDATED PERMIT SET	05/26/26
2	REVISED PERMIT SET	07/23/26
3	UPDATED PERMIT SET	08/06/26
4	UPDATED PERMIT SET	08/07/26
5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

SCALE:
1" = 80'

DRAWING NO.:
C-100



SYMBOL LEGEND

- Tree to remove/ Area of Trees to be removed
- Deciduous tree to remain
- Evergreen tree to remain
- Existing Vegetation to Remain
- 662 Existing Contour
- Property Line
- Proposed Deciduous Shade Tree
- Proposed Evergreen Tree
- Proposed Deciduous Understory Tree
- Proposed Small Flowering Tree or Large Shrub with 3 or small stems.
- 1 Gvi Plant Symbol, see Plant List
- Wetlands
- Stream
- Fence

NOTE: OPPOSITE HALF OF DECIDUOUS AND EVERGREEN SIMILAR

NOTE: IF WET SOILS OR OTHER UNUSUAL SOIL CONDITIONS EXIST, CONSULT LANDSCAPE ARCHITECT FOR REVISED PLANTING DETAIL.

PLANTING DETAIL

Scale: NTS

PLANTING NOTES

1. Soil: Install 6" topsoil compost mix. Scarify or dig all proposed planting areas to a depth of 12"-24"- or as determined by Landscape Architect. Topsoil-compost mix shall consist of 85%-90% stockpiled topsoil (if available) and 10%-15% well-rotted compost. Topsoil shall be natural, friable, fertile soil, characteristic of productive soil in the vicinity, reasonably free from stones, clay lumps, roots and other foreign matter, with an acidity level between 5.5 and 7 pH. If stockpiled topsoil is not available, use purchased topsoil in sufficient quantity to complete the requirements as specified. Purchased soil shall meet the following particle size distributions: less than or equal to 15% of gravel (particle size greater than 2.00 mm), 40%-60% of sand (0.05-2 mm), 30%-40% of silt (0.002-0.05 mm), and 10%-20% clay (<0.002mm) and 10-15% well-rotted compost with an acidity level between 5.5 and 7.0 pH. Percentages are by weight. Topsoil and purchased soil shall be subject to approval by Landscape Architect.
2. Install 3" double ground hardwood or softwood bark mulch around shrubs and trees in landscape beds and tree pits and 1" of mulch around perennials and in perennial beds. Edge all beds by digging trench around outside edges.
3. All plants shall meet or exceed the latest edition of American Standard for Nursery Stock by the American Association of Nurserymen, ANSI Z60.1.
4. Warranty: All plants shall be warranted for a period of one year. Replace, in accordance with the drawings and specifications, all plants that are missing, more than 25% dead, do not develop from planting stock, that appear unhealthy or unsightly and/or that have lost their natural shape due to dead branches. Any tree that loses it's main leader shall be replaced. Provide guarantee for all replacement plants for at least one full growing season.
5. Watering: Watering of plants and areas of ground covers such as lawns shall be contractor's responsibility until final acceptance of completed project by Owner. Watering responsibility after acceptance shall be clearly stated in Contractor's bid. If not stated in Contractor's bid, the Contractor shall be responsible for watering if and as necessary.
6. Substitutions: There shall be no substitution of plant materials without the written consent from Landscape Architect.
7. Nomenclature Tags: Contractor shall not remove nomenclature tags from plants until receipt of written inspection report by Landscape Architect.
8. Shrub size: Shrubs shall meet the requirements for height indicated on the Plant List. The measurements for height shall be taken from the ground level to the average height of the top branches of the plant and not to the longest branch. Single stemmed or thin plants will not be accepted. Side branches shall be generous and well twigged. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.
9. Plant quantities: Contractor shall be responsible for counting plant material on drawing. If a discrepancy exists between the plant count shown on the Plant List and the Planting Plan, the Planting Plan count shall take precedence.
10. Underground utilities: The contractor is hereby notified that underground utilities exist and the contractor shall obtain current utility record maps and notify all utility companies prior to commencing work. Utility location shall be verified in the field with the general contractor prior to commencement of any digging operations. In the event that any underground utility is uncovered, the owner/general contractor/utility company shall be notified.
11. Tree staking: Stake trees immediately after planting. Stakes are to be removed by the contractor at the end of the guarantee period.
12. Landscape Contractors: Landscape materials shall be installed by local companies familiar with the conditions in this area that employ NYS Certified Nursery Professionals or with an owner or foreman that has a degree in horticulture, arboriculture, botany, or any other landscape degree or qualified experience.
13. Perimeter Area protection: The contractor shall not disturb any area outside the work area as indicated on the Grading Plan. Storage of materials or equipment is not permitted within areas delineated as do not disturb.
14. Erosion Control: The contractor shall follow regulations for topsoil storage and soil stabilization in accordance with local or state erosion control regulations.
15. This drawing shall be used for landscaping purposes only.
16. During planting operations, if wet soils are encountered, plants may be set up to three inches above surrounding grade.
17. Plants shall be pruned at the time of planting, if necessary, in accordance with standards set forth by the International Society of Arboriculture.
18. All street and shade trees planted near pedestrian or vehicular access shall limbed up to 8'. All street and shade trees within intersection sight triangles shall be limbed up to 10'.
19. All plant material shall be planted with the same relationship of finish grade as at the nursery.
20. All shrub and perennial masses shall be planted in continuous beds.
21. Plants shall be planted during the following growing seasons: With irrigation or a comprehensive watering schedule in place, upon completion of construction, from March 1-November 15 for evergreens, March 1-December 15 for deciduous trees. Without irrigation or a comprehensive watering schedule, do not plant June 15-August 15.
22. Seeding schedule: Seed indicated areas between April 1-May 31, August 15-October 15.
23. Seeded area preparation: Install 6" minimum topsoil in accordance with topsoil requirements in note #1 above. Rock rake to remove stones larger than 1/2". Seeded area preparation per 1000 square feet: Install 90 lbs finely chopped straw, 15 lbs 5-10-5 fertilizer, 50% slow release. Install limestone as needed in accordance with pH soil test.
24. All debris resulting from landscape work shall be removed from site after planting is complete. Property shall be left in a neat and orderly condition.
25. Existing landscape beds: Weed and install 3" bark mulch in existing landscape beds and 6' rings (minimum) around existing trees to remain. Where lawn meets garden beds, dig trench 6" deep to separate landscape beds from lawn areas.

SYMBOL LEGEND

SYM	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE/ROOT	
TREES					
Aru	4	Acer rubrum	Red Maple	1 - 1 1/2"	
Car	5	Carpinus caroliniana	American Hophornbeam	1 - 1 1/2"	
Gca	4	Cercis canadensis	Eastern Redbud	1 - 1 1/2"	
Jvi	12	Juniperus virginiana	Eastern Red Cedar	6-7'	
Ovi	5	Ostrya virginiana	American Hornbeam	1 - 1 1/2"	
Pst	9	Pinus strobus	Eastern White Pine	1 - 1 1/2"	
Gmo	3	Quercus montana	Chestnut Oak	1 - 1 1/2"	
Qpa	3	Quercus palustris	Pin Oak	1 - 1 1/2"	
TpG	10	Thuja plicata 'Green Giant'	Green Giant Arborvitae	6-7'	

GENERAL NOTES

1. This drawing is based upon a site plan provided by Whitman Engineering dated August 4th, 2026 and a boundary and partial topographic survey provided by Passero Associates dated February 2024.
2. Owner to obtain all permits before building.
3. Strip topsoil in pavement areas and stockpile for future use.
4. Contractor must call "Before you Dig" and have all underground utilities located before commencing excavation work.

Date: August 6, 2026

REVISIONS

No.	Date	Description
1	9/3/2026	For Submission

SEP AMSTERDAM
1225 NY-5S
AMSTERDAM, NEW YORK

LANDSCAPE MASTER PLAN

KALA
KAREN ARENT LANDSCAPE ARCHITECT
12 OLD MINISINK TRAIL • GOSHEN, NEW YORK 10924
845 294 9958 phone • 845 294 6545 fax

Drawn By: KA | Checked By: XX | Scale: 1"=50'

New York License #

Unauthorized alteration or addition to this drawing is a violation of Section 7209 (2) of the New York State Education Law

L1
1 of 1

WHITMAN
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Waste Management • EH&S Services
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SHEET TITLE:

LANDSCAPE PLAN

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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DATE: 10/26/2026
DRAWN BY: EV
ENGINEER: EV
APPROVED BY: ---

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PROJECT PHASE:

SCALE:

AS NOTED

DRAWING NO.:

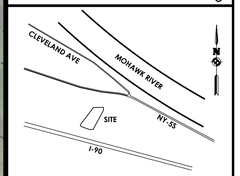
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PASSERO
engineering architecture

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TOWN OF FLORIDA
LOCATION SKETCH
N.T.S.

Client:
SOLAR LIBERTY
6500 SHERIDAN DRIVE
BUFFALO, NY 14423

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge
Project Manager Shauncy Maloy
Designed by Benjamin Bawden

STATE OF NEW YORK
SHAUNCY G. MALOY
LICENSED PROFESSIONAL ENGINEER
110325
10/27/2026

Revisions

No.	Date	By	Description
1			

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EROSION CONTROL PLAN

SOLAR LIBERTY AMSTERDAM

Municipality: MUNICIPALITY
County: COUNTY State: NY

Project No.
20223424.0001

Drawing No.
C 102

Scale:
1" = 80'

Date
OCTOBER 2026

NOT FOR CONSTRUCTION

EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR SHALL REVIEW THE EROSION AND SEDIMENT CONTROL PLAN INCLUDED IN THE CONTRACT DOCUMENTS, AND IF NECESSARY, MODIFY THE PLAN WITH THE CONTRACTOR'S INTENDED SEQUENCE AND TYPES OF OPERATIONS. THE CONTRACTOR'S MODIFIED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, ALONG WITH A PROGRESS SCHEDULE THAT ADDRESSES THIS WORK.
2. THE CONTRACTOR SHALL DESIGNATE AN "EROSION AND SEDIMENT CONTROL SUPERVISOR" FOR THE PROJECT. THE SUPERVISOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN AND FOR INSPECTING AND MAINTAINING THE CONTROL MEASURES. THE NAME AND QUALIFICATIONS (TRAINING AND EXPERIENCE) OF THIS INDIVIDUAL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING EARTHWORK.
3. THE DESIGNATED "EROSION AND SEDIMENT CONTROL SUPERVISOR" SHALL NOTIFY THE ENGINEER IN ADVANCE OF ANY FIELD CHANGES TO THE EROSION AND SEDIMENT CONTROL MEASURES INDICATED IN THE CONTRACT DOCUMENTS. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO SUBMIT A MODIFIED EROSION AND SEDIMENT CONTROL PLAN FOR APPROVAL PRIOR TO IMPLEMENTING ANY FIELD CHANGES.
4. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF FROM DISTURBED AREAS IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL DEVICES BEFORE LEAVING THE SITE.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE FOR WHICH THEY ARE INTENDED AND SHALL REMAIN IN PLACE UNTIL SOILS ARE PERMANENTLY STABILIZED.
6. UNDER NO CONDITION SHALL DISCONTINUED CONSTRUCTION ACTIVITIES IN AREAS WITH SOIL DISTURBANCES BE LEFT FOR A PERIOD OF GREATER THAN 7 DAYS WITHOUT TEMPORARILY STABILIZING THOSE AREAS WITH TEMPORARY SEED AND MULCH. MAINTENANCE OF THOSE AREAS SHALL INCLUDE RESEEDING AND REMULCHING AS NEEDED TO ESTABLISH A SATISFACTORY STAND OF GRASS. THERE SHALL BE NO ADDITIONAL PAYMENT FOR RESEEDING AND REMULCHING.
7. NO WET OR FRESH CONCRETE, LEACHATE, MATERIAL, OR DEBRIS SHALL BE ALLOWED TO ESCAPE INTO A WATER BODY OR WETLAND, NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER A WATER BODY OR WETLAND. ANY MATERIAL OR DEBRIS ACCIDENTALLY DROPPED INTO THE CHANNEL SHALL BE IMMEDIATELY AND COMPLETELY REMOVED AND DEPOSITED IN AN UPLAND AREA.
8. AT THE VERY MINIMUM, EROSION CONTROL SHALL BE AS SHOWN ON THIS PLAN. EROSION CONTROL MAY CONSIST OF SEDIMENT TRAPS AND/OR ENVIRONMENTAL FENCES. THE CONTRACTOR AND THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INTEGRITY, MAINTENANCE AND REMOVAL OF EROSION CONTROL MEASURES UNTIL NO LONGER DEEMED NECESSARY BY THE TOWN OR IT'S REPRESENTATIVE. THE CONTRACTOR SHALL MAINTAIN THE STORM SEWER SYSTEM UNTIL THE PROJECT IS DEVELOPED AND APPROVED BY THE TOWN AND OWNER.

INSPECTION REQUIREMENT NOTES:

1. THE OWNER OR OPERATOR SHALL HAVE A QUALIFIED INSPECTOR CONDUCT ONE (1) SITE INSPECTION EVERY SEVEN (7) CALENDAR DAYS, FOR AS LONG AS LESS THAN FIVE (5) ACRES OF SOIL REMAIN DISTURBED. A QUALIFIED INSPECTOR SHALL 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.
2. 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.
3. THE OWNER IS RESPONSIBLE FOR ALWAYS HAVING A QUALIFIED OPERATOR ON SITE WHO HAS AT LEAST 4 HOURS OF EROSION CONTROL TRAINING IN ACCORDANCE WITH THE GP-0-25-001. ONCE THE SITE HAS ACHIEVED 80% STABILIZATION AND GROUND COVER, THE TOWN MAY SIGN OFF ON THE NOTICE OF TERMINATION PRIOR TO SUBMISSION TO THE NYSDEC. REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES IS REQUIRED PRIOR TO DEMOBILIZATION.

GENERAL NOTES:

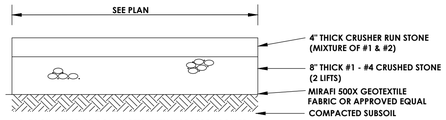
1. CONTRACTOR TO STABILIZE AREAS WITH TEMPORARY OR PERMANENT STABILIZATION TO MAINTAIN LESS THAN 5 ACRES OF TOTAL DISTURBANCE AT ANY GIVEN TIME.
2. CONTRACTOR SHALL FIELD VERIFY ALL UNDERGROUND UTILITIES
3. TOTAL AREA OF DISTURBANCE = ±3.00 ACRES
4. THE AUTHORITY HAVING JURISDICTION (AHJ) SHALL BE THE TOWN OF FLORIDA
5. SOLAR ARRAY FIELDS THAT HAVE TABLES ELEVATED OFF THE GROUND, SPACED ONE TABLE WIDTH APART, DO NOT ALTER HYDROLOGY FROM PRE TO POST DEVELOPMENT CONDITIONS, AND ADDRESS WATER QUALITY VOLUME AND RUNOFF REDUCTION VOLUME BY MAINTAINING SHEET FLOW ON SLOPES LESS THAN 8%
6. IF THE DEVELOPER OF SITE PLANS TO INCREASE THE DISTURBANCE GREATER THAN 5 ACRES AT ANY GIVEN TIME, A 5-ACRE WAIVER MUST BE SUBMITTED TO NYSDEC AND APPROVAL GRANTED PRIOR TO REACHING THIS LIMIT. THE DEVELOPER MUST ADHERE TO THE CONDITIONS SET FORTH IN THE SPDES GENERAL PERMIT GP-0-25-001 PART II.D.3.

CONSTRUCTION SEQUENCE FOR GRADING AND EROSION CONTROL:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CONSTRUCT EROSION CONTROL MEASURES AS SHOWN ON THE PLANS.
3. GRADE IMPROVEMENTS AREAS WITHIN THE PROJECT SITE. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 7 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST DISTURBANCE.
4. SEED ALL DISTURBED AREAS WITHIN 10 DAYS AFTER FINAL GRADING. CONTRACTOR IS RESPONSIBLE TO RESEED IF GRADING IS UNSATISFACTORY.
5. UPON APPROVAL OF THE TOWN, REMOVE ALL TEMPORARY SILTATION CONTROLS.
6. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BASED UPON ACTUAL FIELD CONDITIONS AOBE. CONTRACTOR SHALL PROVIDE FOR THIS COST IN HIS CONTRACT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SILTATION AND EROSION CONTROL MEASURES FROM INSTALLATION THROUGH MAINTENANCE AND REMOVAL AFTER REVEGETATION HAS BEEN ESTABLISHED.
8. ALL EROSION AND SEDIMENT CONTROL METHODS WILL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

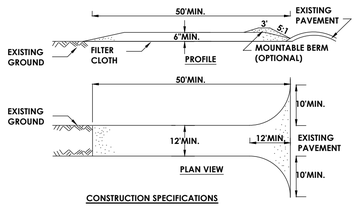
SEEDING NOTE

TO PROVIDE THE FOLLOWING SEED MIXTURES DURING CONSTRUCTION:
TEMPORARY SEEDING:
RYEGRASS (ANNUAL OR PERENNIAL) @ 30LBS. PER ACRE OR 0.7 LBS. PER 1000 SQUARE FEET.
PERMANENT SEEDING: (APPLY @ 250LBS. PER ACRE)
40% LITTLE BLUESTEM
25% CANADA WILD RYEGRASS
15% VIRGINIA WILD RYEGRASS
10% SWITCHGRASS
FOR ALL SEEDING & STABILIZATION MEASURES IT IS THE RESPONSIBILITY OF THE OWNER & DEVELOPER TO ENSURE THAT FINAL STABILIZATION OCCURS AS REQUIRED BY THE NYSDEC. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 7 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN(S).



1. EACH LIFT TO BE COMPACTED WITH VIBRATORY ROLLER.

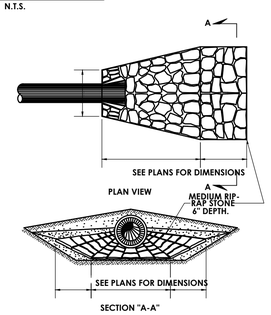
STONE ACCESS ROAD
N.T.S.



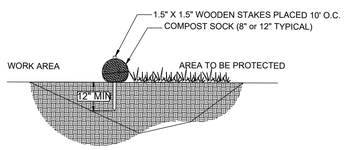
CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. 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.
7. 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.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN

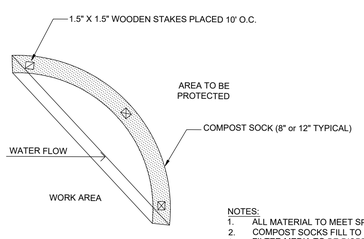
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



STONE APRON
N.T.S.



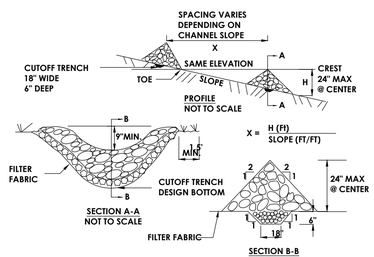
SECTION NTS



PLAN NTS

NOTES:
1. ALL MATERIAL TO MEET SPECIFICATIONS.
2. COMPOST SOCKS FILL TO MEET APPLICATION REQUIREMENTS.
3. FILTER MEDIA TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

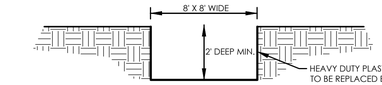
Compost Socks for Sediment Control
NTS



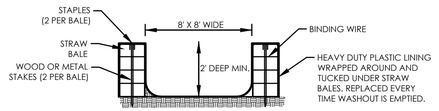
CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

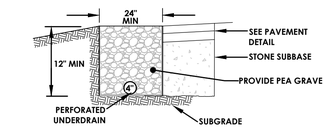
STONE CHECK DAM
N.T.S.



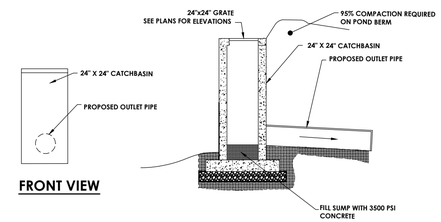
CONCRETE WASH OUT AREA OPTION #1
N.T.S.



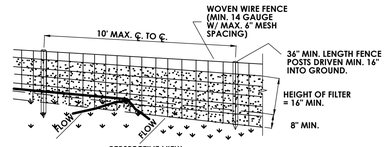
CONCRETE WASH OUT AREA OPTION #2
N.T.S.



STONE DIAPHRAGM
N.T.S.



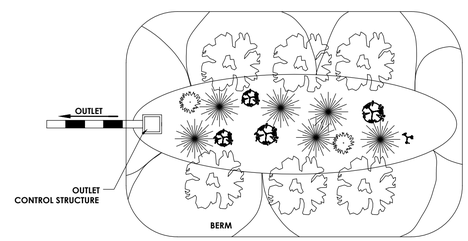
BIORETENTION CONTROL STRUCTURE
N.T.S.

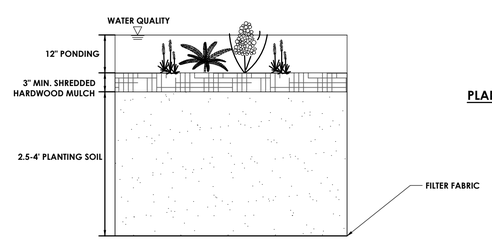


CONSTRUCTION SPECIFICATIONS

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 TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 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.

SILT FENCE DETAIL
N.T.S.

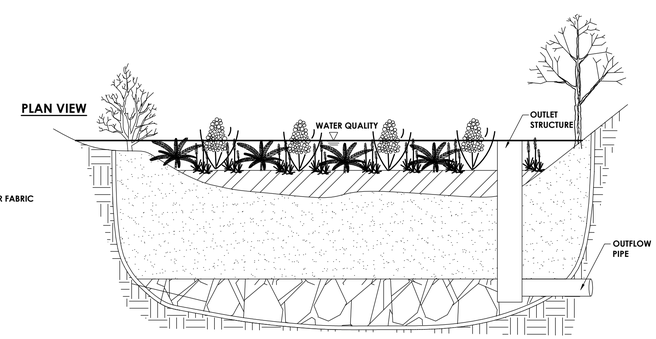




BIO-RETENTION BASIN SOIL MEDIA REQUIRED RATIOS
*per NYSDEC 2024 SWDM.

Surface Layer: Shredded Hardwood Mulch or Non-Invasive Living Mulch
Filter Media: 30 inches thick
- ASTM C-33 Sand. 60-75% of total mix.
- Topsoil. 25-40% of total mix.

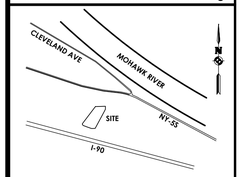
Geo fabric: Non-woven, polypropylene with flow rate > 125gpm/sf 9ASTM DD4491) AND opening size US #70 sieve (ASTM D4751)



BIORETENTION AREA
N.T.S.

PASSERO
engineering architecture

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TOWN OF FLORIDA
LOCATION SKETCH
N.T.S.

Client:
SOLAR LIBERTY
6500 SHERIDAN DRIVE
BUFFALO, NY 14423

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge
Project Manager Shauncy Maloy
Designed by Benjamin Bawden

STATE OF NEW YORK
SHAUNCY G. MALOY
LICENSED PROFESSIONAL ENGINEER
No. 102325
10/27/2026

Revisions

No.	Date	By	Description
1			

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NOTES & DETAILS

SOLAR LIBERTY AMSTERDAM
Municipality: MUNICIPALITY
County: COUNTY State: NY

Project No.
20223424.0001

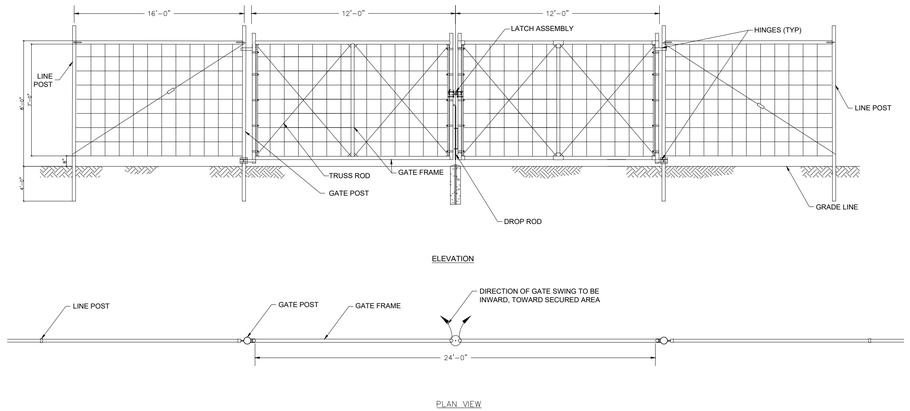
Drawing No.
C 200

Scale:
N.T.S.

Date
OCTOBER 2026

NOT FOR CONSTRUCTION

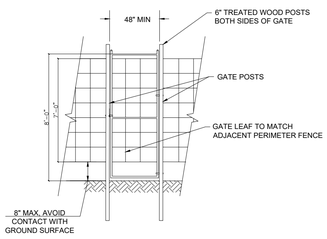
Y:\PROJECTS-NEW\2022\20223424\20223424.0001\01_CAD-BIM-MODELS\CIVIL\20223424.0001 DETAILS.DWG 10/27/2026 4:22 PM William Block



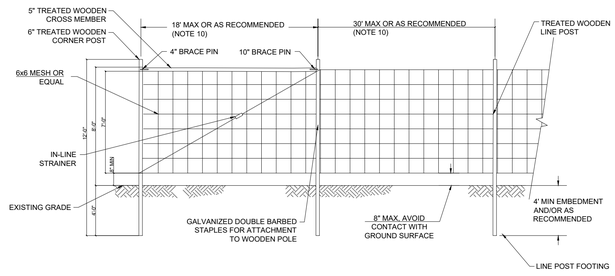
1 E-101 VEHICLE ACCESS GATE DETAIL
SCALE: N.T.S.

FENCE AND GATE NOTES:

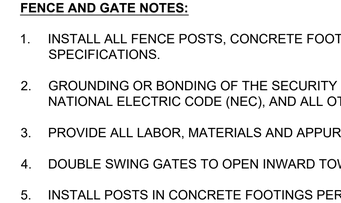
1. INSTALL ALL FENCE POSTS, CONCRETE FOOTINGS AND FASTENINGS ACCORDING TO MANUFACTURERS SPECIFICATIONS.
2. GROUNDING OR BONDING OF THE SECURITY FENCE SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), AND ALL OTHER APPLICABLE STATE AND LOCAL CODES.
3. PROVIDE ALL LABOR, MATERIALS AND APPURTENANCES NECESSARY FOR INSTALLATION.
4. DOUBLE SWING GATES TO OPEN INWARD TOWARD SECURE AREA, AS SHOWN ON DRAWINGS.
5. INSTALL POSTS IN CONCRETE FOOTINGS PER APPLICABLE CODES AND FENCE MANUFACTURER SPECIFICATIONS.
6. INSTALL PERIMETER FENCE WARNING SIGNS 5 FEET ABOVE GRADE IN ACCORDANCE WITH NEC 110.212(B).
7. CONCRETE ANCHOR/BASE SHALL BE MIN. 3000 PSI. CAST-IN-PLACE FOR ALL CORNERS, PULL, TERMINAL AND GATE POSTS. ALL OTHER POSTS CAN BE DIRECT PUSH/BURIAL. IF POST IS EMBEDDED MIN. 3 FEET.
8. ALL POSTS SHALL EXTEND A MIN. 8 FEET ABOVE GROUND SURFACE.
9. PROVIDE HORIZONTAL AND DIAGONAL BRACING AT ALL CORNERS, PULL, TERMINAL, AND GATE POSTS.
10. ADJACENT POSTS TO GATES SHALL BE SPACED AT A MAXIMUM OF 18'-0". INSTALL LINE POSTS AT 20-30' INTERVALS DEPENDING ON LOCAL SOIL CONDITIONS, TERRAIN, AND MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL FOR GATE POST SPACING.
11. POST SHALL BE PRESSURE TREATED (PT) PINE OR EQUIVALENT.
12. HORIZONTAL WOOD BRACES SHALL BE PINNED OR DOWELED.
13. GATE SHALL BE PT WOOD (4" MIN. SQUARE STOCK), METAL (2"Ø BLACK COATED) OR APPROVED EQUIVALENT.
14. MESH SHALL BE HIGH TENSILE STEEL 6" x 6" GRADUATED MESH FIXED-KNOT 12.5 GAUGE WIRE. PROVIDE SOLIDLOCK 17/96 OR EQUIVALENT.
15. FENCE CLEARANCE SET TO 8" TO ALLOW FOX PASSAGE.
16. INSTALL KNOX BOX OR SIMILAR AT GATE ENTRANCE.
17. ANY MODIFICATION BY CONTRACTOR TO BE FIELD VERIFIED BY ENGINEER.



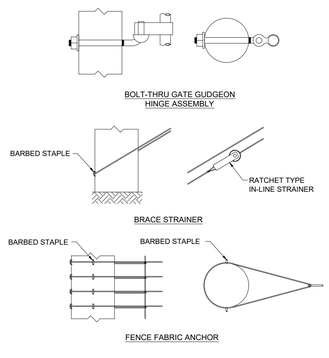
2 E-101 EMERGENCY PEDESTRIAN GATE DETAIL
SCALE: N.T.S.



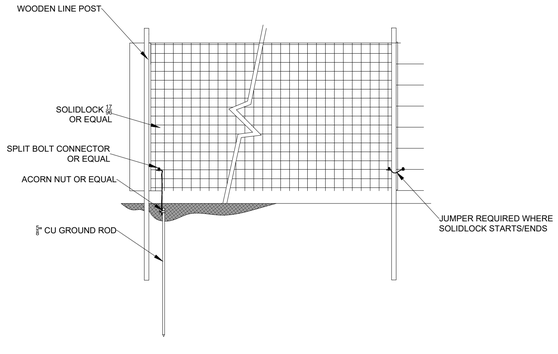
3 E-101 PERIMETER AGRICULTURAL FENCE DETAIL
SCALE: N.T.S.



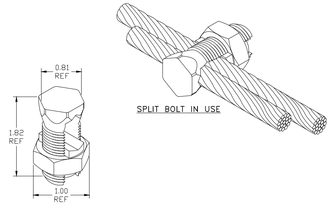
GROUND ROD CLAMP DETAIL



4 E-101 FASTENING DETAIL
SCALE: N.T.S.



5 E-101 GROUNDING DETAIL
SCALE: N.T.S.



SPLIT BOLT CONNECTOR DETAIL

6 E-101 GROUNDING CONNECTORS
SCALE: N.T.S.

WHITMAN
Environmental ● Engineering ● Energy
Waste Management ● EH&S Services
100 Franklin Square Drive, Suite 200
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TEL: (732) 390-5858
FAX: (732) 390-9496

SOLARLIBERTY
THE FUTURE OF ENERGY INDEPENDENCE

SOLAR LIBERTY ENERGY SYSTEMS, INC.
6500 SHERIDAN DR.
BUFFALO, NY 14211
716-634-3780

SOLAR ELECTRIC SYSTEM CLIENT:
SEP AMSTERDAM
1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
FENCE DETAILS

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

STAMP:

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DATE:	10/26/2026
DRAWN BY:	EV
ENGINEER:	EV
APPROVED BY:	— — —

NO.	REVISION	DATE
0	PERMITTING SET	12/13/23
1	UPDATED PERMIT SET	05/26/26
2	REVISED PERMIT SET	07/23/26
3	UPDATED PERMIT SET	08/06/26
4	UPDATED PERMIT SET	08/07/26
5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

SCALE:
N.T.S.

DRAWING NO.:
C-300

(1A) (24) HANWHA QCELL SOLAR MODULES WIRED IN SERIES. EACH MODULE INCLUDES OUTDOOR RATED QUICK CONNECTS WITH TYPE MC4 CONNECTORS FOR MODULE INTERCONNECTION. DO NOT REMOVE THE QUICK CONNECTS, OTHERWISE THE MODULE WARRANTY AND THE UL LISTING MAY BE INVALIDATED. GROUND MODULES FRAMES IN ACCORDANCE WITH THEIR INSTALLATION MANUAL. GROUND METAL RACKING STRUCTURE IN ACCORDANCE WITH RACKING MANUFACTURER RECOMMENDATIONS.

(1B) (5) FIRST SOLAR, SOLAR MODULES WIRED IN SERIES. EACH MODULE INCLUDES OUTDOOR RATED QUICK CONNECTS WITH TYPE MC4 CONNECTORS FOR MODULE INTERCONNECTION. DO NOT REMOVE THE QUICK CONNECTS, OTHERWISE THE MODULE WARRANTY AND THE UL LISTING MAY BE INVALIDATED. GROUND MODULES FRAMES IN ACCORDANCE WITH THEIR INSTALLATION MANUAL. GROUND METAL RACKING STRUCTURE IN ACCORDANCE WITH RACKING MANUFACTURER RECOMMENDATIONS.

(1C) (21) STRINGS OF (24) HANWHA QCELL 585W MODULES PER INVERTER.

(1D) (11) STRINGS OF (24) HANWHA QCELL 585W MODULES PER INVERTER.

(1E) (144) STRINGS OF (5) FIRST SOLAR 500W MODULES PER INVERTER.

(1F) (132) STRINGS OF (5) FIRST SOLAR 500W MODULES PER INVERTER.

(1G) (66) STRINGS OF (5) FIRST SOLAR 500W MODULES PER INVERTER.

(1H) SHOALS BLA INTERCONNECT SYSTEM. USED WITH FIRST SOLAR SERIES 6 OR 7 MODULES. COMBINES THE OUTPUT OF 6 STRINGS INTO A SINGLE OUTPUT. UV/SUNLIGHT RESISTANT. 1500VDC/45A (#10 AWG) RATING

(1J) STRING WIRING CONNECTORS TO MATCH MODULE MANUFACTURER'S SPECIFICATIONS

(2A) SOLIS S6-GU250K-EHV-US-M12 250kW INVERTER. MAX OUTPUT CURRENT @ 600V - 240.6A. UL1741 LISTED, IEEE1547 COMPLIANT WITH INTEGRAL ANTI-ISLANDING PROTECTION FEATURES EMPLOYING POSITIVE FEEDBACK. UL1741 LISTING INCLUDES COMPLIANCE WITH IEEE519 FOR POWER QUALITY, IEEE929 FOR INTERCONNECTION SAFETY AND THE NATIONAL ELECTRICAL CODE. INVERTER IS U.L. LISTED AS A UNIT. UNIT IS EQUIPPED WITH UL1741 APPROVED GROUND FAULT DETECTION DEVICE THAT MEETS NEC 250.122 REQUIREMENTS FOR EQUIPMENT GROUNDING.

INVERTER FEATURES INTEGRAL, MANUAL AC & DC DISCONNECT SWITCHES & INTEGRAL DC COMBINER WITH STRING FUSING.

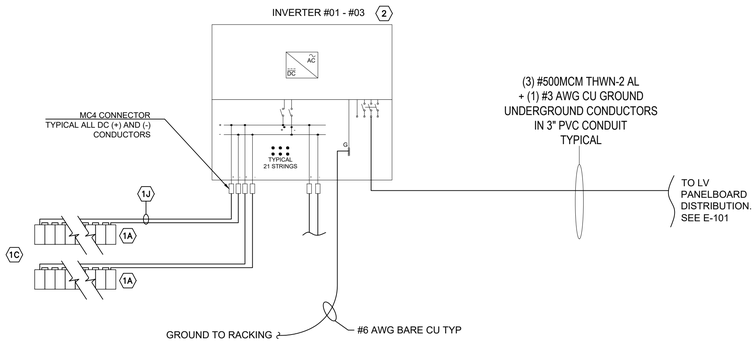
(2B) SOLIS S6-GU250K-EHV-US-M12 INVERTER DERATED TO 125kW. MAX OUTPUT CURRENT @ 600V - 120.3A

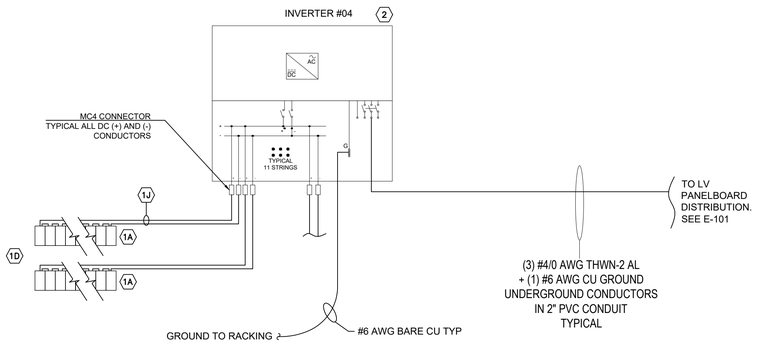
SYSTEM DESCRIPTION

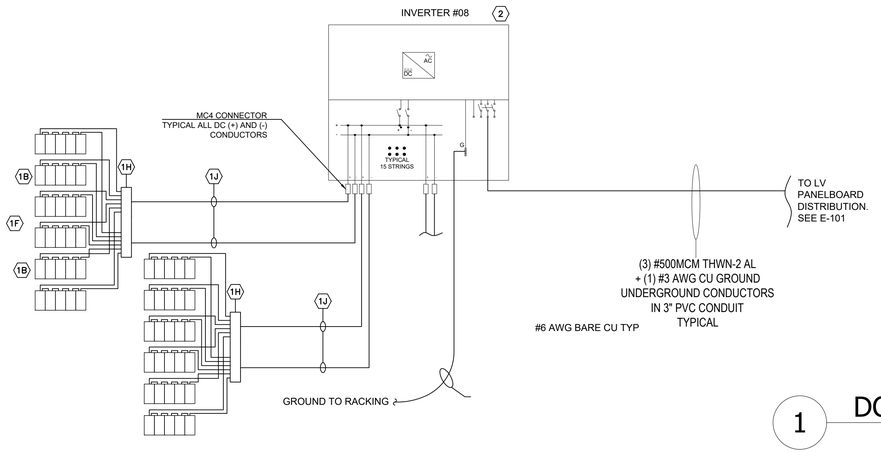
DC SYSTEM SIZE	2,656.08	kWp
AC SYSTEM SIZE	2,000.00	kW
DC/AC RATIO @POI	1.33	
DC SYSTEM VOLTAGE	1500	V
PCC/POI VOLTAGE	13.2	kV
UTILITY	NATIONAL GRID	
MODULE (A) MAKE	HANWHA QCELL	
MODULE (A) MODEL	QCELL Q.PEAK DUO XL-G11S.3/BFG	
MODULE (A) RATING	585	Wp
MODULE (A) QTY	1,776	#
NO. OF STRINGS (A)	74	#
MODULE (A) PER STRING	24	#
MODULE (B) MAKE	FIRST SOLAR	
MODULE (B) MODEL	FS-7500A-TR1	
MODULE (B) RATING	500	Wp
MODULE (B) QTY	3,150	#
NO. OF STRINGS (B)	630	#
MODULE (B) PER STRING	5	#
INVERTER MAKE (A + B)	SOLIS	
INVERTER MODEL (A + B)	S6-GU250K-EHV-US-M12	
INVERTER RATING (A)	250	kVA
INVERTER QTY (A)	7	#
INVERTER RATING (B)	125	kVA
INVERTER QTY (B)	2	#

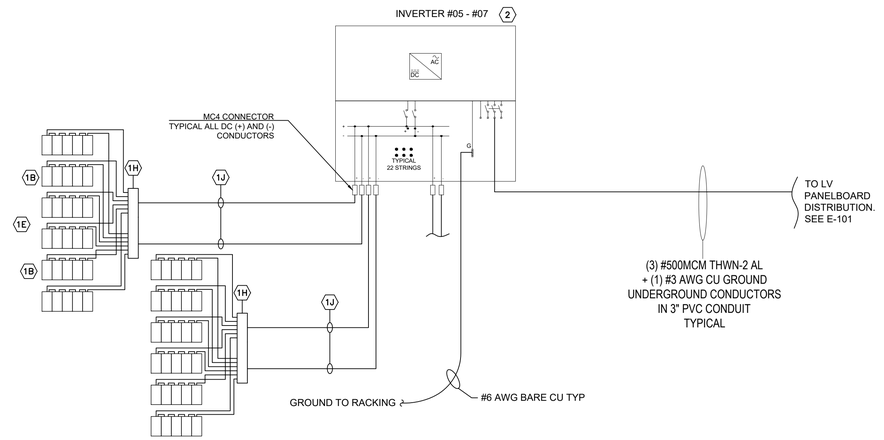
STRINGING TABLE

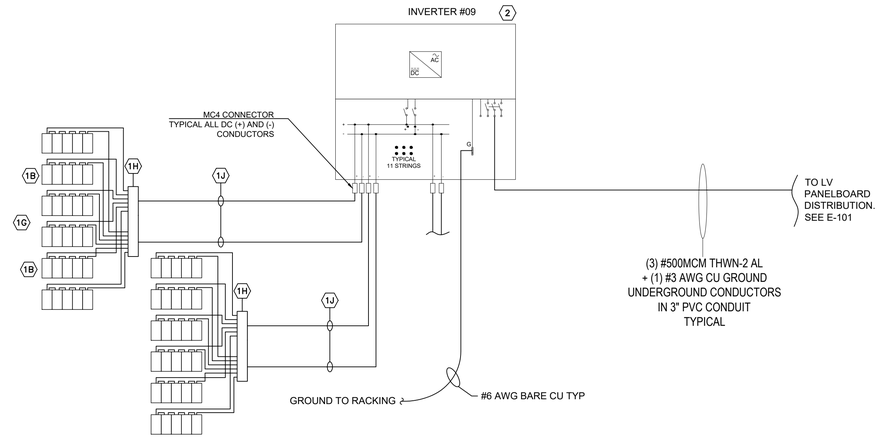
INVERTER NUMBER	STRINGING	MODULE RATING	INVERTER RATING
INVERTER 01	[24M x 21S]	585 W	250 kVA
INVERTER 02	[24M x 21S]	585 W	250 kVA
INVERTER 03	[24M x 21S]	585 W	250 kVA
INVERTER 04	[24M x 11S]	585 W	125 kVA
INVERTER 05	24 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 06	24 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 07	24 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 08	22 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 09	11 INPUTS OF [5M x 6S]	500 W	125 kVA











1 DC ONE LINE DIAGRAM

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SOLAR LIBERTY ENERGY SYSTEMS, INC.
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BUFFALO, NY 14211
716-634-3780

SOLAR ELECTRIC SYSTEM CLIENT:
SEP AMSTERDAM

1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:

DC SINGLE LINE DIAGRAM

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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NO.	REVISION	DATE
0	PERMITTING SET	12/13/23
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2	REVISED PERMIT SET	07/23/26
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5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

SCALE:

NTS

DRAWING NO.:

E-200

SYSTEM DESCRIPTION

DC SYSTEM SIZE	2,613.96	kWp
AC SYSTEM SIZE	2,000.00	kW
DC/AC RATIO @POI	1.31	
DC SYSTEM VOLTAGE	1500	V
PCC/POI VOLTAGE	13.2	kV
UTILITY	NATIONAL GRID	
MODULE (A) MAKE	HANWHA QCELL	
MODULE (A) MODEL	QCELL Q.PEAK DUO XL-G11S.3/BFG	
MODULE (A) RATING	585	Wp
MODULE (A) QTY	1,776	#
NO. OF STRINGS (A)	74	#
MODULE (A) PER STRING	24	#
MODULE (B) MAKE	FIRST SOLAR	
MODULE (B) MODEL	FS-7500A-TR1	
MODULE (B) RATING	500	Wp
MODULE (B) QTY	3,150	#
NO. OF STRINGS (B)	630	#
MODULE (B) PER STRING	5	#
INVERTER MAKE (A + B)	SOLIS	
INVERTER MODEL (A + B)	S6-GU250K-EHV-US-M12	
INVERTER RATING (A)	250	kVA
INVERTER QTY (A)	7	#
INVERTER RATING (B)	125	kVA
INVERTER QTY (B)	2	#

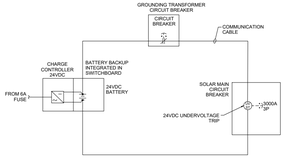
STRINGING TABLE

INVERTER NUMBER	STRINGING	MODULE RATING	INVERTER RATING
INVERTER 01	[24M x 21S]	585 W	250 kVA
INVERTER 02	[24M x 21S]	585 W	250 kVA
INVERTER 03	[24M x 21S]	585 W	250 kVA
INVERTER 04	[24M x 11S]	585 W	125 kVA
INVERTER 05	24 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 06	24 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 07	24 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 08	22 INPUTS OF [5M x 6S]	500 W	250 kVA
INVERTER 09	11 INPUTS OF [5M x 6S]	500 W	125 kVA

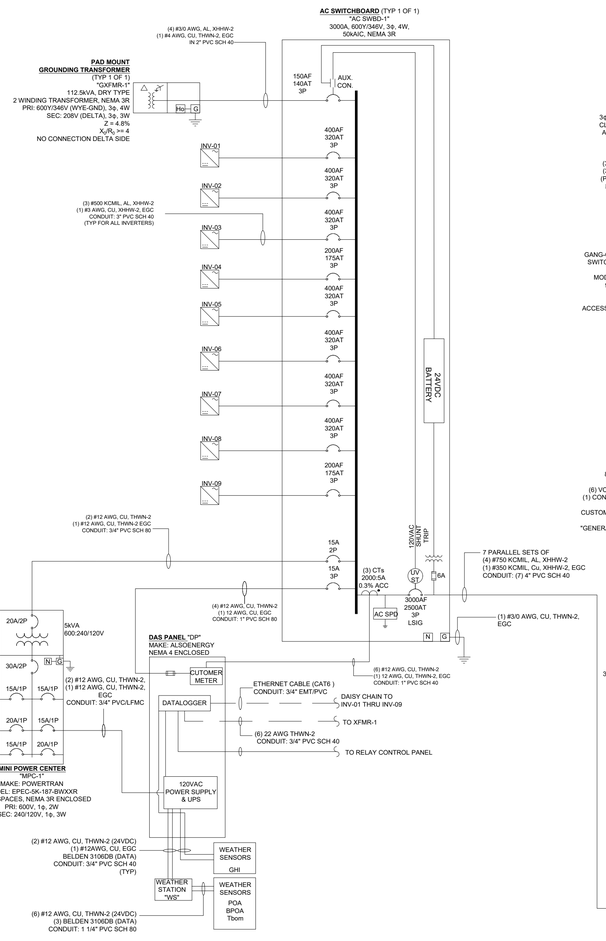
GENERAL NOTES:

1. ALL VALUES ARE SHOWN FOR STC UNLESS OTHERWISE NOTED.
2. ALL CIRCUITS SHALL BE SUITABLE FOR BACKFEED OPERATION.
3. LOW VOLTAGE AC WIRING SHALL BE ALUMINIUM , XHHW-2 IN PVC SCH 40 CONDUIT UNLESS OTHERWISE NOTED.
4. AC MV CIRCUITS SHALL BE INSTALLED AND INTERCONNECTED WITH UTILITY, PER UTILITY SPECIFICATIONS.
5. ALL ELECTRICAL WORK AND WIRE SIZING SHALL BE IN ACCORDANCE WITH THE 2023 EDITION OF NATIONAL ELECTRICAL CODE.
6. ALL DC AND AC EQUIPMENT, WHERE APPLICABLE, SHALL BE LISTED AND LABELED PER RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS, THE MANUFACTURER'S INSTRUCTIONS AND IN ACCORDANCE WITH NEC.
7. RECLOSER CONTROL SETTINGS TO BE COORDINATED WITH UTILITY AND CONTRACTOR.
8. UTILITY EQUIPMENT IS FOR INFORMATION PURPOSE ONLY, IS NOT FOR CONSTRUCTION, AND MAY BE CHANGE BY THE UTILITY AT ANY TIME IN THE FUTURE.
9. ALL CONDUCTORS TO BE RATED FOR 90° C.
10. BREAKER TERMINALS SHALL BE 75°C RATED.
11. ALL BREAKERS IN THE AC SWITCHBOARD SHALL BE SERIES-RATED.
12. LAST DEVICE IN DAISY CHAIN WITH EOL RESISTOR PER MONITORING & INVERTER INSTRUCTIONS.
13. INSTALL WIRES WITH S-CURVE OR LOOP TO ALLOW SLACK FOR TENSION RELIEF.
14. SWITCH TO LFMC FOR FINAL 24" AT CONNECTION TO INVERTER.
15. FOLLOW MANUFACTURER'S SUGGESTED INSTALLATION PRACTICES.
16. INSTALL ARC FLASH LABELS AS REQUIRED PER NFPA 70E STANDARDS.
17. SIEMENS 3VA6440-8HL31-2AA0 WITH LS/I IS CONSIDERED. 400A BREAKER DERATED TO 320A.
18. ALL GROUND BARS AND LUGS SHALL BE DUAL RATED AL/CU.
19. PVC SCH80 REQUIRED WHERE PVC IS SPECIFIED. PVC SCH40 IS PERMITTED FOR UNDERGROUND STRAIGHT RUNS ONLY.

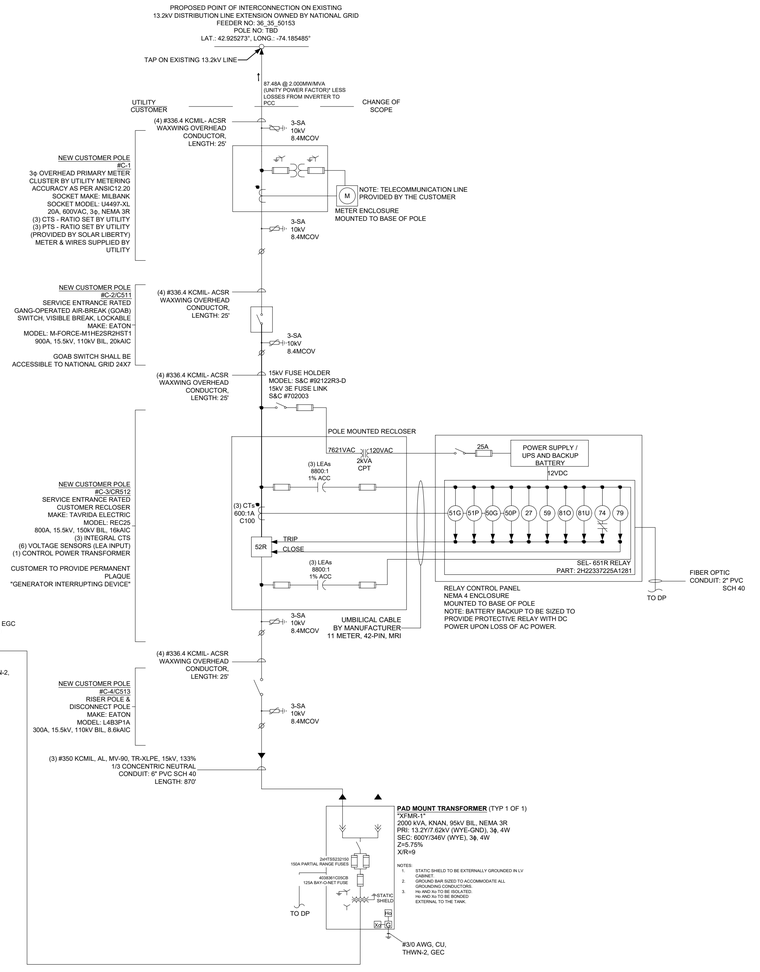
INVERTER SETTINGS - UL 1741-SB COMPLIANT				
ANSI	PICKUP (%)	PICKUP (ACTUAL)	TOTAL CLEARING TIME	
	TRIP LEVEL (96)		CYCLES	SECONDS
27-1	≤ 50% OF NOMINAL	300V	66	1.10
27-2	50% < V ≤ 88%	528V	180	3.0
59-1	110% ≤ V < 120%	660V	120	2.0
59-2	120% OF NOMINAL ≤ V	720V	9.6	0.16
	FREQUENCY		CYCLES	SECONDS
81O-1	≥ 62.0 Hz	62.0 Hz	9.6	0.16
81O-2	≥ 61.2 Hz ≤ 62.0 Hz	61.2 Hz	18000	300
81U-1	≤ 58.5 Hz	58.5 Hz	18000	300
81U-2	≤ 56.5 Hz	56.5 Hz	9.6	0.16
INVERTER INTERNAL OPERATION SETTINGS				
PF SET POINT	1			
RAMP RATE	2%/SEC			



A
E-201
TYPICAL TRIP SCHEME
SCALE:-NTS



1
ONE LINE DIAGRAM - MAIN INTERCONNECTION



B
E-201
AC SINGLE LINE DIAGRAM
SCALE:-NTS

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1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
AC SINGLE LINE DIAGRAM

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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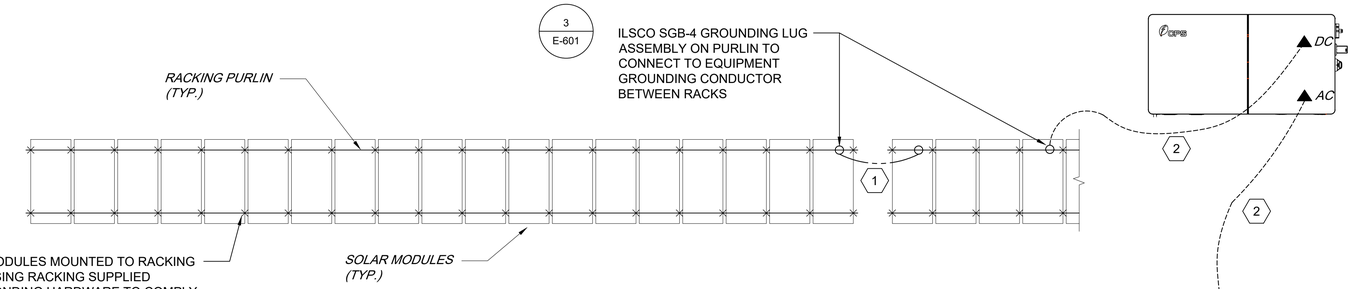
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5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

SCALE:
NTS

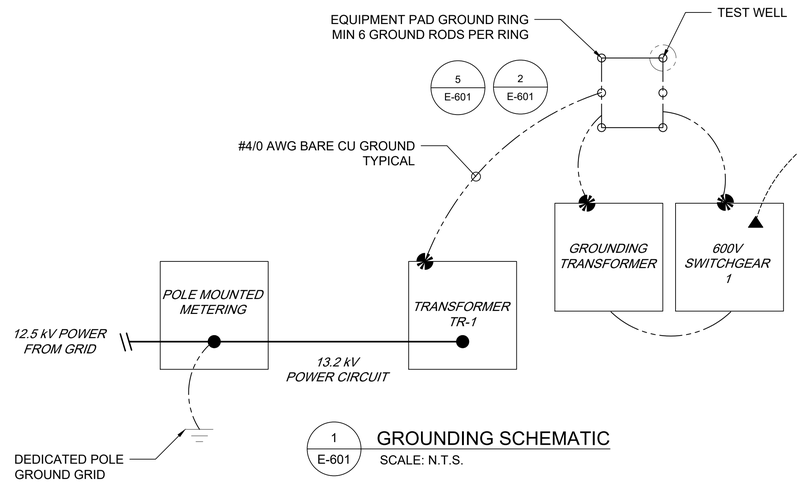
DRAWING NO.:
E-201

PROVIDE EQUIPMENT GROUNDING CONDUCTOR BETWEEN PV ARRAY AND OTHER EQUIPMENT IN ACCORDANCE WITH NEC 250.110



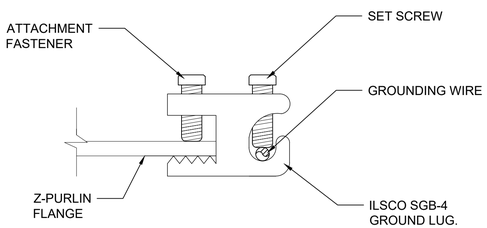
KEYED NOTES (1, 2, 3)

1. BARE STRANDED #6 AWG CU CABLE
2. #6 AWG CU THWN-2 GREEN INSULATED



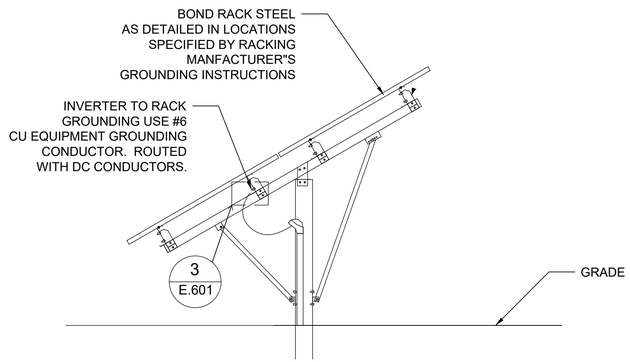
1 E-601 GROUNDING SCHEMATIC
SCALE: N.T.S.

2 E-601 GROUND ROD DETAIL
SCALE: N.T.S.

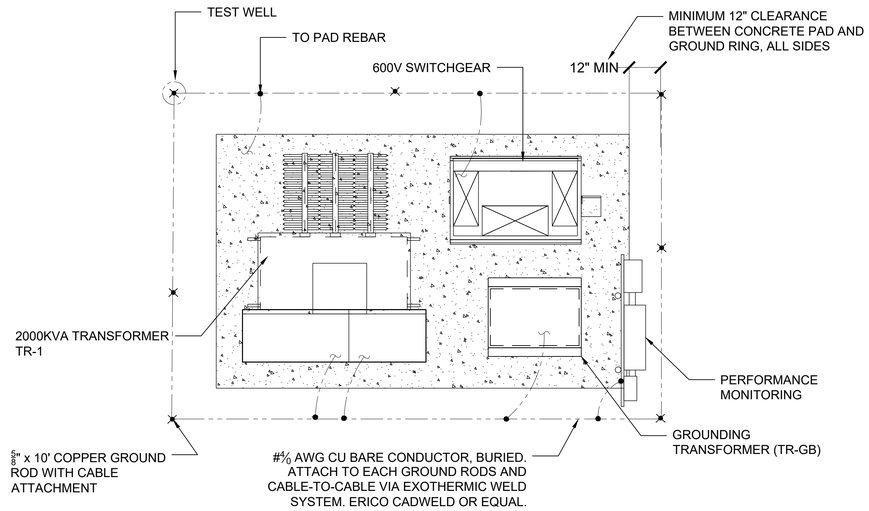


PER RACKING REQUIREMENTS, TORQUE ATTACHMENT FASTENER TO 75 IN LB, SET SCREW TO 35 IN LB

3 E-601 GROUNDING LUG DETAIL
SCALE: N.T.S.



4 E-601 RACK GROUNDING DETAIL
SCALE: N.T.S.



5 E-601 EQUIPMENT PAD GROUNDING GRID
SCALE: N.T.S.

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SHEET TITLE:

ELECTRICAL DETAILS - 1

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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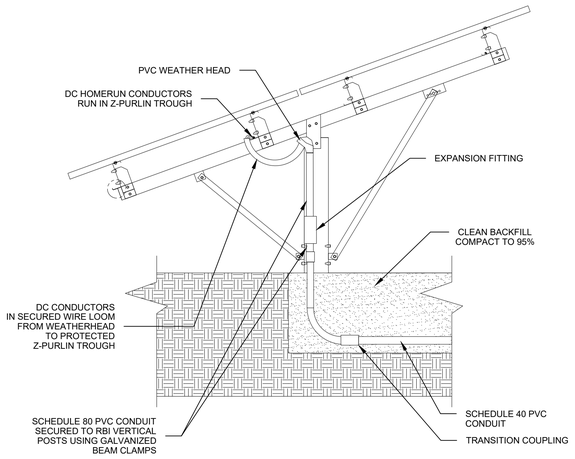
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ENGINEER: EV
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7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

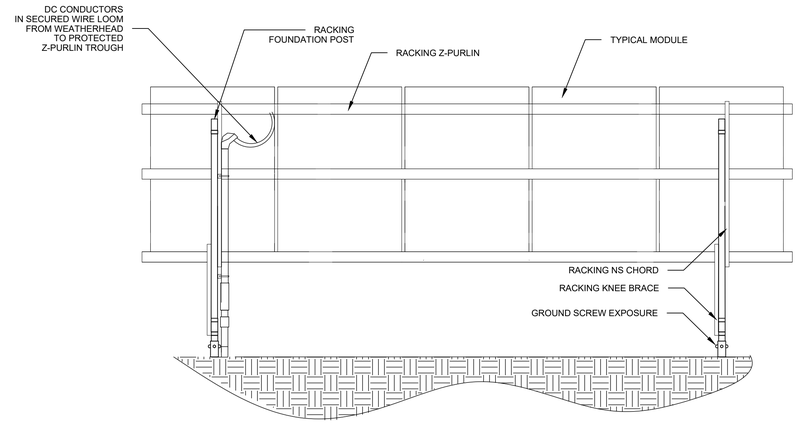
SCALE: N.T.S.

DRAWING NO.: E-601



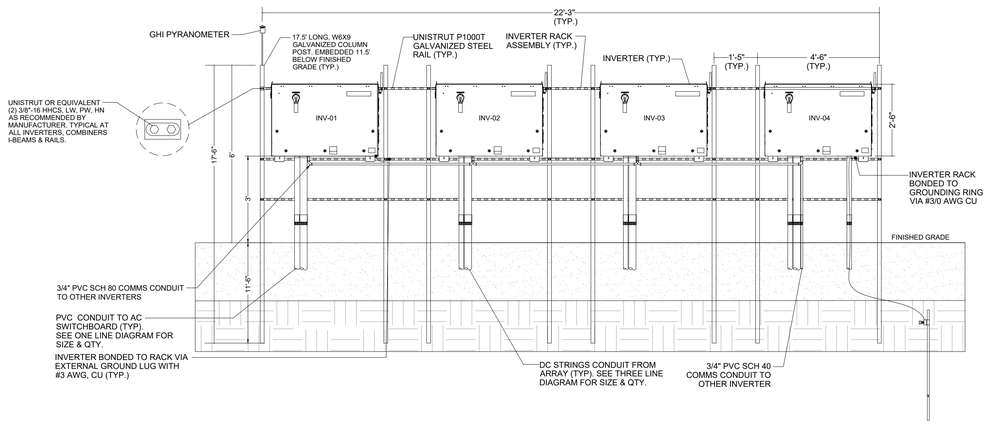
1 E-602 TYPICAL MODULE RACK ELEVATION - SIDE VIEW

SCALE: N.T.S.



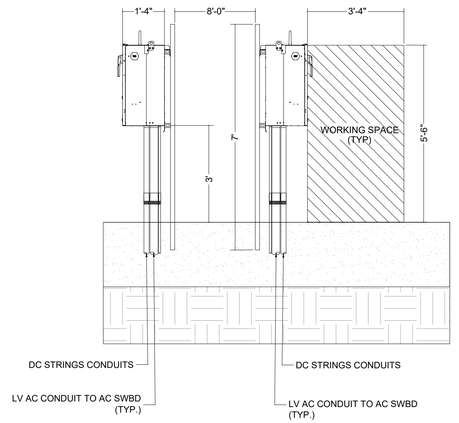
2 E-602 TYPICAL MODULE RACK ELEVATION - BACK OF RACK

SCALE: N.T.S.



3 E-602 TYPICAL INVERTERRACK ELEVATION - FRONT VIEW

SCALE: N.T.S.



4 E-602 TYPICAL INVERTERRACK ELEVATION - SIDE VIEW

SCALE: N.T.S.

NOTES:

1. REFER TO EQUIPMENT INSTALLATION MANUALS FOR INSTALLATION DETAILS.
2. EQUIPMENT DIMENSIONS MAY SUBJECT TO CHANGE AFTER PROCUREMENT OF ACTUAL PRODUCT.
3. PAD DIMENSION MAY VARY AFTER PROCUREMENT OF ACTUAL PRODUCT.
4. ELECTRICAL EQUIPMENT LOCATED OUTSIDE MUST NOT HAVE CONDUITS PENETRATING ON TOP OF EQUIPMENT.
5. CONDUITS SHALL NOT PROTRUDE MORE THAN 6" INTO WORKING SPACE OF EQUIPMENT.
6. FEEDER BENDING RADIUS SHALL BE AT LEAST 8 TIMES THAT OF THE CONDUCTOR DIAMETER FOR NON-SHIELDED CONDUCTORS OR 12 TIMES THAT OF THE CONDUCTOR RADIUS FOR SHIELDED CONDUCTORS AS PER NEC GUIDELINES.

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SHEET TITLE:

ELECTRICAL DETAILS - 2

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SHEET SIZE ARCH "D"

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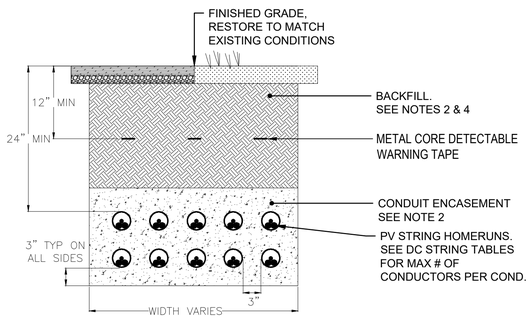
PROJECT PHASE:

SCALE:

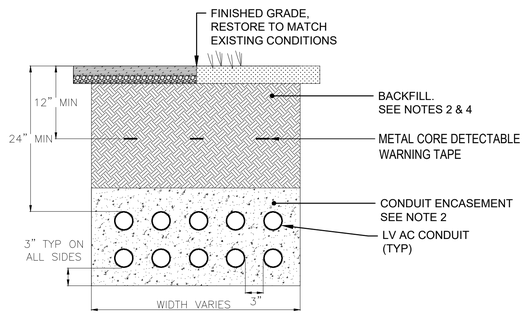
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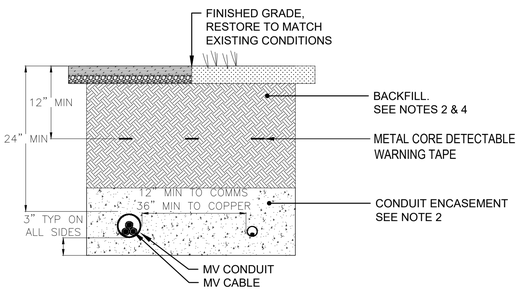
E-602



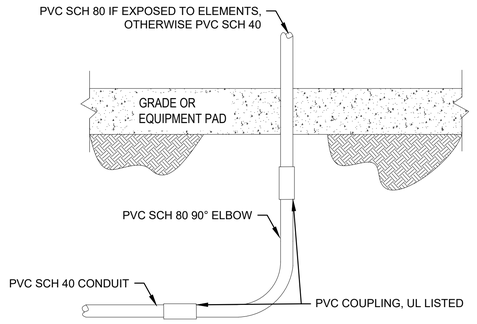
1 E-603 TYPICAL DC DUCTBANK
SCALE: N.T.S.



2 E-603 TYPICAL AC DUCTBANK
SCALE: N.T.S.



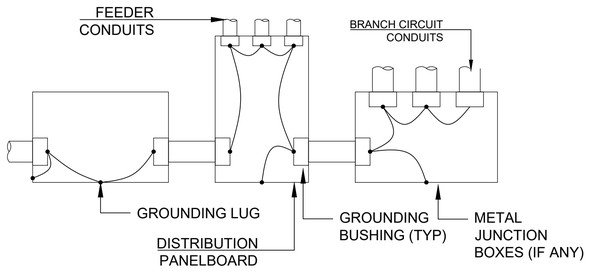
3 E-603 TYPICAL MV DUCTBANK
SCALE: N.T.S.



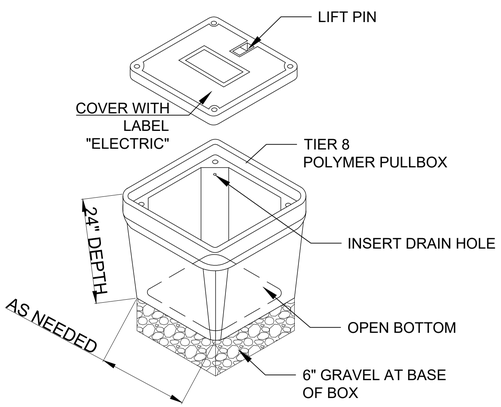
4 E-603 UNDERGROUND CONDUIT TRANSITION DETAIL
SCALE: N.T.S.

NOTES (DETAILS 1 - 3):

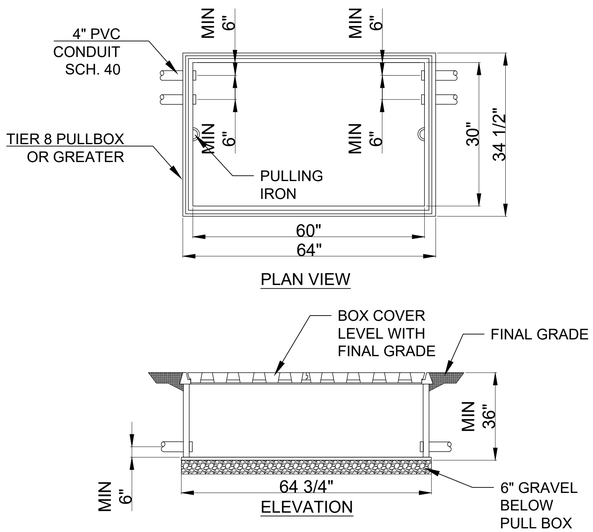
1. MIN 6" TOPSOIL, SEED, AND MULCH IN LAWN AREAS.
2. UNDER ROADS AND PARKING AREAS ENCASEMENT SHALL BE 2500 PSI CONCRETE. UNDER GRASSY AREAS NOT SUBJECT TO VEHICULAR TRAFFIC ENCASEMENT SHALL BE SAND.
3. USE SATISFACTORY EXCAVATED MATERIAL. NO ROCKS OR SHARP EDGES, NO CLODS GREATER THAN ½".
4. PROVIDE TEMPORARY SHORING AS REQUIRED UNDER OSHA REGULATIONS.
5. COMPACT FILL AND BACKFILL TO 95% OF MAXIMUM DENSITY
6. IF DUCTBANK SLOPED SUCH THAT ANY PART OF THE DUCTBANK IS ABOVE STUB UP ELEVATION, INCLUDE HAND HOLE WITH GRAVEL BASE TO ALLOW DRAINAGE AT LOWEST ELEVATION..
7. INSTALL DETECTABLE WARNING TAPE AFTER FIRST COMPACTED LIFT OF SELECT FILL
8. ALL TRENCHES SHALL BE ROUTED AS DEPICTED AND SHALL NOT PASS UNDERNEATH THE ARRAY, EXCEPT BETWEEN ROWS.
9. ALL MEDIUM VOLTAGE BEND RADII TO BE 36" MINIMUM.
10. CALL BEFORE YOU DIG, DIAL 811 TO BE CONNECTED TO LOCAL ON-CALL CENTER. CALL AT LEAST 48 HOURS BEFORE EXCAVATING.
11. CONTRACTOR SHALL PERFORM A DC HIPOT TEST AFTER CABLES ARE TERMINATED ON SITE. VOLTAGE APPLIED AND DURATION OF THE TEST SHALL BE IN ACCORDANCE WITH THE CABLE MANUFACTURER'S FIELD HIPOT TEST RECOMMENDATIONS. TEST RESULTS FOR EACH CABLE SHALL BE SUBMITTED TO OWNER ENGINEERING FOR APPROVAL.



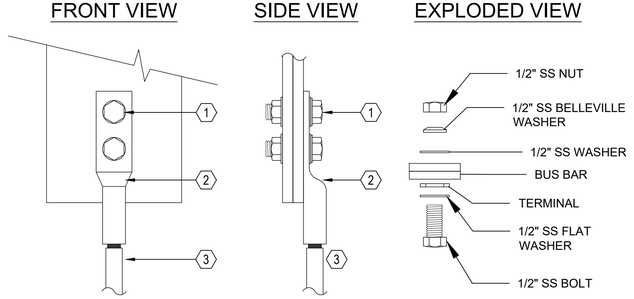
7 E-603 TYPICAL METAL CONDUIT GROUNDING DETAIL
SCALE: N.T.S.



5 E-603 UNDERGROUND PULLBOX DETAIL
SCALE: N.T.S.



6 E-603 MEDIUM VOLTAGE U.G. PULL BOX - STRAIGHT TYPE
SCALE: N.T.S.



NOTES: (#)

1. USE EXISTING HOLES IN BUS (NO DRILLING OF EXISTING BUS WITHOUT APPROVAL). BOLTS USED SHALL BE COMPATIBLE WITH EXISTING HOLES (STAINLESS STEEL FASTENERS ONLY). COAT BOLT THREADS WITH ANTI-SEIZE COMPOUND AND TORQUE TO MANUFACTURER'S SPECIFICATIONS.
2. TERMINAL SHALL BE TWO HOLE LONG BARREL TYPE COMPATIBLE WITH BUSSING AND CONDUCTOR MATERIALS
3. UL LISTED CRIMP RATED FOR 600 VOLTS. USE MANUFACTURER'S APPROVED CRIMPING DEVICE ONLY, AND CRIMP PER MANUFACTURER'S INSTRUCTIONS. USE 12" LENGTH OF COLD SHRINK TO COVER THE CONNECTION BETWEEN CRIMP AND CONDUCTOR BEGINNING AT THE STRAIGHT SECTION OF THE CRIMP.

8 E-603 TYPICAL BUS CONNECTION DETAIL
SCALE: N.T.S.

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SHEET TITLE:
ELECTRICAL DETAILS - 3

ORIGINAL SIZE 24"X36"
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PROJECT PHASE:

SCALE:
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DRAWING NO.:
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Q.PEAK DUO XL-G11S SERIES

qcells

580 - 605 Wp | 156 Cells
21.7 % Maximum Module Efficiency
Domestic Content Option Available

MODEL Q.PEAK DUO XL-G11S.3 / BFG
Q.PEAK DUO XL-G11S.LS / BFG



Includes Domestic Content
Q.PEAK DUO XL-G11S.Y3 solar modules ("Y" can be "LS") contain U.S. manufactured components which can contribute to qualifying for the 10 % domestic content bonus to applicable tax credits.[1]

Bifacial energy yield gain of up to 21 %
Bifacial Q.ANTUM solar cells make efficient use of light shining on the module rear-side for radically improved LCOE.

Low electricity generation costs
Q.ANTUM DUO technology with optimized module layout to boost module power and improve LCOE.

A reliable investment
Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty[2].

Enduring high performance
Long-term yield security with Anti LID and Anti PID Technology[3], Hot-Spot Protect.

Built to perform – designed to endure
Robust aluminum frame supports flexible mounting and withstands high snow (5400 Pa) and wind loads (3750 Pa)[4]. Combined with innovative technology, the module delivers optimal energy yields even in low-light conditions and extreme temperatures.

[1] This statement should not be relied on as tax advice and is subject to change based on changes made to the Inflation Reduction Act and its implementing rules and regulations. Please consult a qualified tax professional for specific guidance.
[2] See data sheet on rear for further information.
[3] PID test conditions according to IEC TS 62804-1:2015 method B (-1500 V, 168 h)
[4] Tested load in accordance according to IEC 61215-1-1:Ed. 2.0 (CD)
[5] See Installation Manual for instructions.

The ideal solution for:
Ground-mounted solar power plants
Solar power plants with tracker

U.S. MODULE DATASHEET

First Solar

Series 7 *TR1*.

505-540 Watt Thin Film Solar Module



Series 7 *TR1* thin film solar modules combine First Solar's thin film technology with an optimized structural design to deliver improved efficiency, enhanced installation velocity, and unmatched lifetime energy performance for large/utility-scale PV projects.

More Lifetime Energy per Nameplate Watt
- Industry's best (0.3%/yr) warranted degradation rate (>89% power output after 30 years)
- Superior temperature coefficient, spectral and shading response

Unmatched Quality and Reliability
- End-to-end manufacturing process for globally consistent quality
- Tested and certified to IEC standards and beyond
- Durable glass/glass construction
- Immune to and warranted against power loss from cell cracking
- 30-year Linear Performance Warranty
- 12-year Limited Product Warranty

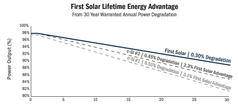
Optimized Module Design
- Optimized back rail mount design enhances installation velocity
- Frameless design improves soiling and snow shedding
- Dual junction box design reduces wire management complexity and cost

Industry's Most Eco-efficient PV Solution
- Industry leading carbon footprint, water footprint and energy payback time
- Globally available PV module recycling services

America's Solar Company
- Designed, responsibly sourced, and manufactured in the USA

19.3% HIGH BIN EFFICIENCY
30YR LINEAR PERFORMANCE WARRANTY
98% WARRANTY START POINT
0.3% WARRANTED ANNUAL DEGRADATION RATE

First Solar Lifetime Energy Advantage
From 30 Year Warranted Annual Power Degradation



Learn more about First Solar and Series 7 *TR1* at firstsolar.com/S7

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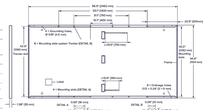
DATASHEET

Models	250K
Input DC	
Max. input voltage	1500 V
Rated voltage	1080 V
Start-up voltage	500 V
MPPT voltage range	480 - 1500 V
Max. input current	12 × 40 A
Max. short circuit current	12 × 70 A
MPPT number / Max. inputs / Max. number of strings	12 / 12 / 24
Output AC	
Rated output power	250 kW
Max. apparent output power	250 kVA
Max. output power	250 kW
Rated grid voltage	3Ø/PE, 600 V
Rated grid frequency	60 Hz
Max. output current	240.6 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)
THDi	< 3%
Efficiency	
Max. efficiency	99.0%
CEC efficiency	98.5%
Protection	
Surge protection	DC Type II / AC Type II
DC reverse-polarity protection	Yes
Anti-islanding protection	Yes
Strings monitoring	Yes
I/V Curve scanning	Yes
Integrated AFCI	Yes
Integrated PID recovery	Yes
General Data	
Dimensions (W × H × D)	48.2 × 37.6 × 18.4 in (1223.5 × 954.5 × 467 mm)
Weight	297 lbs (135 kgs)
Topology	Transformerless
Self-consumption (night)	< 3 W
Operating ambient temperature range	-22°F to 140°F (-30°C to 60°C)
Relative humidity	4(0°F to 176°F (-40°C to 80°C)
Ingress protection	TYPE 4X
Cooling concept	Intelligent fan-cooling
Max. operation altitude	13,120 ft (4000 m)
Compliance	UL 1741SB, UL 1998, UL1699B, IEEE 1547-2018, FCC Part 15 [Class A & B], CAN/CSA C22.2 107.1-1, California Rule 21
Features	
DC connection	MC4 connector
AC connection	OT terminal (1000 MCM)
Display	LED indicator & Bluetooth + APP
Communication	RS485, Optional: PLC

Q.PEAK DUO XL-G11S SERIES

■ Mechanical Specification

Format	96.9 in × 44.6 in × 1.38 in (including frame) (2462 mm × 1134 mm × 35 mm)	
Weight	76.9 lbs (34.9kg)	
Front Cover	0.08 in (2.0 mm) thermally pre-stressed glass with anti-reflection technology	
Back Cover	0.08 in (2.0 mm) semi-tempered glass	
Frame	Anodized aluminum	
Cell	6 × 26 monocrystalline Q.ANTUM solar half cells	
Junction box	2.09-3.98 × 1.26-2.36 × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18mm), Protection class IP68, with bypass diodes	
Cable	4 mm² Solar cable; (+) ≥ 29.5 in (750 mm), (-) ≥ 13.8 in (350 mm)	
Connector	Stäubli MC4-Evo2A; IP68	

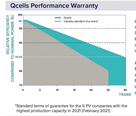


■ Electrical Characteristics

Power Class			580	585	590	595	600	605
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W/ -0 W)								
Minimum	Power at MPP[2]	P_{MPP}	[W]	580	585	590	595	600	605
	Short Circuit Current[2]	I_{SC}	[A]	13.69	13.72	13.74	13.77	13.80	13.90
	Open Circuit Voltage[2]	V_{OC}	[V]	53.55	53.57	53.60	53.63	53.66	53.69
	Current at MPP	I_{MPP}	[A]	13.03	13.07	13.12	13.17	13.25	13.33
	Voltage at MPP	V_{MPP}	[V]	44.53	44.75	44.96	45.18	45.30	45.40
	Efficiency[2]	η	[%]	≥ 20.8	≥ 21.0	≥ 21.1	≥ 21.3	≥ 21.5	≥ 21.7
MINIMUM PERFORMANCE AT BIFACIAL NAMEPLATE IRRADIANCE, BNPI[3]								
Minimum	Power at MPP[2]	P_{MPP}	[W]	634.4	639.9	645.4	650.8	656.3	661.8
	Short Circuit Current[2]	I_{SC}	[A]	14.99	15.01	15.04	15.07	15.10	15.21
	Open Circuit Voltage[2]	V_{OC}	[V]	53.74	53.76	53.79	53.82	53.85	53.88
	Current at MPP	I_{MPP}	[A]	14.25	14.30	14.36	14.41	14.50	14.58
	Voltage at MPP	V_{MPP}	[V]	44.52	44.74	44.95	45.17	45.27	45.39

[1] Measurement tolerances: P_{MPP} ±3 %; I_{SC}; V_{OC} ±5 % at STC/BNPI: front 1000 W/m², BNPI: rear 135 W/m², φ_{SC}, P_{MPP} = 0.70 ± 0.05, φV_{OC} = 0.99 ± 0.03; 25 ± 2 °C, AM 1.5 according to IEC 60904-3. Data given are rated (nominal) values.

Qcells Performance Warranty

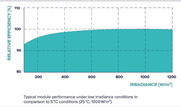


At least 98 % of nominal power during first year. Thereafter max. 0.45 % degradation per year. At least 93.95 % of nominal power up to 10 years. At least 85.45 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organization of your respective country.

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

Performance at low irradiance



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

Temperature Coefficients

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	-0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	-0.34				

■ Properties for System Design

Maximum System Voltage	V_{SYS}	[V]	1500	PV module classification	Class II
Maximum Series Fuse Rating	I_R	[A DC]	30	Fire Rating based on ANSI/UL 61730	C/TYPE 29
Max. Push Load[4], Test/Design		[lbs/ft²]	113 (5400 Pa)/ 75 (3600 Pa)	Permitted Module Temperature on Continuous Duty ($T_{cont,duty}$)	-40 °F up to +158 °F (-40 °C up to +70 °C)
Max. Pull Load[4], Test/Design		[lbs/ft²]	78 (3750 Pa)/ 52 (2500 Pa)		

[4] See Installation Manual for instructions

■ Qualifications and Certificates

UL61730-1 & UL61730-2, CE-compliant, IEC 61215:2021, IEC 61730:2023, U.S. Patent No. 9,893,215 (solar cells)

* Contact your Qcells Sales Representative for details regarding the module's eligibility to be Buy American Act (BAA) compliant.

Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.
Hanwha Q CELLS USA Corp. 300 Spectrum Center Drive, Suite 500, Irvine, CA 92618, USA | TEL +1 949 748 59961 EMAIL na.support@qcells.com | WEB www.qcells.com/us

Specifications subject to technical changes © Qcells Q.PEAK_DUO_XL-G11S.3_BFG_series_380-605_QCX_2020-01_Rev02_NA

Series 7 *TR1*.

Electrical Specifications

MODEL TYPES: FS-7XXXA-TR1 (XXX = NOMINAL POWER)
RATINGS AT STANDARD TEST CONDITIONS (1000W/m², AM 1.5, 25°C)[1]

		505	510	515	520	525	530	535	540
Nominal Power[2] (-0/+5%)	P_{MAX} (W)	505	510	515	520	525	530	535	540
Efficiency (%)	%	18.1	18.3	18.4	18.6	18.8	19.0	19.1	19.3
Cell Efficiency (%)	%	18.9	19.1	19.3	19.5	19.7	19.9	20.1	20.3
Voltage at P_{MAX}	V_{MAX} (V)	182.5	183.4	184.3	185.2	186.0	186.9	187.8	188.7
Current at P_{MAX}	I_{MAX} (A)	2.77	2.78	2.80	2.81	2.82	2.84	2.85	2.86
Open Circuit Voltage	V_{OC} (V)	223.9	224.5	225.0	225.6	226.1	226.7	227.2	227.7
Short Circuit Current	I_{SC} (A)	3.01	3.02	3.03	3.04	3.04	3.05	3.06	3.06
Maximum System Voltage	V_{SYS} (V)	1500[3]							
Limiting Reverse Current	I_R (A)	5.0							
Maximum Series Fuse	I_{CF} (A)	5.0							

RATINGS AT NOMINAL OPERATING CELL TEMPERATURE OF 45°C (800W/m2, 20°C air temperature, AM 1.5, 1m/s wind speed)[2]

Normal Power	P_{MAX} (W)	378.1	381.8	385.6	389.4	393.2	396.8	400.6	404.4
Voltage at P_{MAX}	V_{MAX} (V)	168.8	169.7	170.6	170.8	171.7	172.5	173.4	174.3
Current at P_{MAX}	I_{MAX} (A)	2.24	2.25	2.26	2.28	2.29	2.30	2.31	2.32
Open Circuit Voltage	V_{OC} (V)	211.9	212.4	212.9	213.5	214.0	214.5	215.0	215.5
Short Circuit Current	I_{SC} (A)	2.44	2.44	2.45	2.45	2.46	2.47	2.47	2.48

TEMPERATURE CHARACTERISTICS

Module Operating Temperature Range	(°C)	-40 to +85
Temperature Coefficient of P_{MAX}	τ_K (P_{MAX})	-0.32%/°C (Temperature Range: 25°C to 75°C)
Temperature Coefficient of V_{OC}	τ_K (V_{OC})	-0.28%/°C
Temperature Coefficient of I_{SC}	τ_K (I_{SC})	+0.04%/°C

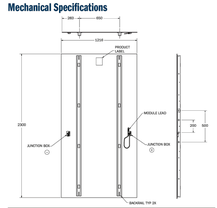
Certifications & Tests[4]

CERTIFICATIONS & LISTINGS
UL 61730 1500V Listed
IEC 61215:2021 & 61730-1:2016[5]
IEC 61701 Salt Mist Corrosion
IEC 60068-2-68 Dust and Sand Resistance
IEC 62716 Ammonia Corrosion

EXTENDED DURABILITY TESTS
IEC TS 63209-1 Extended Stress Test
Long-Term Sequential
Thresher Test
PID Resistant

QUALITY & EHS
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
ISO 14064-3:2006
EPEAT Silver Registered

Mechanical Specifications



MECHANICAL DESCRIPTION

Length	2300mm
Width	1258mm
Area	2.8m^2
Module Weight	39.7kg
Leadwire[6]	2.5mm^2, 650mm (+) & Bulkhead (-)
Connectors	TE Connectivity PV4-S or alternate
Junction Box	IP68 Rated
Bypass Diode	N/A
Cell Type	Thin film CdTe semiconductor, up to 268 cells
Frame Material	Galvanized steel
Front Glass	Heat strengthened
Back Glass	Heat strengthened
Encapsulation	Laminate material with edge seal
Frame to Glass Adhesive	Silicone
Load Rating	2400Pa

PACKAGING INFORMATION

Model Type	Modules Per Pack	Packs per 53' Container
FS-7XXXA-TR1	46	10

Install in portrait only

1. Limited power output and product warranties subject to warranty terms and conditions
2. At ratings ±10%, unless specified otherwise. Specifications are subject to change
3. Measurement uncertainty applies
4. Testing Certifications/Listings pending
5. IEC 61730-1 : 2016 Class II
6. Leadwire length from junction box exit to connector mating surface

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THE FUTURE OF ENERGY INDEPENDENCE
SOLAR LIBERTY ENERGY SYSTEMS, INC.
6500 SHERIDAN DR.
BUFFALO, NY 14211
716-634-3780

SOLAR ELECTRIC SYSTEM CLIENT:
SEP AMSTERDAM
1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
EQUIPMENT SPECIFICATION

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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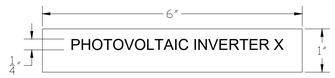
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DRAWN BY: EV
ENGINEER: EV
APPROVED BY:

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2	REVISED PERMIT SET	07/23/26
3	UPDATED PERMIT SET	08/06/26
4	UPDATED PERMIT SET	08/07/26
5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

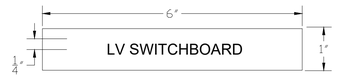
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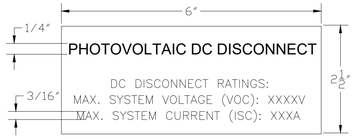
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E-800



1 E-900 (N.T.S.) INVERTER LABEL



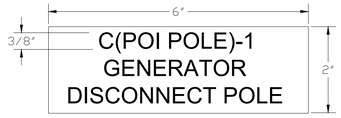
4 E-900 (N.T.S.) COM. PANEL LABEL



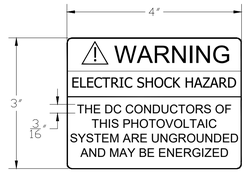
7 E-900 (N.T.S.) DC DISCONNECT LABEL



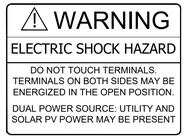
10 E-900 (N.T.S.) AVAILABLE FAULT CURRENT LABEL



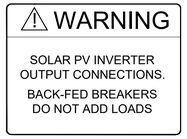
11A E-900 (N.T.S.) POLE LINEUP LABEL



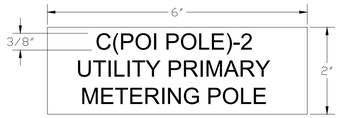
2 E-900 (N.T.S.) HAZARD LABEL 1



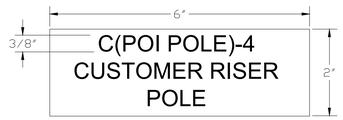
5 E-900 (N.T.S.) HAZARD LABEL 2



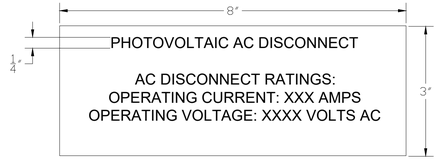
8 E-900 (N.T.S.) HAZARD LABEL 3



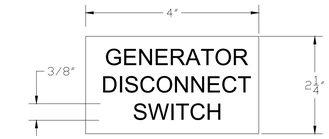
11B E-900 (N.T.S.) POLE LINEUP LABEL



11D E-900 (N.T.S.) POLE LINEUP LABEL



3 E-900 (N.T.S.) AC DISCONNECT LABEL

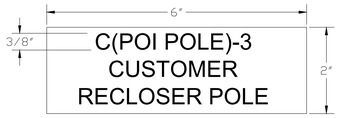


PLACE LABEL W PROMINENTLY AT TOP OF AC DISCONNECT SWITCH. ALL OTHER LABELS BELOW

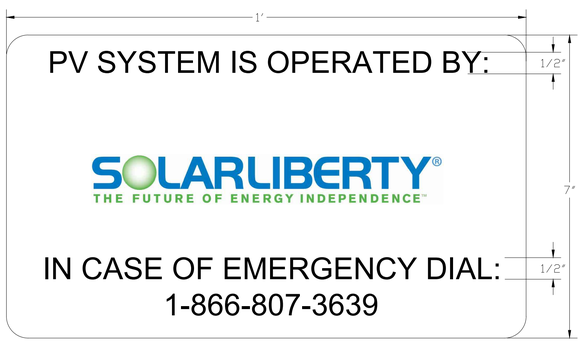
6 E-900 (N.T.S.) UTILITY GEN. DISCO LABEL



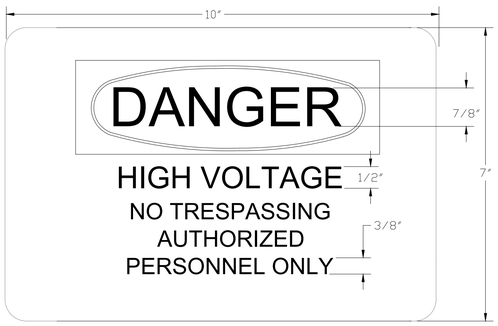
9 E-900 (N.T.S.) PV RACEWAY LABEL



11C E-900 (N.T.S.) POLE LINEUP LABEL



14 E-900 (N.T.S.) PV SYSTEM OWNER/OPERATOR LABEL



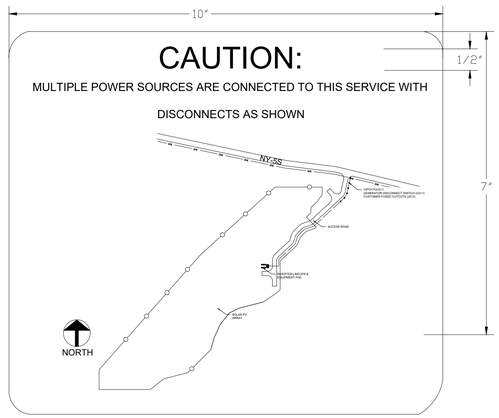
15 E-900 (N.T.S.) FENCE SAFETY LABEL

LABEL AND MARKINGS LEGEND

1. IDENTIFIES PHOTOVOLTAIC INVERTERS. PROVIDE 1 LABEL PER INVERTER.
2. WARNS OF UNGROUNDED, POTENTIALLY ENERGIZED CIRCUITS. 1 LABEL TO BE APPLIED AT EVERY INVERTER AND 1 LABEL APPLIED AT EACH DC JUNCTION BOX.
3. UTILITY DISCONNECT WARNING LABEL WITH SYSTEM SPECIFICATIONS. APPLIED TO ALL AC PHOTOVOLTAIC DISCONNECTS, 1 PER AC DISCONNECT.
4. IDENTIFIES PHOTOVOLTAIC COMBINING PANELBOARD. PROVIDE 1 LABEL PER SWITCHBOARD.
5. WARNING LABEL, PLACE ONE ON EACH OF: AC PHOTOVOLTAIC DISCONNECT, AC COMBINING PANELBOARD, EACH PHOTOVOLTAIC INVERTER.
6. LABEL FOR UTILITY DISCONNECT. ONE LABEL PER PHOTOVOLTAIC ARRAY. APPLY TO AC PHOTOVOLTAIC DISCONNECT. PLACE LABEL PROMINENTLY AT TOP OF AC DISCONNECT SWITCH. ALL OTHER LABELS BELOW.
7. PHOTOVOLTAIC DC DISCONNECT OPERATING SPECIFICATIONS LABEL. APPLIED TO EACH PHOTOVOLTAIC INVERTER. LABEL VALUES TO BE CALCULATED BY ENGINEER
8. WARNING LABEL, PLACE ONE ON EACH AC COMBINING SWITCHBOARD.
9. WARNING LABEL, PLACE AS NEEDED ON: EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS. COVERS OR ENCLOSURES OF PULL BOXES OR JUNCTION BOXES.
10. AVAILABLE FAULT CURRENT LABEL: PLACE AT LOW VOLTAGE SWITCHBOARD
11. POLE LINEUP LABELS. PLACE PER THREE LINE DIAGRAM AND UTILITY REQUIREMENTS. ITEMS 11A - 11F TO BE PLACED ON POWER POLES.
12. RESERVED
13. LABEL FOR SYSTEM OWNER'S INSTRUMENT TRANSFORMERS LOCATED IN METAL ENCLOSED SWITCHGEAR. METER TO BE PLACED EITHER ON UNIT OR ON RACK FED FROM CABINET
14. LABEL FOR MAIN SERVICE ENTRANCE. PLACE AT EVERY VEHICLE GATE ACCESS TO ARRAY.
15. LABEL FOR CHAIN LINKED SECURITY FENCE. PLACE EVERY 200FT AROUND PERIMETER OF ARRAY

GENERAL NOTES FOR LABELS AND MARKINGS

1. LABELS AND MARKINGS SHALL BE APPLIED TO THE APPROPRIATE COMPONENTS IN ACCORDANCE WITH THE NEC.
2. SOLAR MODULES ARE SUPPLIED FROM THE MANUFACTURER WITH MARKING PRE-APPLIED TO MEET THE REQUIREMENTS OF THE NEC.
3. THE SOLAR INVERTERS ARE SUPPLIED FROM THE MANUFACTURER WITH THE APPROPRIATE LABELS AND MARKINGS TO MEET THE REQUIREMENTS OF THE NEC.
4. TEXT LABELS THAT ARE NOT STICKERS WILL BE ETCHED WITH WHITE GRAPHICS ONTO 1/16" RED PLASTIC PLACARDS. THE LABEL WILL BE ATTACHED TO THE APPROPRIATE COMPONENTS ENCLOSURES IN CONSPICUOUS PLACES USING TWO PART EPOXY.



16 E-900 (N.T.S.) PV DIRECTORY LABEL

WHITMAN
Environmental • Engineering • Energy
Waste Management • EH&S Services
100 Franklin Square Drive, Suite 200
Somerset, NJ 08873
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FAX: (732) 390-9496

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SOLAR LIBERTY ENERGY SYSTEMS, INC.
6500 SHERIDAN DR.
BUFFALO, NY 14211
716-634-3780

SOLAR ELECTRIC SYSTEM CLIENT:
SEP AMSTERDAM
1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
LABELS & MARKINGS

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"
0 ½" 1"

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DRAWN BY:	EV
ENGINEER:	EV
APPROVED BY:	---

NO.	REVISION	DATE
0	PERMITTING SET	12/13/23
1	UPDATED PERMIT SET	05/26/26
2	REVISED PERMIT SET	07/23/26
3	UPDATED PERMIT SET	08/06/26
4	UPDATED PERMIT SET	08/07/26
5	USACE UPDATES	09/01/26
6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

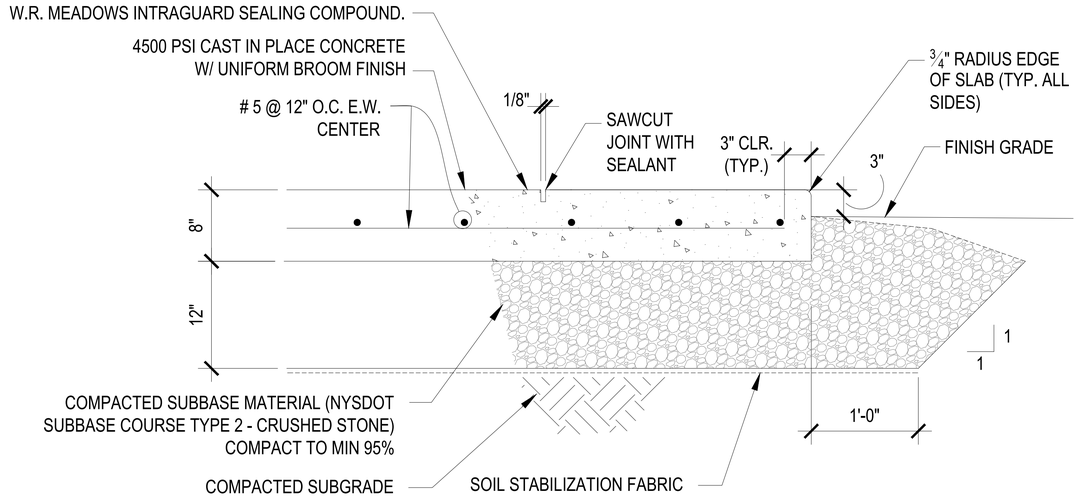
PROJECT PHASE:

SCALE:
N.T.S

DRAWING NO.:
E-900

GENERAL NOTES

A. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF ALL BUILDING CODES AND ORDINANCES INCLUDING THE BUILDING CODE OF NEW YORK STATE .IN CASES OF CONFLICT, THE MOST STRINGENT SHALL GOVERN.
B. SLAB CONSTRUCTION SHALL BE CARRIED DOWN TO UNDISTURBED NATURAL SUBGRADE MATERIAL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 1500 PSF. ALL EXCAVATION, SUB-GRADE PREPARATION, PLACEMENT OF FILL, IF ANY, AND DENSIFICATION SHALL BE PERFORMED BY PERSONS EXPERIENCED IN THE TRADE THEY ARE PERFORMING.
C. NO SLAB ON GRADE CONSTRUCTION SHALL BE PLACED IN WATER OR ON OR AGAINST FROZEN GROUND.
D. CONCRETE MATERIALS AND CONSTRUCTION SHALL CONFORM TO ACI-318 & ACI-301, LATEST EDITIONS. CONTRACTOR IS RESPONSIBLE TO CONFORM TO ACI-318 FOR COLD OR HOT WEATHER CONCRETING REQUIREMENTS.
E. CONCRETE SHALL HAVE A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI. THE PROPERTIES OF THE CONCRETE MIXTURE SHALL CONSISTS OF A MAXIMUM WATER/CEMENT RATIO OF 0.45 & A MAXIMUM AIR CONTENT OF 6% +/- 1.5% WITH A NOMINAL MAXIMUM AGGREGATE SIZE OF 1".
F. CONCRETE PLACEMENT SHALL BE DONE IN A SINGLE CONTINUOUS POUR.
G. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60.
H. REINFORCEMENT SHALL BE LAPPED WITH A MIN 30" LAP SPLICE.
I. SOIL STABILIZATION FABRIC SHALL BE A WOVEN GEOTEXTILE FABRIC, MANUFACTURED FOR SEPARATION APPLICATIONS, MADE FROM POLYOLEFINS OR POLYESTERS; WITH ELONGATION LESS THAN 50%; COMPLYING WITH AASHTO M 288 AND MAXIMUM OPENING SIZE OF NO. 60 SIEVE PER ASTM D 4751.
J. THE DEPTHS AND LOCATIONS OF EXISTING UTILITIES ARE NOT KNOWN. NOTIFY UTILITY COMPANIES AND UNDERGROUND UTILITY LOCATING SERVICES. ACTUAL LOCATIONS ARE TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR SHALL USE ALL MEANS POSSIBLE, INCLUDING METAL DETECTORS, ELECTRONIC SENSORS, PRODDING AND HAND EXCAVATION TO AVOID DISTURBING EXISTING BURIED UTILITIES. REPAIR UTILITIES DAMAGED BY CONSTRUCTION.



CONTROL JOINT NOTES:

1. DEPTH OF JOINTS TO BE 1½".
2. JOINTS TO BE PROVIDED AT MAXIMUM DISTANCE BETWEEN JOINTS OF 24 TO 36 TIMES THE SLAB THICKNESS.
3. LENGTH TO WIDTH RATIO OF JOINTS NOT TO EXCEED 1.5 TO 1.0.

1 / S-100 EQUIPMENT PAD FOOTING AND SLAB DETAIL

SCALE = 1-1/2" = 1'-0"

WHITMAN
Environmental • Engineering • Energy
Waste Management • EH&S Services
100 Franklin Square Drive, Suite 200
Somerset, NJ 08873
TEL: (732) 390-5858
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SOLARLIBERTY
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6500 SHERIDAN DR.
BUFFALO, NY 14211
716-634-3780

SOLAR ELECTRIC SYSTEM CLIENT:
SEP AMSTERDAM

1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
CONCRETE PAD DETAILS

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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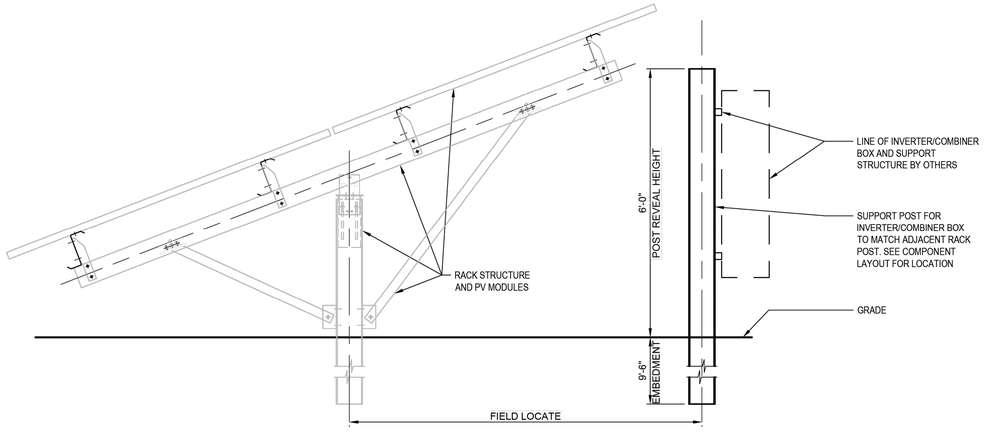
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ENGINEER:	EV
APPROVED BY:	– – –

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6	SURVEY UPDATES	10/16/26
7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

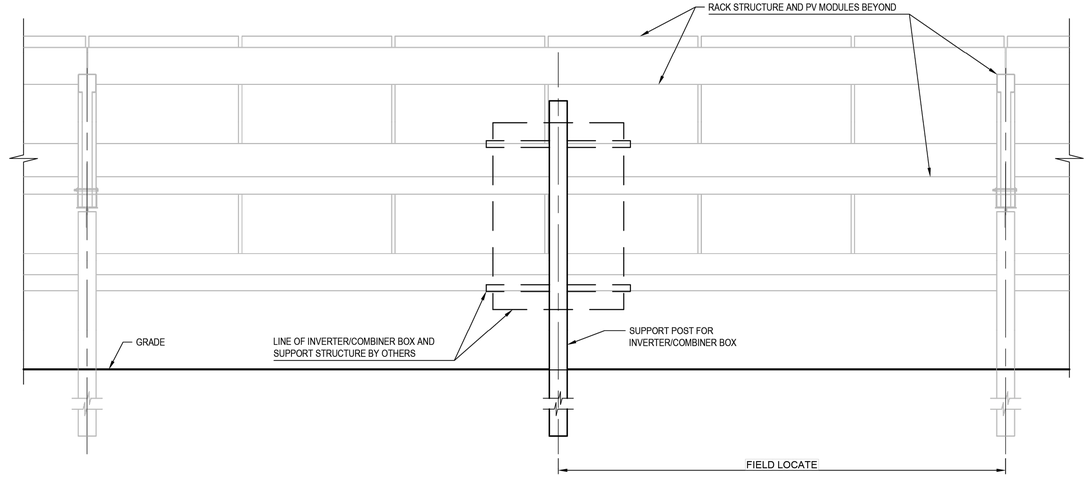
SCALE:
N.T.S.

DRAWING NO.:
S-100



SIDE VIEW

NOTE:
RACK STRUCTURE AND PV MODULES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL COMPONENTS MAY VARY.



REAR VIEW

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SEP AMSTERDAM

1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:

RACKING DETAILS

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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PROJECT PHASE:

SCALE:

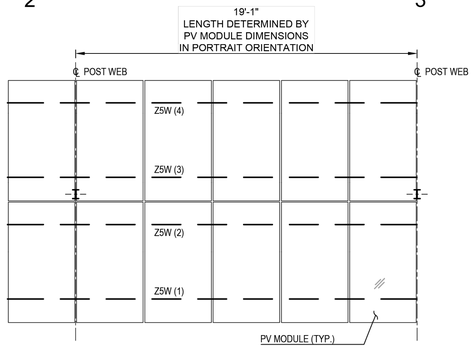
N.T.S.

DRAWING NO.:

S-200

NOT USED

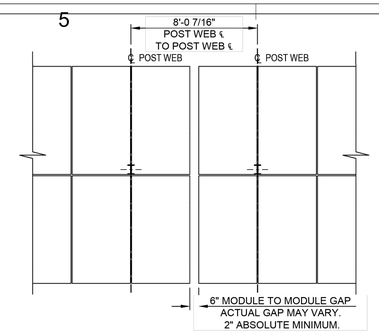
G1 SCALE: 1/4" = 1'-0"
BAY PLAN VIEW



G3 SCALE: 1/4" = 1'-0"
5WP2
BAY PLAN VIEW

NOT USED

G6 SCALE: 1/4" = 1'-0"
BAY PLAN VIEW

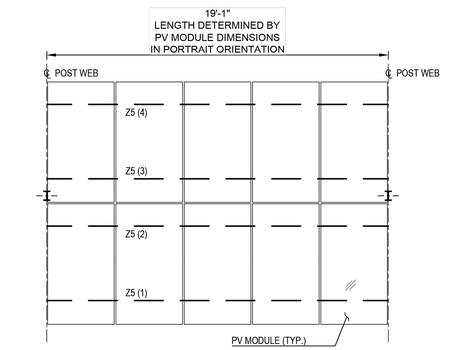


NOTE: COMPONENTS SHOWN MAY VARY FROM ACTUAL CONFIGURATION.
SEE INDIVIDUAL BAY PLANS THIS SHEET FOR MORE DETAILED PLANS.
INSTALL EXTENDED POST TOP ASSEMBLY AT EITHER SIDE OF ROW BREAK PER DETAIL A1/SG501.

G9 SCALE: NONE
TYPICAL
ROW BREAK DETAIL

NOT USED

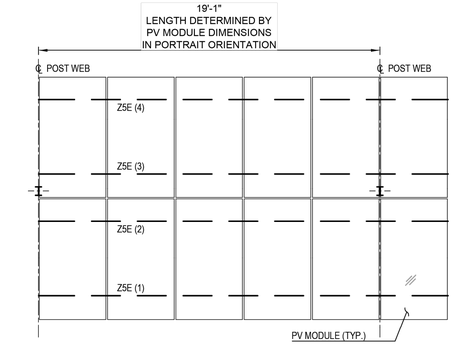
E1 SCALE: 1/4" = 1'-0"
BAY PLAN VIEW



E3 SCALE: 1/4" = 1'-0"
5P2
BAY PLAN VIEW

NOT USED

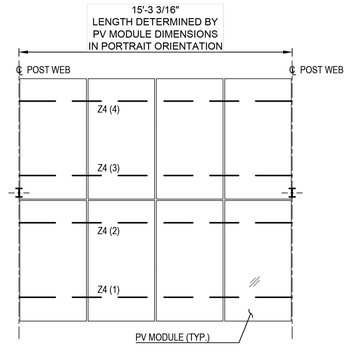
C1 SCALE: 1/4" = 1'-0"
BAY PLAN VIEW



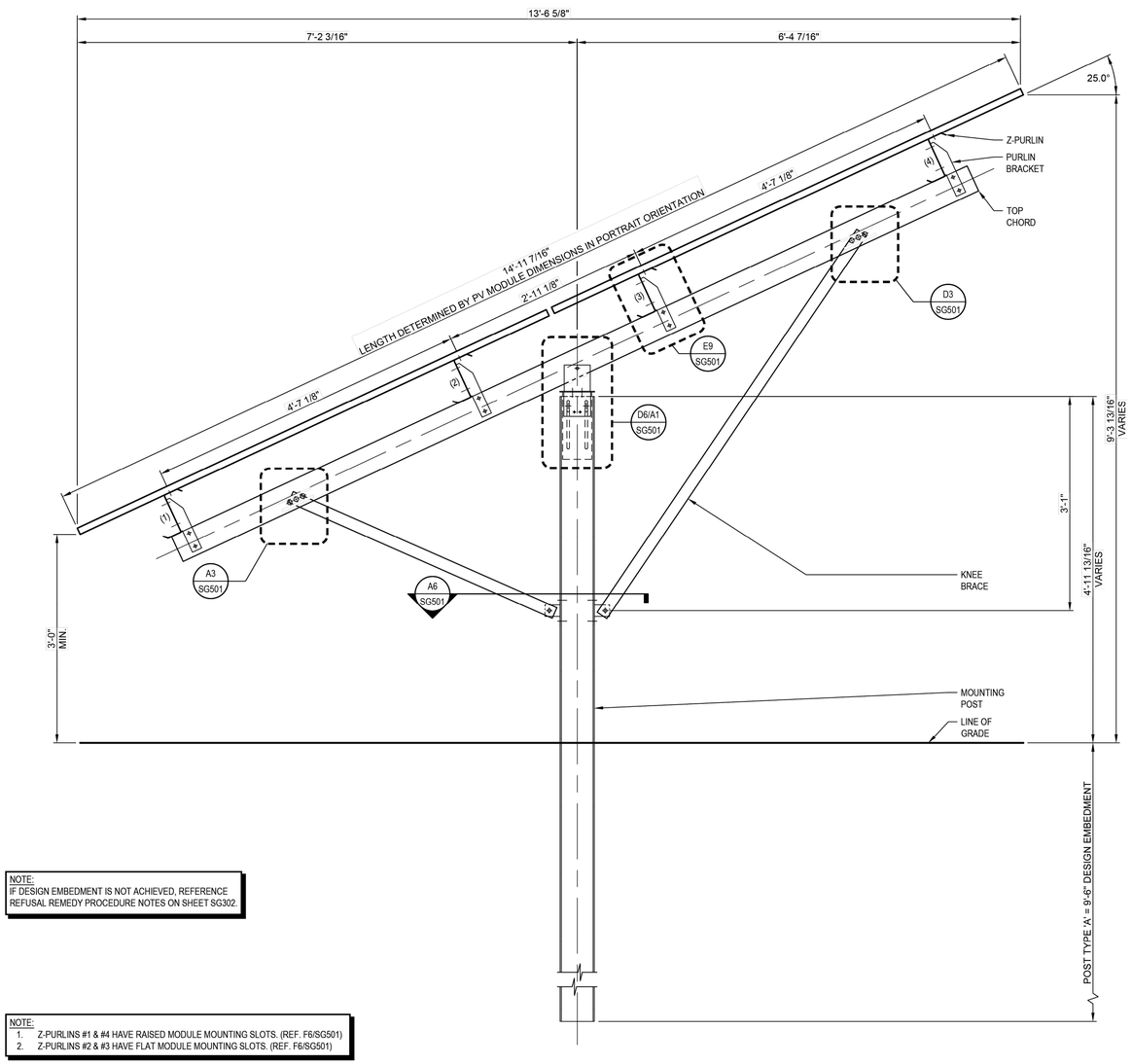
C3 SCALE: 1/4" = 1'-0"
5EP2
BAY PLAN VIEW

NOT USED

A1 SCALE: 1/4" = 1'-0"
BAY PLAN VIEW



A3 SCALE: 1/4" = 1'-0"
4P2
BAY PLAN VIEW



NOTE:
IF DESIGN EMBEDMENT IS NOT ACHIEVED, REFERENCE REFUSAL REMEDY PROCEDURE NOTES ON SHEET SG302.

NOTE:
1. Z-PURLINS #1 & #4 HAVE RAISED MODULE MOUNTING SLOTS. (REF. F6/SG501)
2. Z-PURLINS #2 & #3 HAVE FLAT MODULE MOUNTING SLOTS. (REF. F6/SG501)

A6 SCALE: 1" = 1'-0"
DESIGN
RACK SECTION

WHITMAN
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Waste Management ♦ EH&S Services
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SEP AMSTERDAM

1225 NY-5S
AMSTERDAM, NY 12010

SHEET TITLE:
RACKING DETAILS

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"

0 ½" 1"

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7	ADDED LANDSCAPE PLAN	10/26/26

PROJECT PHASE:

SCALE:
N.T.S.

DRAWING NO.:
S-201

Exhibit 20

Stormwater Pollution Prevention Plan

SWPPP REPORT

October 16, 2026

20223424.0001

SOLAR LIBERTY SOLAR FIELD

FLORIDA, NEW YORK

PREPARED FOR:
SL Amsterdam LLC
1247 NY-5S
Florida, NY 12010

242 West Main Street, Suite 100 | Rochester, NY 14614 | 585.325.1000 | www.passero.com

PASSERO
engineering architecture

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1.0 EXECUTIVE SUMMARY

This SWPPP is being created for the Town of Florida and is subject to the guidelines or review of the NYSDEC. This Stormwater Pollution Prevention Plan (SWPPP) has been prepared to support the new construction of a 2.0 MW AC solar field on a parcel along the south side of NY-5S in the Town of Florida, NY. The property is currently zoned as Industrial Business Park (IBP) at 1247 NY-5S Florida, NY (Tax Accounts # 56.0-3-7.22 & # 56.-3-7.1). Power generated from the proposed project will connect to the grid system on NY-5S.

The provided Stormwater Pollution Prevention Plan (SWPPP) materials adhere to the State Pollutant Discharge Elimination System (SPDES) General Permit (GP-0-25-001) for Stormwater Discharges from Construction Activity. The guidelines specified by the *New York State Stormwater Management Design Manual, May 2025* (SWDM) were used to analyze the proposed stormwater management facilities for this project. Erosion and Sediment controls were designed in conformance with New York Standards and Specifications for Erosion and Sediment Controls.

Table 1: *Summary Table*

Summary Table

Water Quantity

	Existing	Proposed	Reduction (%)
1-Year Runoff (cfs)	62.50	38.16	38.94%
10-Year Runoff (cfs)	172.80	136.04	21.27%
100-Year Runoff (cfs)	391.74	338.72	13.53%

Water Quality

	Required	Provided
Water Quality Volume (WQv) (acre-ft)	0.052	0.052
Minimum Allowable Runoff Reduction Volume (RRv) (acre-ft)	0.009	0.031
Channel Protection Volume (CPv) (acre-ft)	0.009	0.011
Qp (cfs)	86.4	68.020
Qf (cfs)	195.870	169.360

As shown above, the proposed stormwater pollution prevention plan meets minimum stormwater quality and quantity requirements set forth by the NYSDEC.

2.0 INTRODUCTION

The proposed project is located along NY-5S right of way. The project consists of a parcel situated on approximately 49.45 acres. The lot will consist of a proposed solar array. The project consists of approximately ±3.00 acres of disturbance including the areas of tree removal. This project will include a new access road, green infrastructure, and electrical utilities that will serve the proposed solar array.

The provided Stormwater Pollution Prevention Plan (SWPPP) materials adhere to the State Pollutant Discharge Elimination System (SPDES) General Permit (GP-0-25-01) for Stormwater Discharges from Construction Activity. The guidelines specified by the *New York State Stormwater Management Design Manual, May 2025* (SWDM) were used to analyze the proposed stormwater management facilities for this project. Erosion and Sediment controls were designed in conformance with New York Standards and Specifications for Erosion and Sediment Controls. A copy of the SWPPP preparer certification form is included in this report.

A copy of this SWPPP and associated inspection logs will be kept on site in the proposed office space and job trailer/SWPPP mailbox.

Owner/Operator
Solar Liberty
6500 Sheridan Drive
Buffalo, NY 14221
Contact: Nathan Rizzo

SWPPP Preparer
Passero Associates
242 West Main Street. Suite 100
Rochester, NY 14614
(585) 325-1000
Contact: Shauncy Maloy, P.E.

3.0 EXISTING SITE CONDITIONS

3.1 Topography/ Drainage

The parcel has varied land covers, which range from agricultural soils to forested land. The land also varies in slope throughout the site, with slopes between 0-35%.

Stormwater generally drains to the Northeast into existing wetlands, the roadside ditch, and eventually the Mohawk River offsite. The remaining part of the site drains to the Northwest offsite.

There are two drainage areas on site that drain to the analysis point one (existing roadside ditch) and analysis point two (West offsite). See below for descriptions of the existing drainage area:

Existing Drainage Area 1:

This area encompasses most of the site, including everything except the West corner. In total the area is 46.09 acres. Stormwater generally flows from the South to North, eventually entering the existing wetlands and ending up in the existing roadside ditch along NY-5S.

The provided existing drainage map graphically shows this drainage area, as well as the other hydraulic characteristics:

Existing Drainage Area 2:

This area encompasses the West corner of the site. In total the area is 3.36 acres. Stormwater generally flows from the Southeastern corner of the area to the Northwest portion, eventually making its way off site to analysis point 2.

The provided existing drainage map graphically shows this drainage area, as well as the other hydraulic characteristics:

HORIZONTAL SCALE
80 0 40 80 160
SCALE: 1"=80'

N

CITY OF AMSTERDAM
TOWN OF
FLORIDA

R.O.W.

BUILDING

12" WATER MAIN (REC)

ANALYSIS POINT #1

64' CHANNELIZED FLOW @ 24.28%

991' CHANNELIZED FLOW (FOREST) @ 7.01%

LaC (B)

CFL (A)

DaB (D)

EXISTING DRAINAGE DITCH

PIPF

EXISTING DRAINAGE AREA 2
TOTAL AREA = 3.36 AC
IMPERVIOUS = 0.00 AC
CN = 66
Tc = 15.6 MIN

ANALYSIS POINT #2

LMF (B)

175' CHANNELIZED FLOW (FOREST) @ 7.24%

75' CHANNELIZED FLOW (FOREST) @ 15.09%

242' SHALLOW CONCENTRATED FLOW (FOREST) @ 9.70%

100' SHEET FLOW (FOREST) @ 10.52%

WETLAND FLAGS LOCATED IN THE FIELD (NO NUMBER UNLESS NOTED)

419' SHALLOW CONCENTRATED FLOW (MEADOW) @ 7.68%

100' SHEET FLOW (FOREST) @ 11.34%

68' SHALLOW CONCENTRATED FLOW (FOREST) @ 11.07%

DaC (D)

PaB (C)

EXISTING DRAINAGE AREA 1
TOTAL AREA = 46.09 AC
IMPERVIOUS = 0.00 AC
CN = 78
Tc = 16.7 MIN

R.O.W. (NO ACCESS)

EX DA #1

EX DA #2

Tc PATH

SOIL BOUNDARY

PROPERTY LINE

Ub SOIL ABBREVIATION

(C/D) SOIL RATING

PASSERO
architecture engineering

EXISTING DRAINAGE MAP

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20223424.0001
OCTOBER, 2026
AMSTERDAM, NY

Y:\PROJECTS-NEW\2022\20223424\20223424.0001\01 CAD-BIM-MODELS\CIVIL\20223424.0001 ECP.DWG 10/16/2026 11:06 AM William Bloch

3.2 Wetlands/Tributary

The site was reviewed for the existence of federal and state regulated wetlands within the property boundaries. Federal wetlands were researched using the National Wetlands Inventory (NWI) using an online U.S. Fish and Wildlife website search. State regulated wetlands were researched using the NYSDEC's online Environmental Resource Mapper website. Refer to the appendices for the federal and state regulated wetlands mapping. In addition to online mapping, a wetland delineation report was conducted.

Online wetland mapping is shown in this report.

3.3 Floodplain

Floodplains were researched using the online Firmette tools found at FEMA Map Service Center. Review of the floodplain mapping indicates there is a FEMA Floodplain A located on the site according to FEMA map 36057C0216E, dated January 19, 2018, however there is no site work that will impact this floodplain. Refer to the appendices for the FEMA Firmette map.

3.4 NYSDEC Environmental Resources

The NYSDEC has an Environmental Resource Mapper on its website. The Environmental Resource Mapper is an interactive mapping application that can be used to identify some of New York State's natural resources and environmental features that are state protected, or of conservation concern. It displays the following:

- Animals and plants that are rare in New York, including those listed as Endangered or Threatened (generalized locations). [Updated May 2008]
- Significant natural communities, such as rare or high-quality forests, wetlands, and other habitat types.
- New York's streams, rivers, lakes, and ponds; water quality classifications are also displayed.

According to this database, there are no endangered species in the vicinity of the project. Refer to Appendix D for the NYSDEC's Environmental Resource Mapping.

3.5 State Historic Preservation Office Review

The site was reviewed for the presence of an archeological sensitive area within the property boundary. The archeo-sensitive areas were located using online GIS tools found at the NYS Historic Preservation Office (SHPO).

According to this database, there are no archeo-sensitive areas in the vicinity of the project. Refer to Appendix H for the archeological sensitive areas map and the SHPO No Impact Letter.

4.0 DEVELOPED SITE CONDITIONS

In NYS, all construction activities that require a SWPPP are classified under either Table 1 or Table 2 in the State Pollutant Discharge Elimination System (SPDES) General Permit (GP-0-25-01) for Stormwater Discharges from Construction Activity. This solar array project falls under Table 2. The relevant criteria for Table 2 are listed below.

1. Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the Blue Book or the Design Manual.
2. Solar array field areas on slopes less than 8% that will alter the hydrology from pre to post development conditions.
3. Solar array field areas with tables that are not elevated high enough to achieve final stabilization beneath the tables.
4. Traditional impervious areas associated with solar development (e.g. roads, buildings, transformers).
5. Utility pads surface with impervious cover.

The solar fields are designed to be installed on posts, with gaps between rows to allow proper unrestricted flows. The ground cover underneath the panels will also be properly established vegetative cover. The project does not alter the overall hydrology of the site.

The site will be segmented into four proposed drainage areas. See below for a description of these drainage areas:

4.1 Proposed Drainage Area 1A:

This area encompasses the Eastern portion of the site. In total the area is 40.89 acres. Stormwater generally flows to the existing wetlands on site and eventually discharges to the existing roadside ditch along NY-5S.

4.2 Proposed Drainage Area 1B:

This area encompasses the Western and Northern portions of the proposed solar array. In total the area is 4.97 acres. Stormwater generally flows to the proposed bioretention area in the Northeastern corner of Proposed Drainage Area 1B and eventually discharges to Analysis Point 1 in the roadside ditch along NY-5S.

4.3 Proposed Drainage Area 1C:

This area encompasses the proposed access road turnaround. In total the area is 0.23 acres. Stormwater flows to the proposed stone diaphragms and bios, which ultimately discharge to analysis point 1 along the existing roadside ditch by flowing overland through the existing site.

4.4 Proposed Drainage Area 2:

This area generally flows along the same path as Existing Drainage Area 2. The area is 3.36 acres and flows offsite to analysis point 2.

Given the steep slopes and proximity to the existing road, this area (0.03 Ac) cannot be treated and will drain into the existing roadside ditch along NY-5S.

HORIZONTAL SCALE
80 0 40 80 160
SCALE: 1"=80'

N

PROPOSED DRAINAGE AREA 1B
TOTAL AREA = 4.97 AC
IMPERVIOUS = 0.27 AC
CN = 75
Tc = 24.5 MIN

PROPOSED DRAINAGE AREA 1C
TOTAL AREA = 0.23 AC
IMPERVIOUS = 0.07 AC
CN = 76
Tc = 13.0 MIN

PROPOSED DRAINAGE AREA 2
TOTAL AREA = 3.36 AC
IMPERVIOUS = 0.00 AC
CN = X
Tc = X MIN

PROPOSED DRAINAGE AREA 1A
TOTAL AREA = 40.89 AC
IMPERVIOUS = 0.03 AC
CN = 74
Tc = 16.7 MIN

ANALYSIS POINT #1
ANALYSIS POINT #2

12" WATER MAIN (REC)
64' CHANNELIZED FLOW @ 24.28%
466' CHANNELIZED FLOW (GRASS) @ 9.38%
26' SHALLOW CONCENTRATED FLOW (GRAVEL) @ 4.67%
895' SHALLOW CONCENTRATED FLOW (GRASS) @ 5.31%
100' SHEET FLOW (GRASS) @ 3.77%
79' SHALLOW CONCENTRATED FLOW (GRAVEL) @ 6.50%
991' CHANNELIZED FLOW (FOREST) @ 7.01%
175' CHANNELIZED FLOW (FOREST) @ 7.24%
100' SHEET FLOW (GRASS) @ 1.27%
75' CHANNELIZED FLOW (FOREST) @ 15.09%
242' SHALLOW CONCENTRATED FLOW (FOREST) @ 9.76%
100' SHEET FLOW (FOREST) @ 10.52%
419' SHALLOW CONCENTRATED FLOW (MEADOW) @ 7.68%
100' SHEET FLOW (FOREST) @ 11.34%
68' SHALLOW CONCENTRATED FLOW (FOREST) @ 11.07%

WETLAND FLAGS LOCATED IN THE FIELD (NO NUMBER UNLESS NOTED)

CITY OF AMSTERDAM
TOWN OF FLORIDA

R.O.W.
R.O.W. (NO ACCESS)

BUILDINGS
EXISTING DRAINAGE DITCH
PIPF

LaC (B)
CrF (A)
DaB (D)
DaC (D)
LMF (B)
PaB (C)

PR DA #1A
PR DA #1B
PR DA #1C
PR DA #2
Tc PATH
SOIL BOUNDARY
PROPERTY LINE
Ub SOIL ABBREVIATION
(C/D) SOIL RATING

PASSERO architecture engineering

PROPOSED DRAINAGE MAP

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AMSTERDAM, NY

5.0 STORMWATER QUALITY

Stormwater quality requirements will be achieved using green infrastructure practices as well as standard stormwater practices. Chapter 5 of the NYSDEC Stormwater Management Design Manual was used to design the green infrastructure for this project. The design manual outlines which practices are best suited for specific scenarios, and how to properly size these practices. Water Quality Volume (WQv) and Runoff Reduction Volume (RRv) requirements are met using green infrastructure practices as well as other standard stormwater management practices.

This project will use bioretention areas to meet all NYSDEC requirements for stormwater quality.

5.1 Bioretention:

The bioretention areas shown on the plans will treat runoff from a portion of the proposed access road. Water will filter through the soil media and discharge through outlet control structures. A rip-rap lined overflow weir will be utilized to ensure excessive ponding does not occur in the infiltration-bioretention areas during extreme storm events which will allow stormwater to overflow the basin.

Table 2: *Stormwater Quality Comparison*

Stormwater Quality Comparison

Description:	Required	Provided
WQv Total (acre-ft)	0.052	0.052
Min RRv Total (acre-ft)	0.009	0.031
CPv Total (acre-ft)	0.009	0.011
Qp Total (cfs)	86.40	68.02
Qf Total (cfs)	195.87	169.36

6.0 STORMWATER QUANTITY & CLIMATE CHANGE

The proposed development will increase impervious area on site, which increases the rate of stormwater runoff from the site. This runoff must be reduced to a rate that is less than the offsite flow rate during existing conditions. Reduction for this project is achieved through a new stormwater management area that will be used to release stormwater runoff at a controlled rate via an outlet control structure.

See the comparison table below for the sites analysis points under existing and proposed conditions:

Table 3: *Stormwater Quantity Comparison*

Runoff Comparison Table				
Analysis Point:	**Condition:**	**Runoff (cfs)**		
		1 year	**10 year**	**100 year**
Analysis Point 1	EXISTING	30.80	83.42	186.60
North Roadside Ditch	PROPOSED	18.63	65.04	160.09
	PERCENT REDUCTION	**39.51%**	**22.03%**	**14.21%**
Analysis Point 2	EXISTING	0.45	2.98	9.27
West Offsite	PROPOSED	0.45	2.98	9.27
	PERCENT REDUCTION	**0.00%**	**0.00%**	**0.00%**
Total Site	EXISTING	31.25	86.4	195.87
	PROPOSED	19.08	68.02	169.36
	PERCENT REDUCTION	**38.94%**	**21.27%**	**13.53%**

As shown above, the proposed design meets the requirements of stormwater management by releasing the water at a reduced rate that does not lead to erosion or high levels or pollution.

Refer to the appendices for the HydroCAD analysis and the breakdown of each hydrograph.

6.1 Considerations for Climate Change

In accordance with Part III.A.2 of the General Permit, considerations must be made in SWPPP design to account for ongoing climate change across NYS. This SWPPP considered the following physical risks pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490.

- Increasing temperatures and increasing precipitation
- Increasing variability in precipitation, including chance of drought
- Increasing frequency and severity of flooding and rising sea levels
- Increasing storm surge and shifting ecologies.

The following methods to consider and implement resiliency to combat climate change in NYS are below:

- *Accurate Rainfall Data* – This SWPPP utilizes the most up-to-date rainfall data provided by the "Extreme Precipitation in New York & New England" tool managed by Cornell University. This data is important for proper stormwater design of infrastructure to meet modern climate conditions.

- *Provides Stabilized Flood Routes* – This SWPPP incorporates an improved, stabilized flood route to control 100-year storm events that flow through the proposed overflow weirs. Instead of releasing the stormwater to fields, creeks or grasslands, the proposal is to allow excessive stormwater to flow to the existing wetlands which eventually flow into Mohawk River.

- *Assumptions of Frozen Soils* – This SWPPP takes into consideration the potential for frozen soils contributing to higher runoff rates, due to the inability for infiltration during the winter months. The higher runoff rates cause increased loading on the stormwater infrastructure, which can find pipes to be undersized or unintended erosion / overloading of channels, swales or retention ponds. Considerations to use lower values for Hydrologic Soil Groups (A-C) and using D soils in the model creates larger runoff rates to represent frozen soils. To mitigate impact to the proposed system, pipes sizing calculations are based on faster concentration times and increased curve numbers. Storm pipe outfalls all include rip rap outfalls to slow runoff rates and protect from erosion. Pretreatment basins are utilized to slow stormwater runoff before entering retention areas.

7.0 CONSTRUCTION EROSION CONTROL PRACTICES & INSPECTIONS

The Owner is responsible for having monthly inspections of the storm water management facility completed. The inspections shall review and document the following at a minimum: visual inspection of the outlet structure, check of the outlets for excessive sediment accumulation, burrowing, vegetation degradation, or any other issues of concern. A certified copy of the annual summary of inspections report will be provided to the Town of Florida by the first of December. The owner is also responsible for having SWPPP inspections once per week once disturbance of the site starts. Copies of the SWPPP inspection reports will be sent to the Town, owner, and contractor and deficiencies should be addressed immediately.

Several erosion control practices will be utilized during construction by the contractor under direct supervision by the owner and a qualified SWPPP inspector (S.W.T.). These practices are explained below and shown in detail in the appendix of this report and the construction plans:

- Silt Fence → Silt fencing shall be installed at the toe of all slopes along the perimeter of the disturbed areas and at the toe of slope for any soil stock pile areas. Also, a row of silt fence will be installed around the perimeter of all wetlands in an effort to delineate its boundary. The fencing will be installed in accordance with the NYSDEC construction standards and at the instruction of this plan. The silt fencing shall be buried in the ground at least 6 inches. The contractor shall provide continued monitoring to ensure the silt fencing remains intact, and shall repair as needed. When the silt accumulates to greater than 1/3 the height of the fence the contractor shall remove and dispose of the silt.

- Stabilized Construction Entrance → The existing project entrance shall serve as the construction entrance to the project. The contractor shall ensure that mud is not tracked onto the adjacent roadways and that the stone entrance properly removes mud and debris from construction vehicles.

- Drop Inlet Protection → All field inlets and catch basins shall have inlet protection in accordance with the detail the Appendix. Drop Inlet protection can be removed from catch basins in the roadway when the sub base is installed, and from the field inlets when the adjacent area is brought to final grade and stabilized.

- Seeding and Stabilization → The contractor shall seed and stabilize all disturbed areas not to be worked for 7 days. Stabilization measures may include but are not limited to straw mulching, wood chip mulching, jute mesh and hydroseeding. The SMA and adjacent areas shall be stabilized immediately following their shaping and installation. All embankments greater than 3:1 shall be stabilized with jute mesh. The timeline requirements for stabilization are below:

    - If not in a listed impaired watershed AND site is NOT under a 5-acre wavier, 14 days.
    - If inside an impaired watershed OR utilizing a 5-acre wavier, 7 days.
    - During the winter months, including sites under winter shutdown, 3 days.

- Check Dam → 24 inch high stone check dams will be installed in all temporary and permanent diversion swales. The check dams will be installed every 4 vertical feet. Once the site is stabilized, these check dams will be removed.

- Truck Washdown area → a truck washdown area will be provided adjacent to the construction entrance. This area will be constructed such that it drains to a sediment basin immediately adjacent prior to discharging offsite.

- Winter Shutdown → The contractor may request to enter winter shutdown provided the contractor has fulfilled the requirements set forth in the NYSDEC Blue Book Standard and Specifications for Winter Stabilization contained in Appendix Q of this report. The certified SWPPP inspector will then perform an inspection and upon agreement with the contractor's practice, shall complete the "Notice to reduce Frequency of SPDES Site Inspections" Form contained in Appendix Q of this report. The form will then be submitted to the regulatory MS4 (or NYSDEC regional office should there be no MS4 for the project area) for review. After the regulatory MS4 or NYSDEC regional office has approved the request, the site will enter winter shutdown and SPDES site inspections may drop to monthly. Should the certified SWPPP inspector find any problems during winter shutdown, the contractor is liable to correct the issues on site in the same timely manner as an active project

Additional measures may be required during construction at the guidance of the owner or certified SWPPP Inspector. The contractor shall begin to make all adjustments to the erosion control within 24 hours of receipt of any deficiencies. The owner will be responsible for providing weekly reports when the site disturbance totals less than 5 acres. Inspections are to be completed by a qualified inspector in accordance with the GP-0-25-001, during construction to the Town of Florida.

If the developer of site plans to increase the disturbance greater than 5 acres at any given time, a 5 acre waiver must be submitted to the NYSDEC and approval granted prior to reaching this limit. The developer must adhere to the conditions set forth in the SPDES General Permit GP-0-25-001 Part II.D.3, located as Appendix L of this report. The conditions of Part II.D.3 are outlined below:

1. 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.

2. 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 three (3) 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 July 2024.

3. In areas where soil disturbance and compaction due to construction activities has taken place and the final product is to be pervious soils, lawns, or soils underlying a pervious man-made surface (i.e. pervious pavement, etc) the contractor is required to restore the soil per table 5.2 of the NYSDEC Stormwater Design Manual (see below).

Table 5.2 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 ft around buildings but not within a 5 ft 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 as well as existing pervious areas.		

*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.

** Refer to latest version of NYSDEC Deep-Ripping and Decompaction.

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

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

Any modifications to the SWPPP will be reported and approved by the Town in writing prior to implementation. See Appendix A for additional SWPPP information. The owner is responsible for having a qualified operator on site at all times who has at least 4 hours of erosion control training in accordance with the GP-0-25-001. Once the site has achieved 80% stabilization and ground cover, the Town may sign off on the Notice of Termination prior to submission to the NYSDEC. Removal of all temporary erosion and sediment control practices is required prior to demobilization.

8.0 POST CONSTRUCTION

The owner of the subject project will be responsible for all post construction practices. The contact information for the owner is illustrated on the cover of this plan as well as the design plans for the project. The post construction practices include performing annual inspections of the SMAs to ensure proper working conditions and ensure continual stabilized cover of all project areas to 80% cover, minimum. All applicable inspection and maintenance activities shall continue until the 80% cover is met. Any silt removal will be disposed either off site or on site and immediately stabilized in accordance with the practices of this plan.

Additionally, annual monitoring of the storm sewer structures will be provided by the owner to ensure that they are functioning properly. All documentation related to this SWPPP and post construction monitoring reports, shall be kept by the owner for five years after project completion. These inspections will be certified by a Professional Engineer and a copy of the inspection report will be furnished to the Town of Florida.

Additionally, annual monitoring of the storm sewer structures will be:

POST-CONSTRUCTION STORMWATER MANAGEMENT MAINTENANCE LIST

Practice	Requirement	Frequency
Project Area (entirety)	Contact and engage NYS Licensed Professional Engineer (PE) for Annual stormwater inspection per requirement of maintenance agreement with Dutchess County.	Annually.
Storm structures	Clean/remove trash/blockages.	As found or as indicated by annual inspection report.
Infiltration / filtration bio-retention	Inspect for bare soil, blocked inlets, sediment accumulation, and vegetation level. Remove sediment and reseed as necessary.	Annually or as indicated by annual inspection report.

All documentation related to this SWPPP and post construction monitoring reports shall be kept by the owner for five years after project completion. These inspections will be certified by a Professional Engineer and a copy of the inspection report will be furnished to the Town of Florida.

9.0 SUMMARY

The proposed project requires stormwater management practices which conform to NYSDEC regulations. The proposed standard stormwater management practices will also result in a net decrease in peak runoff from the site while meeting the NYSDEC requirements for Runoff Reduction, Water Quality and Channel Protection. Continued monitoring of the practices included in this plan will be provided by the owner and a designated SWPPP Inspector.

The following appendices of this report illustrate the additional requirements and specifications for stormwater pollution prevention. All practices included in this report and incorporated in the proposed project have been designed in compliance with the NYS Storm Water Design Manual and NYS Standards and Specifications for Erosion and Sediment Control.

APPENDICES

APPENDIX A: SWPPP PRACTICES PROCEDURES AND CERTIFICATIONS

STORMWATER POLLUTION PREVENTION PLAN

SITE DESCRIPTION			
Project Name and Location: (Latitude, Longitude, or Address)	NY-5S Amsterdam, NY 12010	Owner Name and Address:	Solar Liberty 6500 Sheridan Drive Buffalo, NY 14221
Description: (Purpose and Types of Soil Disturbing Activities)			
Runoff Coefficient/Soils Conditions:	The runoff coefficient impervious area is 0.9 and 0.2 for the grass areas. The soils on-site consist of all hydrologic soil classes, being A, B, C and D.		
Site Area:			

Sequence of Major Activities	
The order of activities will be as follows: **1. Install silt fences, stabilized construction entrance and other erosion control measures.** **2. Protect vegetation to remain.** **3. Construct temporary sediment basins including grading, and stabilization.** **4. Construct stormwater ponds. Strip and stockpile topsoil as necessary** **5. Conduct mass earth moving activities.** **6. Install utilities including storm sewers.** **7. Box out road ways.** **8. Install road subbase and continue monitoring of erosion control.** **9. Stabilize disturbed areas and stockpiles within 7 days of last construction activity in all areas.** **10. Final grading, seeding, and mulching of all disturbed areas.** **11. Install Bio-retention Areas / Infiltration Basin Medium.** **12. When all work areas are complete and the entire areas are stabilized, remove the erosion control measures.**	
Name of Receiving Waters:	

CONTROLS

Erosion and Sediment Controls

Stabilization Practices

Temporary Stabilization - Topsoil will be replaced onsite or removed from the site. Disturbed portions of the site where construction activity temporarily ceases for at least 7 days will be stabilized with temporary seed and mulch no later than 7 days from the last construction activity in that area. The temporary seed shall be Rye (grain) applied at the rate of 120 pounds per acre. Prior to seeding, 2,000 pounds per acre of ground agricultural limestone and 1,000 pounds per acre of 10-10-10 fertilizer shall be applied. If applicable, areas of the site which are to be paved will be temporarily stabilized by applying geotextile and stone sub-base until bituminous pavement can be applied.

Permanent Stabilization - Disturbed portions of the site where construction activities permanently cease shall be stabilized with permanent seed no later than 7 days after the last construction activity. The permanent seed mix shall be as indicated on the plans and specifications.

Stormwater Management

The existing storm water management areas will provide stormwater quality and siltation control post construction. The areas which are not graded as part of this project will remain untouched. When construction has been completed all surfaces will be restored and erosion control measures removed after all turf areas are established. After construction has been completed all temporary erosion control measures will be removed.

Post Construction Stormwater Management/Maintenance Procedures

The stormwater management areas should be checked to see they are operating properly, an annual inspection is also required. This shall consist of:

- A visual inspection of the outlet structure and removal of any debris that may affect its performance.
- A visual inspection of the earthen berm. Signs of erosion or areas lacking vegetation should be identified and corrected.

OTHER CONTROLS

Waste Disposal:

Waste Material - All waste material will be collected and stored in a metal dumpster rented from a NYSDEC approved hauler, which is a licensed solid waste management company. The dumpster will meet 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 a minimum of once per week or more often if necessary, and the trash will be hauled to a NYSDEC approved dump. No construction waste material will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal. Notices stating these practices will be posted in the office trailer and the individual who manages the day-to-day operations will be responsible for seeing that these procedures are followed.

Hazardous Waste – All hazardous waste materials will be disposed of in a manner specified by local and state regulations or by the manufacturer. Site personnel will be instructed in these practices and the individual who manages the day-to-day operations will be responsible for seeing that these practices are followed.

Sanitary Waste – If portable units are used, all sanitary waste will be collected from the portable units a minimum of three times per week by a licensed sanitary waste management contractor, as required by local regulation.

Offsite Vehicle Tracking:

The paved streets adjacent to the site will be swept daily to remove any excess mud, dirt, or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

TIMING OF CONTROLS/MEASURES

As indicated in the Sequence of Major Activities, the erosion and sedimentation control measures, including silt fence, will be constructed prior to clearing or grading of any other portions of the site. Areas where construction activity temporarily ceases for more than 7 days will be stabilized with a temporary seed and mulch within 7 days of the last disturbance. Once construction activity ceases permanently in an area, that area will be stabilized with permanent seed and mulch.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The stormwater collection and discharge complies with the NYSDEC requirements of the New York State Stormwater Management Design Manual.

MAINTENANCE/INSPECTION PROCEDURES

Erosion and Sediment Control Inspection and Maintenance Practices

These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- All measures will be maintained in good working order; if a repair is necessary; it will be initiated within 24 hours or report.
- Built-up sediment will be removed from silt fence when it has reached one-third the height of the fence.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and health of growth.
- The site superintendent will select individuals who will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance report.
- Personnel selected for inspection and maintenance responsibilities will receive training from the site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on-site in good working order.

Non-Stormwater Discharges

No non-stormwater discharges will occur from the site during the period, except the following:
It is expected that the following non-storm water discharges will occur from the site during the construction period:

- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater (from dewatering excavation).

INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be present on-site during construction:

Select Granular Fill	Topsoil	HDPE Pipe
Precast Concrete	Mulch	Construction Signs
Concrete	Joint Sealant	Sign Panels & Sign Supports
Seed	Electric Cable	Metal Frames & Grates
Steel Conduit	Asphalt Tack Coat	SDR-35 PVC Pipe
Subbase Course	Asphalt Concrete	

SPILL PREVENTION

Material Management Practices

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

Good Housekeeping:

The following good housekeeping practices will be followed on-site during the construction project:

- An effort will be made to store only enough product required to do the job.
- All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper use and disposal of materials on-site.

Hazardous Products:

These practices are used to reduce the risks associated with hazardous materials:

- Products will be kept in original containers unless they are not re-sealable.
- Original labels and material safety data will be retained; they contain important product information.
- If surplus product must be disposed of, manufacturers' or local and state recommended methods of proper disposal will be followed.

SPILL PREVENTION (Continued)

Product Specific Practices

The following product specific practices will be followed on-site:

Petroleum Products:

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Fuel oil for construction machinery will be stored in an above-ground tank with a suitable containment system. Material safety data sheets will be filed in the site superintendent's trailer. Any asphalt substances used on-site will be applied according to the manufacturer's recommendations.

Fertilizers:

Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to stormwater. The contents of any partially used bags of fertilizer will be transferred to resealable plastic bags to avoid spills.

Paints:

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system, but will be properly disposed of according to manufacturers' instructions or state and local regulations.

Concrete Trucks:

Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on site.

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area on-site. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substance.
- Reportable spills of any petroleum-based material will be reported to the appropriate state or local government agency.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The site superintendent responsible for the day-to-day operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the office trailer on-site.

POLLUTION PREVENTION PLAN CERTIFICATION

I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions 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.

Signed:_____
Owner

Date:_____

CONTRACTOR'S CERTIFICATION

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	For	Responsible for
Trained Contractor _____ Date:_____		
_____ Date:_____		
_____ Date:_____		
_____ Date:_____		
_____ Date:_____		

Signature	For	Responsible for
_____ Date:_____		
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_____ Date:_____		

APPENDIX B: AERIAL PHOTOGRAPH

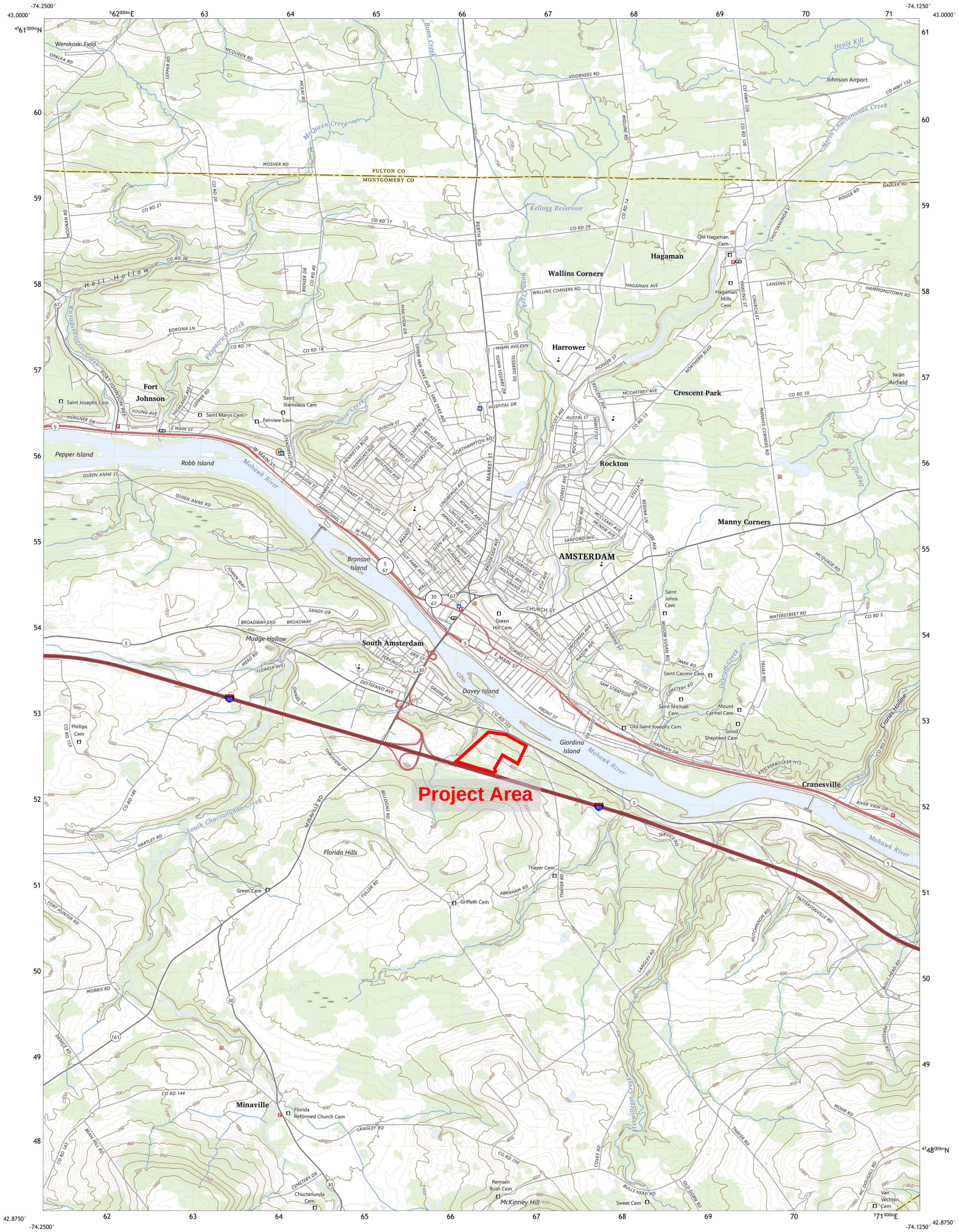

St John St
Ave
Hall St
New St
Greco Pl
Cleveland Ave
Cleveland Ave
Cleveland Ave
Leffe
Elk St
Mohawk River
Mohawk River
5S
5S
Project Area
Thayer Rd

APPENDIX C: USGS QUADRANGLE MAP

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

AMSTERDAM QUADRANGLE
NEW YORK
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 18T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, October 2017 - December 2017
Roads.....U.S. Census Bureau, 2016
Names.....GNIS, 1980 - 2023
Hydrography.....National Hydrography Dataset, 2001 - 2021
Contours.....National Elevation Dataset, 1998 - 2019
Boundaries.....Multiple sources; see metadata file 2021 - 2022

Wetlands.....FWS National Wetlands Inventory 1986

UTM GRID AND 2023 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

ADJOINING QUADRANGLES
1 Gloversville
2 Broadalbin
3 Galway
4 Tribes Hill
5 Pattersonville
6 Esperance
7 Duanesburg
8 Rotterdam Junction

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

AMSTERDAM, NY
2023

NSN 7643013986405
NGA REF NO. USGSX24K906

APPENDIX D: ENVIRONMENTAL RESOURCE MAPPER

NYSDEC Environmental Resource Mapper



November 9, 2023

1:18,056

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

New York State, Maxar, Esri, HERE, Garmin, iPC

NYS Department of Environmental Conservation
Not a legal document

APPENDIX E: WETLAND MAPPING

U.S. Fish and Wildlife Service
National Wetlands Inventory

National Wetland Mapper



November 10, 2023

Wetlands

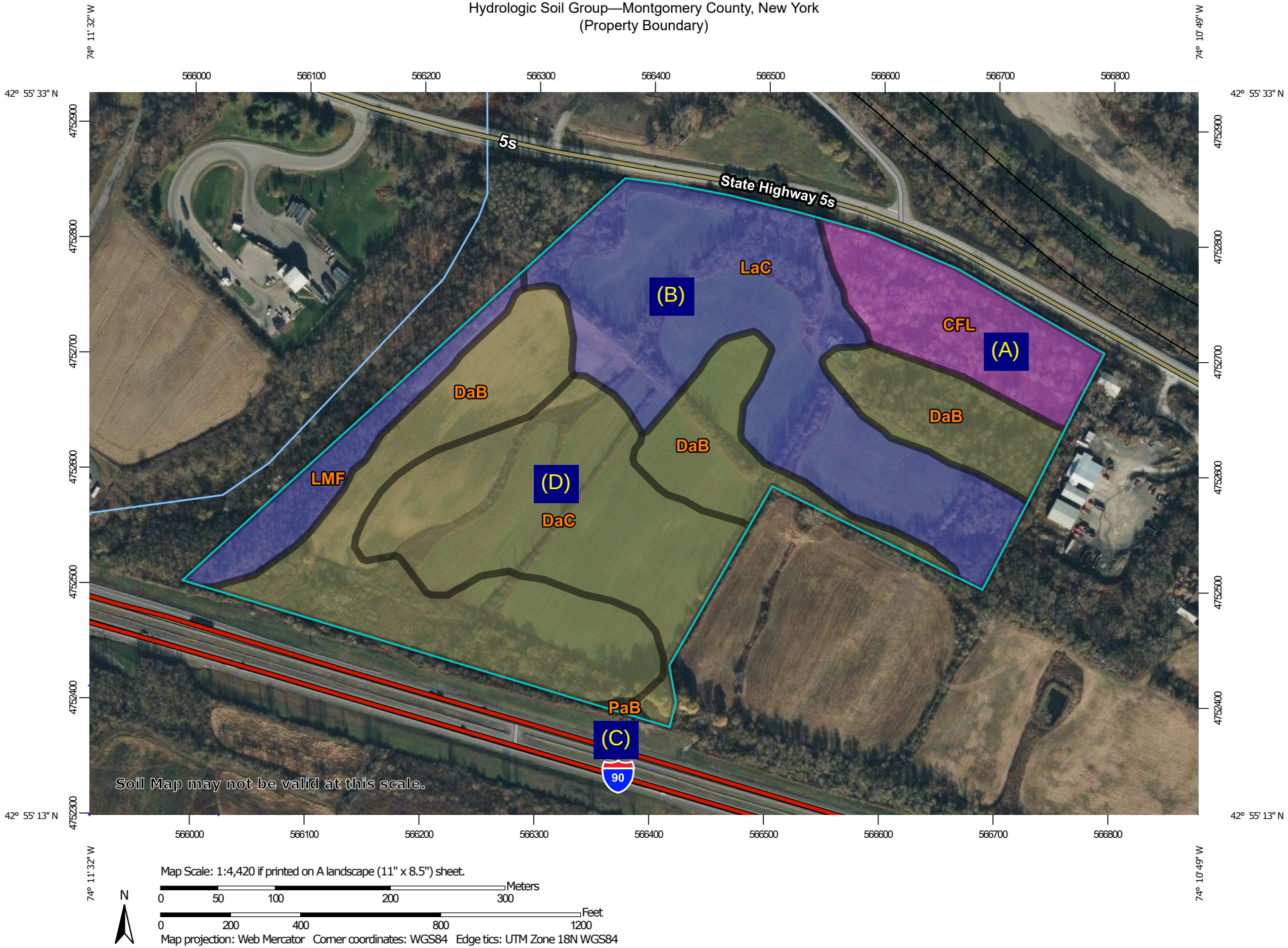
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

APPENDIX F: SOILS MAP

Hydrologic Soil Group—Montgomery County, New York
(Property Boundary)



Map Scale: 1:4,420 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

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Montgomery County, New York
Survey Area Data: Version 21, Sep 5, 2023

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

Date(s) aerial images were photographed: Sep 4, 2020—Nov 7, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CFL	Cut and fill land	A	4.9	9.8%
DaB	Darien silt loam, 3 to 8 percent slopes	C/D	17.1	34.7%
DaC	Darien silt loam, 8 to 15 percent slopes	C/D	10.4	21.0%
LaC	Lansing silt loam, 8 to 15 percent slopes	B	14.3	29.0%
LMF	Lansing and Mohawk soils, 25 to 60 percent slopes	B	2.7	5.4%
PaB	Palatine silt loam, 3 to 8 percent slopes	C	0.1	0.1%
Totals for Area of Interest			**49.4**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

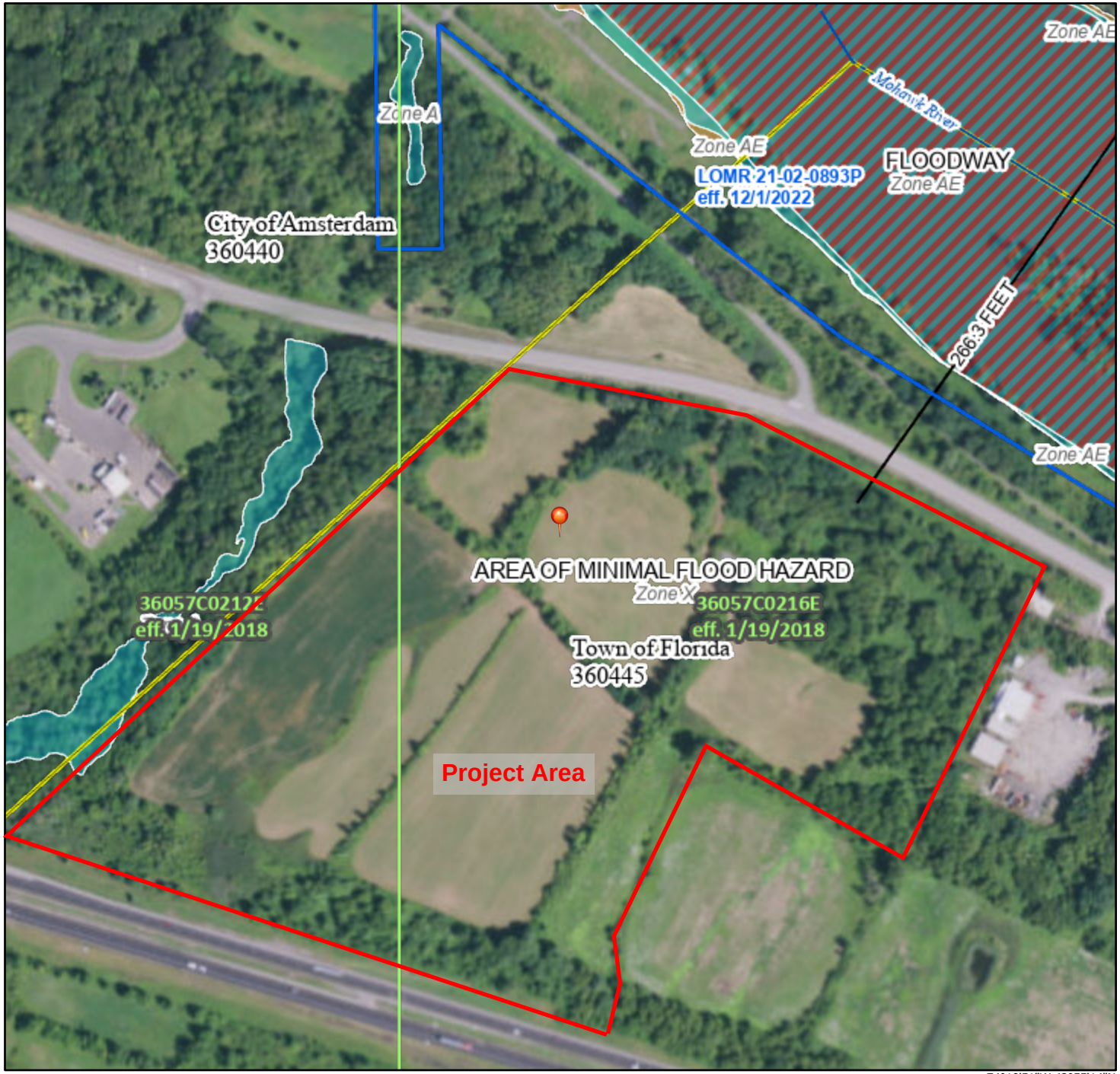
Tie-break Rule: Higher

APPENDIX G: FEMA MAPPING

National Flood Hazard Layer FIRMette

FEMA

74°11'28"W 42°55'41"N



74°10'51"W 42°55'14"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

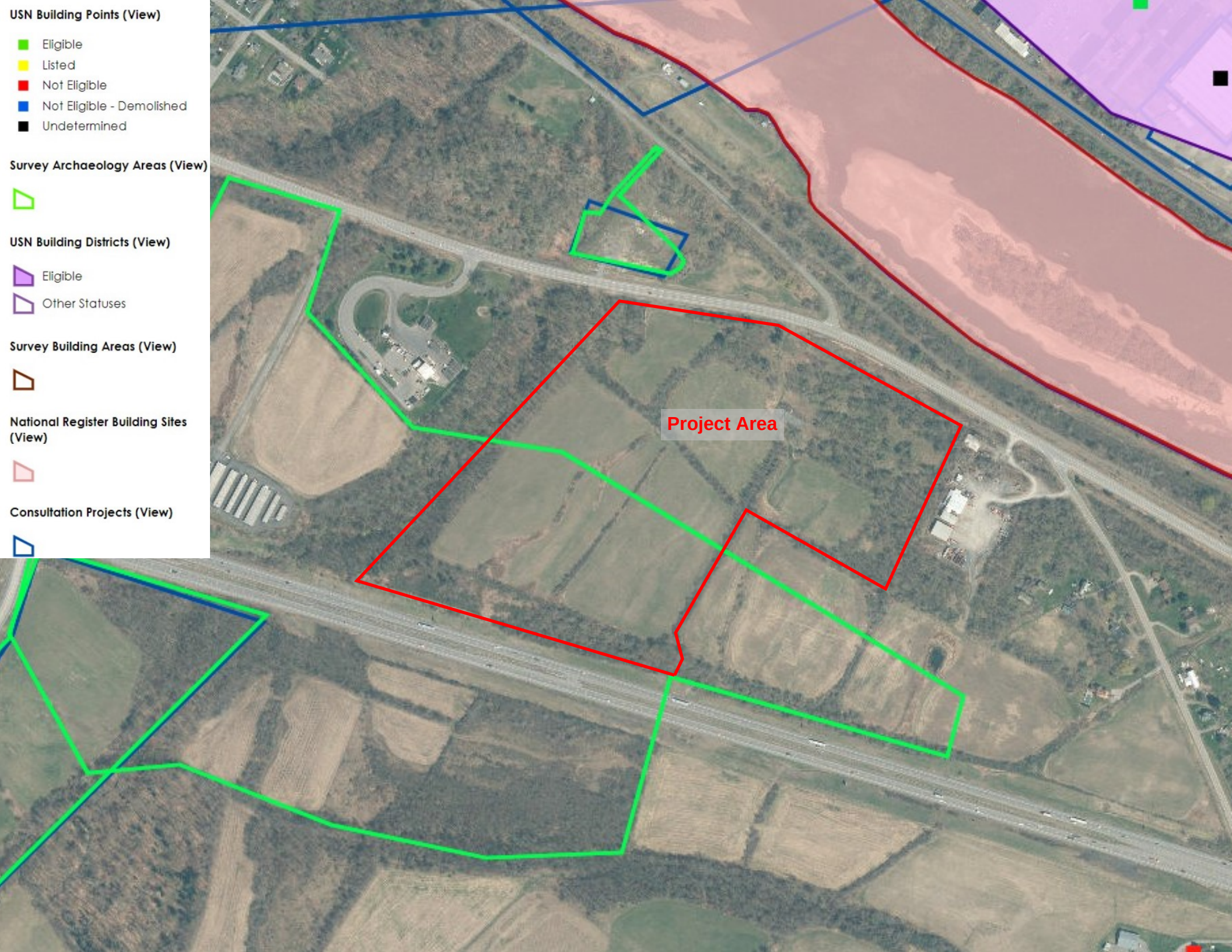
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/6/2023 at 3:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX H: ARCHEOLOGICAL SENSITIVE AREAS MAP


USN Building Points (View)
Eligible
Listed
Not Eligible
Not Eligible - Demolished
Undetermined
Survey Archaeology Areas (View)
USN Building Districts (View)
Eligible
Other Statuses
Survey Building Areas (View)
National Register Building Sites (View)
Consultation Projects (View)
Project Area

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

February 6, 2024

Shauncy Maloy
Project Manager
Passero Associates
1824 Statesville Ave
Suite 103
Charlotte, NC 28206

Re: NYSERDA
Solar Liberty Amsterdam/2.5 MW/6 of 50 Acres
1247 State Route 5S, Amsterdam, NY 12010
23PR09889

Dear Shauncy Maloy:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials 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 for Historic Preservation 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.

OPRHP has reviewed the Phase I Archaeological Survey Report entitled “Phase I (IA and IB) Cultural Resource Investigations for the Proposed Solar Liberty Amsterdam Array Project (2.5 MW AC / 6 Acres of 50 Acre Parcel), Town of Florida, Montgomery County, New York” prepared by Powers Archaeology LLC (February 2024; 24SR00066). No archaeological sites were identified by the survey. Therefore, it is the opinion of the OPRHP 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.

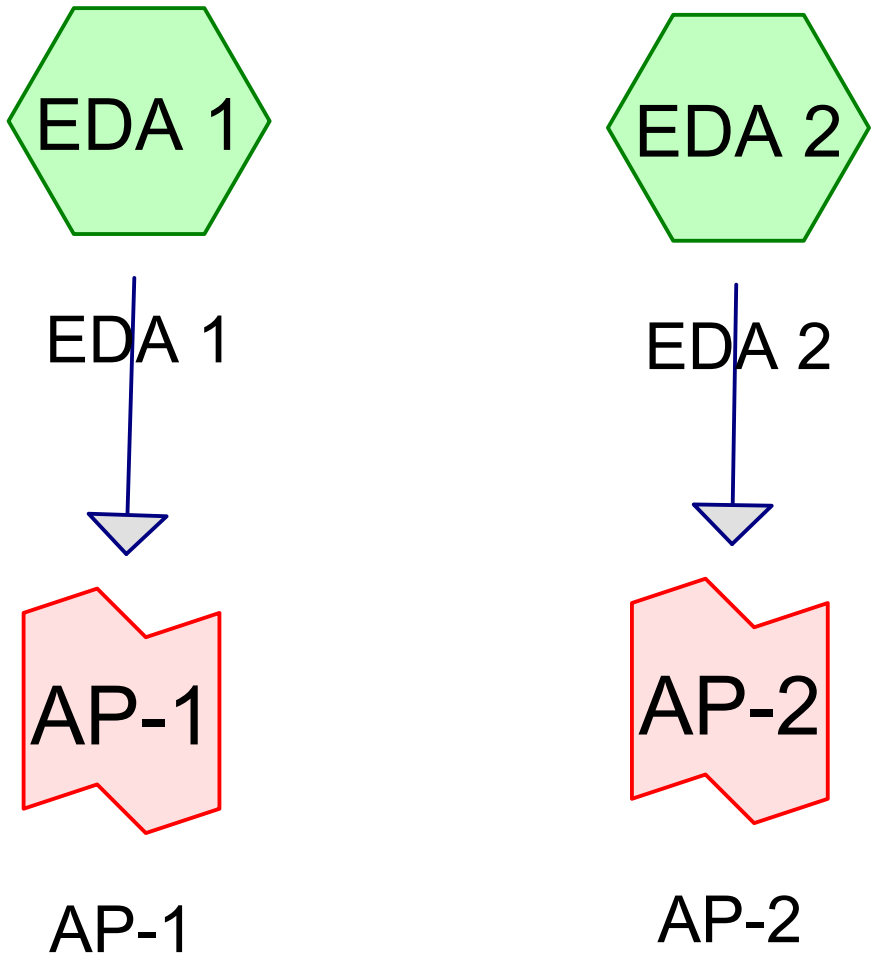
If you have any questions, I can be reached at Jessica.Vavrasek@parks.ny.gov.

Sincerely,

Jessica Vavrasek

Jessica Vavrasek
Scientist – Archaeology/NAGPRA

APPENDIX J: HYDROGRAPH CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for SL Amsterdam EXISTING
Prepared by Passero Associates, Printed 10/16/2026
HydroCAD® 10.20-4c s/n 13263 © 2024 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-YEAR	Type II 24-hr		Default	24.00	1	2.19	2
2	10-YEAR	Type II 24-hr		Default	24.00	1	3.50	2
3	100-YEAR	Type II 24-hr		Default	24.00	1	5.71	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.023	86	Fallow, bare soil, HSG B (EDA 1)
0.041	91	Fallow, bare soil, HSG C (EDA 2)
16.878	94	Fallow, bare soil, HSG D (EDA 1)
4.847	36	Woods, Fair, HSG A (EDA 1)
8.914	60	Woods, Fair, HSG B (EDA 1, EDA 2)
0.063	73	Woods, Fair, HSG C (EDA 1)
10.673	79	Woods, Fair, HSG D (EDA 1, EDA 2)
49.439	**78**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
4.847	HSG A	EDA 1
16.937	HSG B	EDA 1, EDA 2
0.104	HSG C	EDA 1, EDA 2
27.551	HSG D	EDA 1, EDA 2
0.000	Other	
49.439		**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	8.023	0.041	16.878	0.000	24.942	Fallow, bare soil	EDA 1, EDA 2
4.847	8.914	0.063	10.673	0.000	24.497	Woods, Fair	EDA 1, EDA 2
4.847	**16.937**	**0.104**	**27.551**	**0.000**	**49.439**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EDA 1: EDA 1 Runoff Area=46.083 ac 0.00% Impervious Runoff Depth>0.53"
Flow Length=1,642' Tc=16.7 min CN=78 Runoff=30.80 cfs 2.031 af

Subcatchment EDA 2: EDA 2 Runoff Area=3.356 ac 0.00% Impervious Runoff Depth>0.18"
Flow Length=592' Tc=15.6 min CN=66 Runoff=0.45 cfs 0.050 af

Link AP-1: AP-1 Inflow=30.80 cfs 2.031 af
Primary=30.80 cfs 2.031 af

Link AP-2: AP-2 Inflow=0.45 cfs 0.050 af
Primary=0.45 cfs 0.050 af

Total Runoff Area = 49.439 ac Runoff Volume = 2.080 af Average Runoff Depth = 0.50"
100.00% Pervious = 49.439 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA 1: EDA 1

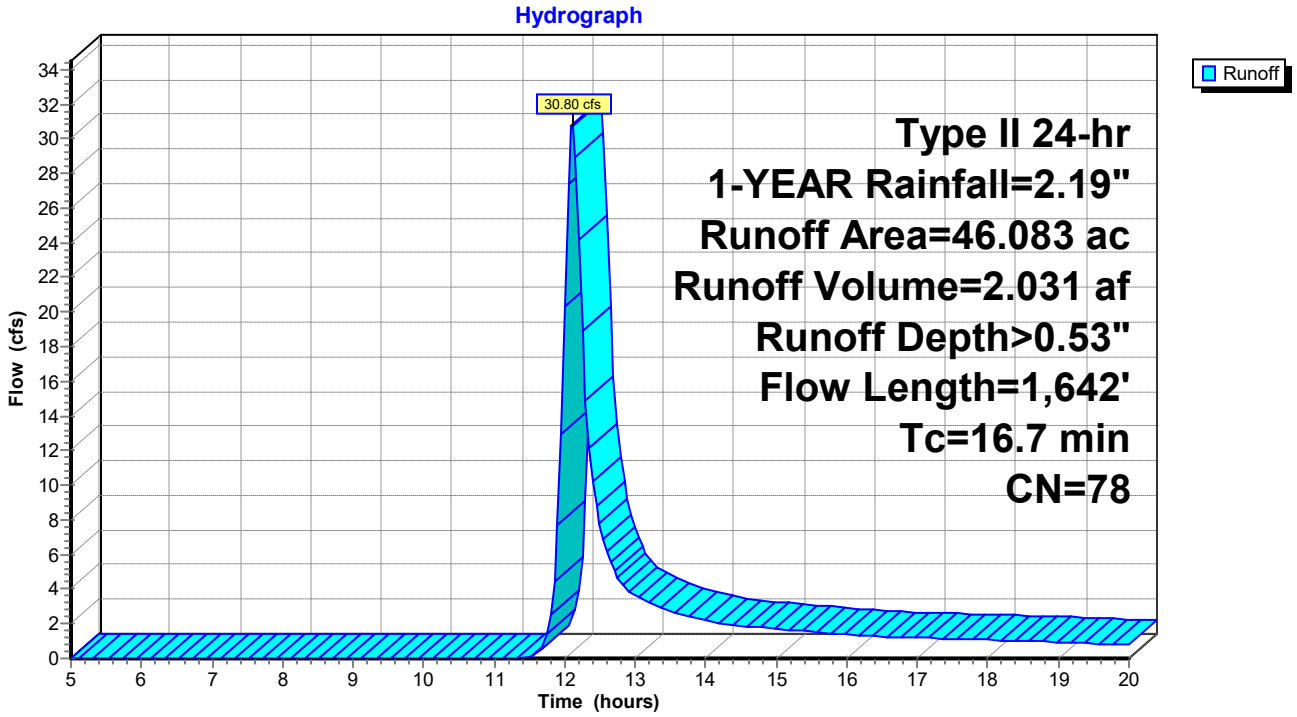
Runoff = 30.80 cfs @ 12.11 hrs, Volume= 2.031 af, Depth> 0.53"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YEAR Rainfall=2.19"

Area (ac)	CN	Description
6.516	60	Woods, Fair, HSG B
8.023	86	Fallow, bare soil, HSG B
4.847	36	Woods, Fair, HSG A
9.756	79	Woods, Fair, HSG D
16.878	94	Fallow, bare soil, HSG D
0.063	73	Woods, Fair, HSG C
46.083	78	Weighted Average
46.083		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.1134	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
0.7	68	0.1107	1.66		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
2.5	419	0.0768	2.77		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
1.2	991	0.0701	13.44	360.19	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.0	64	0.2428	25.01	670.34	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
16.7	1,642	Total			

Subcatchment EDA 1: EDA 1



Summary for Subcatchment EDA 2: EDA 2

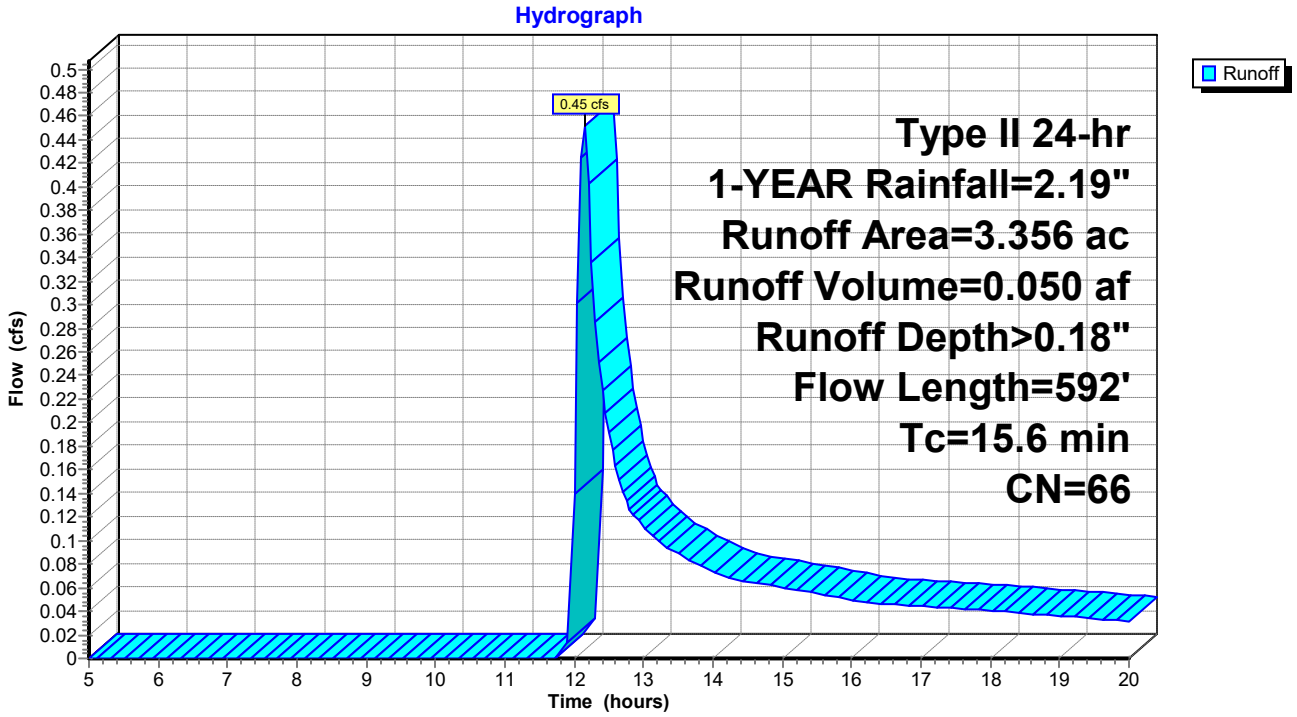
Runoff = 0.45 cfs @ 12.14 hrs, Volume= 0.050 af, Depth> 0.18"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YEAR Rainfall=2.19"

Area (ac)	CN	Description
2.398	60	Woods, Fair, HSG B
0.041	91	Fallow, bare soil, HSG C
0.917	79	Woods, Fair, HSG D
3.356	66	Weighted Average
3.356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.1052	0.13		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
2.6	242	0.0970	1.56		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
0.1	75	0.1509	19.72	528.47	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.2	175	0.0724	13.66	366.05	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
15.6	592	Total			

Subcatchment EDA 2: EDA 2

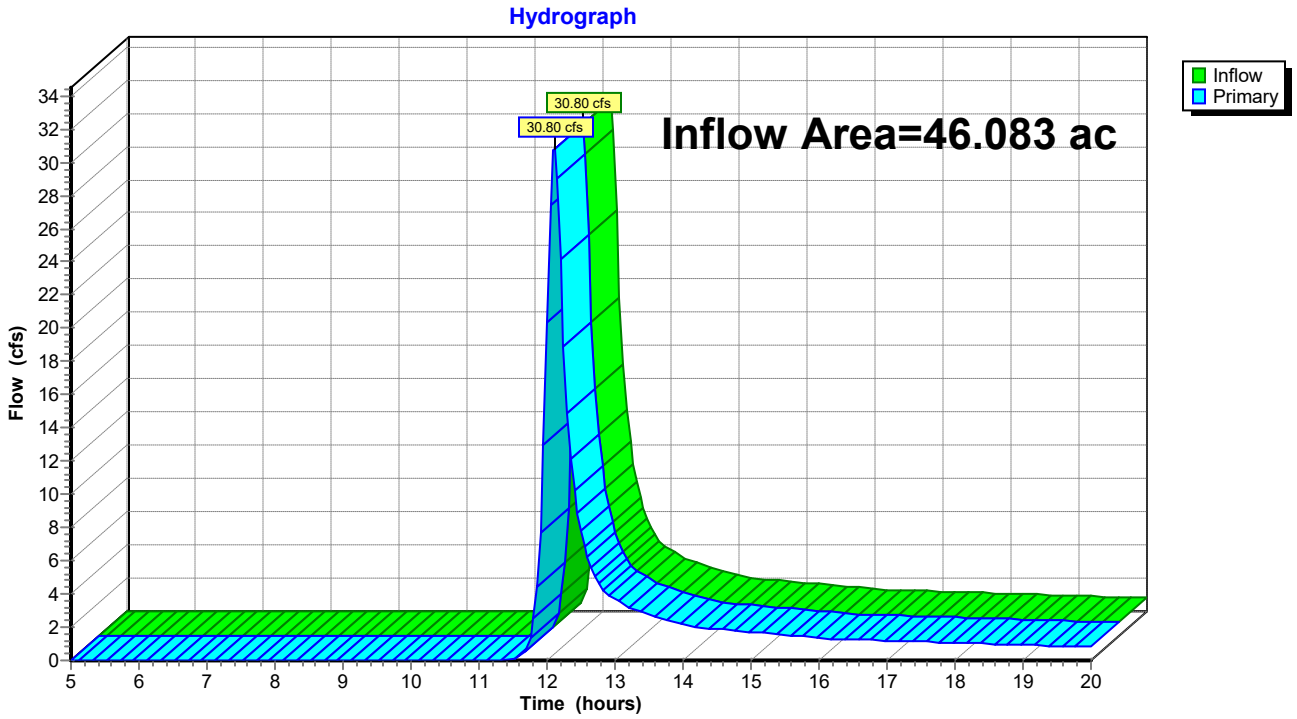


Summary for Link AP-1: AP-1

Inflow Area = 46.083 ac, 0.00% Impervious, Inflow Depth > 0.53" for 1-YEAR event
Inflow = 30.80 cfs @ 12.11 hrs, Volume= 2.031 af
Primary = 30.80 cfs @ 12.11 hrs, Volume= 2.031 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

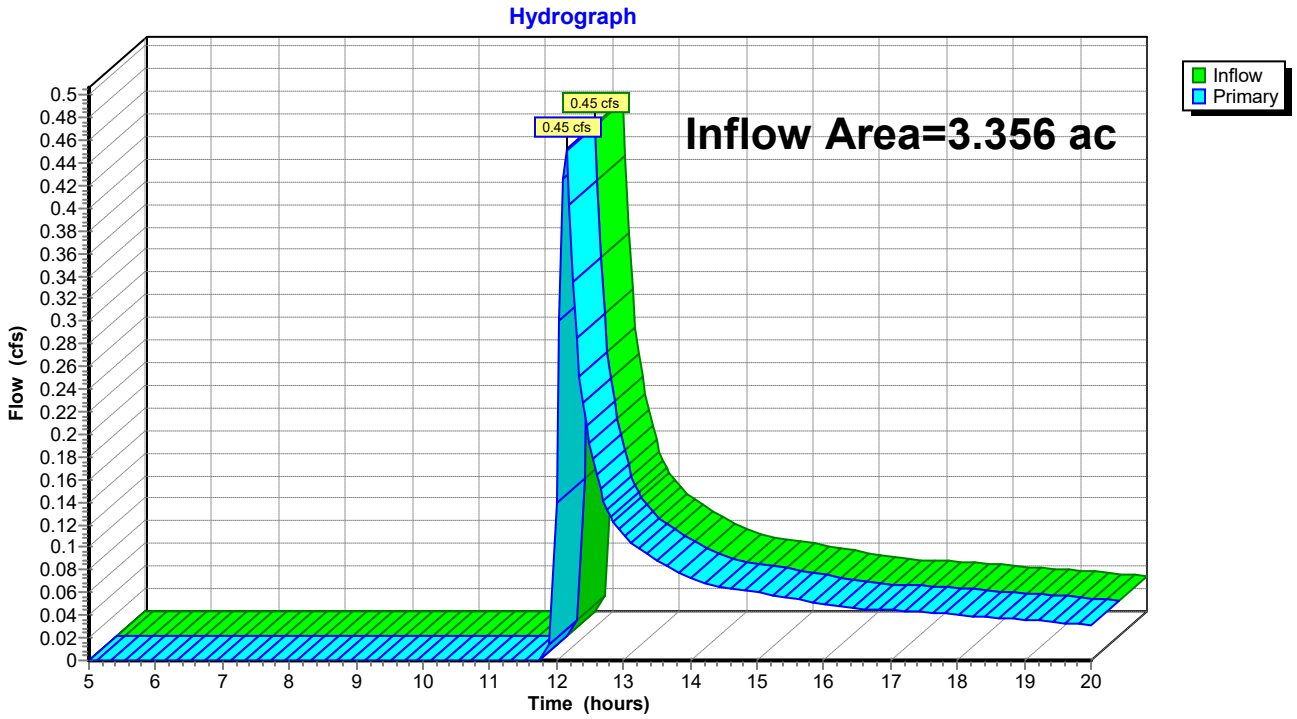


Summary for Link AP-2: AP-2

Inflow Area = 3.356 ac, 0.00% Impervious, Inflow Depth > 0.18" for 1-YEAR event
Inflow = 0.45 cfs @ 12.14 hrs, Volume= 0.050 af
Primary = 0.45 cfs @ 12.14 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EDA 1: EDA 1 Runoff Area=46.083 ac 0.00% Impervious Runoff Depth>1.36"
Flow Length=1,642' Tc=16.7 min CN=78 Runoff=83.42 cfs 5.233 af

Subcatchment EDA 2: EDA 2 Runoff Area=3.356 ac 0.00% Impervious Runoff Depth>0.71"
Flow Length=592' Tc=15.6 min CN=66 Runoff=2.98 cfs 0.197 af

Link AP-1: AP-1 Inflow=83.42 cfs 5.233 af
Primary=83.42 cfs 5.233 af

Link AP-2: AP-2 Inflow=2.98 cfs 0.197 af
Primary=2.98 cfs 0.197 af

Total Runoff Area = 49.439 ac Runoff Volume = 5.431 af Average Runoff Depth = 1.32"
100.00% Pervious = 49.439 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA 1: EDA 1

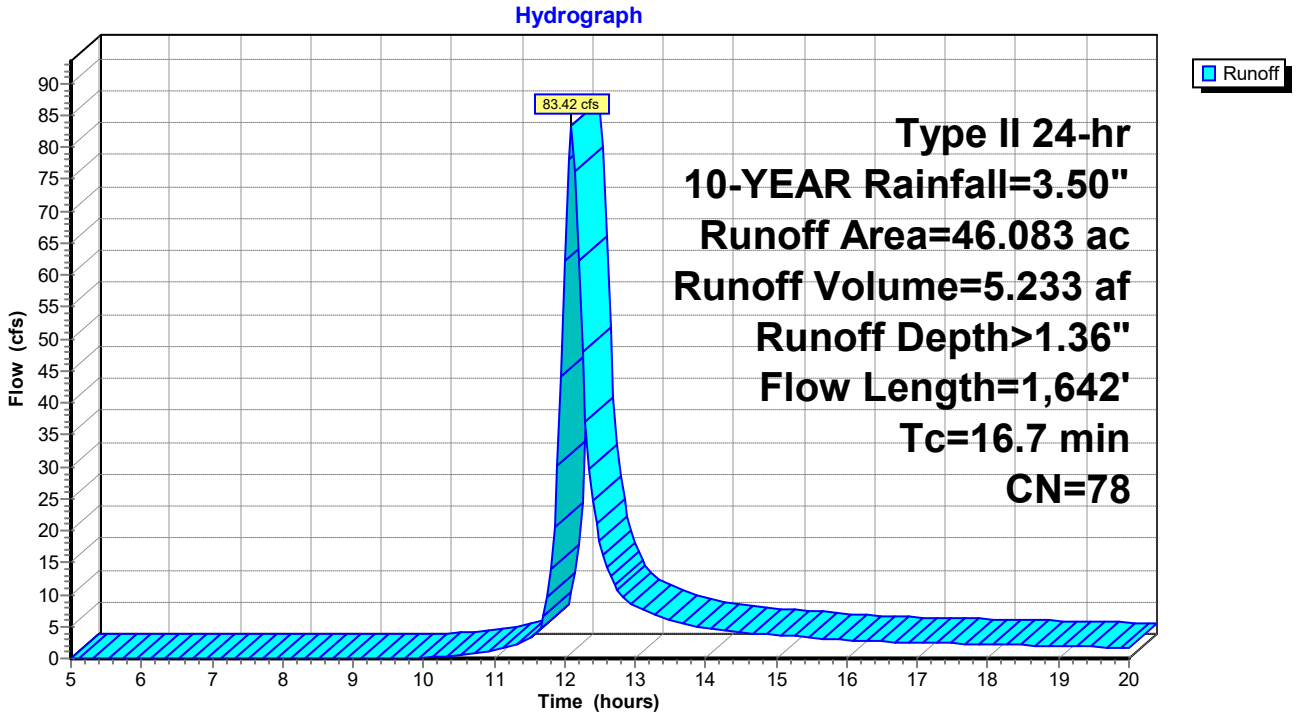
Runoff = 83.42 cfs @ 12.10 hrs, Volume= 5.233 af, Depth> 1.36"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=3.50"

Area (ac)	CN	Description
6.516	60	Woods, Fair, HSG B
8.023	86	Fallow, bare soil, HSG B
4.847	36	Woods, Fair, HSG A
9.756	79	Woods, Fair, HSG D
16.878	94	Fallow, bare soil, HSG D
0.063	73	Woods, Fair, HSG C
46.083	78	Weighted Average
46.083		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.1134	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
0.7	68	0.1107	1.66		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
2.5	419	0.0768	2.77		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
1.2	991	0.0701	13.44	360.19	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.0	64	0.2428	25.01	670.34	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
16.7	1,642	Total			

Subcatchment EDA 1: EDA 1



Summary for Subcatchment EDA 2: EDA 2

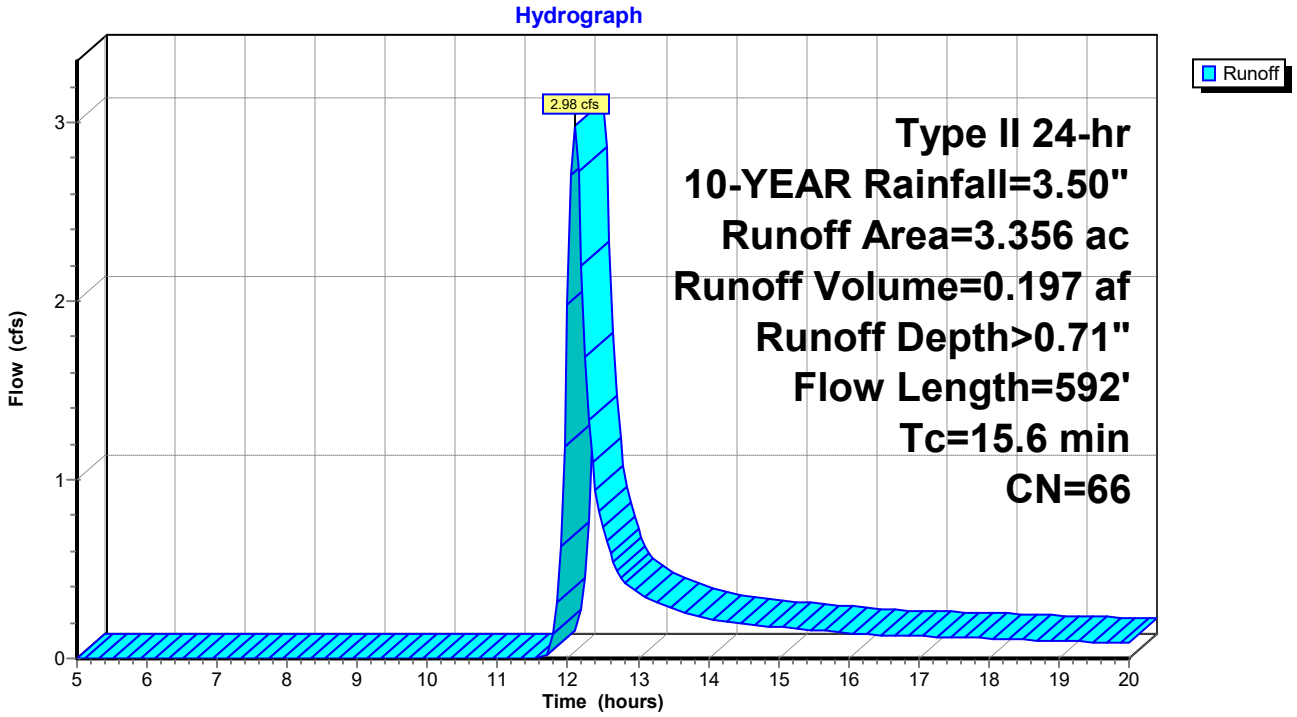
Runoff = 2.98 cfs @ 12.10 hrs, Volume= 0.197 af, Depth> 0.71"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=3.50"

Area (ac)	CN	Description
2.398	60	Woods, Fair, HSG B
0.041	91	Fallow, bare soil, HSG C
0.917	79	Woods, Fair, HSG D
3.356	66	Weighted Average
3.356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.1052	0.13		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
2.6	242	0.0970	1.56		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
0.1	75	0.1509	19.72	528.47	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.2	175	0.0724	13.66	366.05	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
15.6	592	Total			

Subcatchment EDA 2: EDA 2

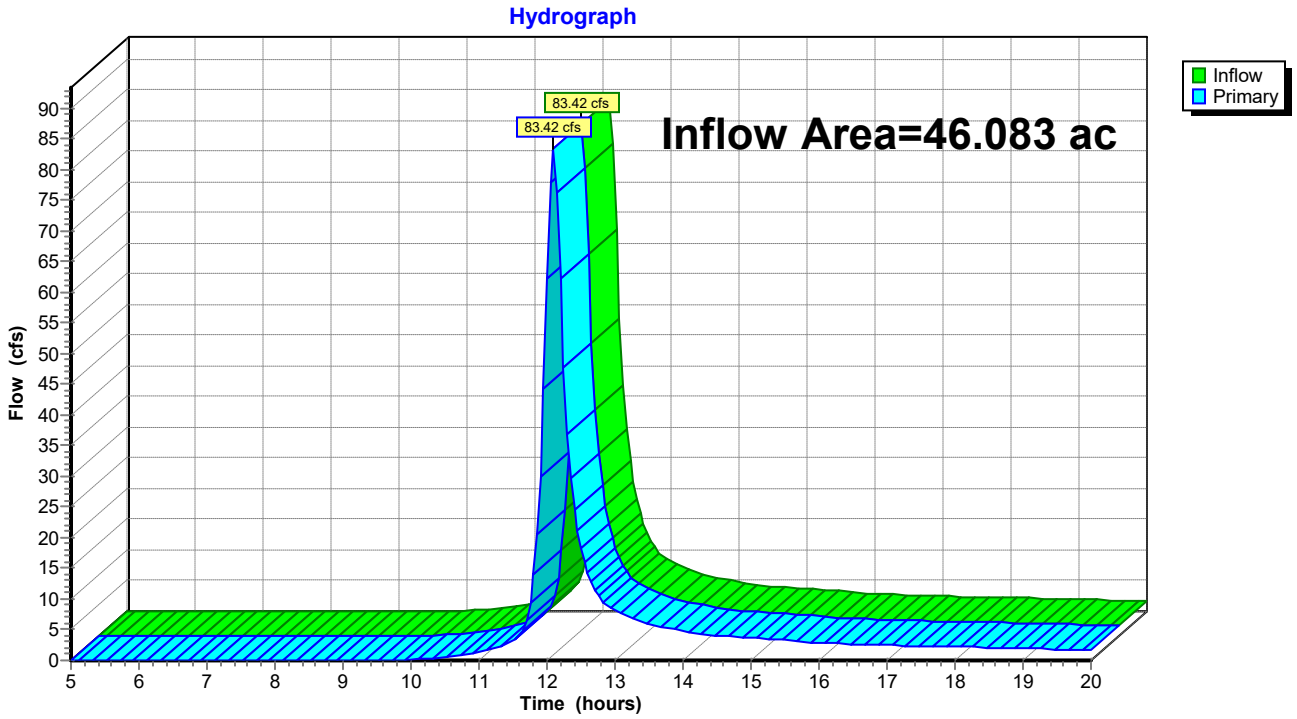


Summary for Link AP-1: AP-1

Inflow Area = 46.083 ac, 0.00% Impervious, Inflow Depth > 1.36" for 10-YEAR event
Inflow = 83.42 cfs @ 12.10 hrs, Volume= 5.233 af
Primary = 83.42 cfs @ 12.10 hrs, Volume= 5.233 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

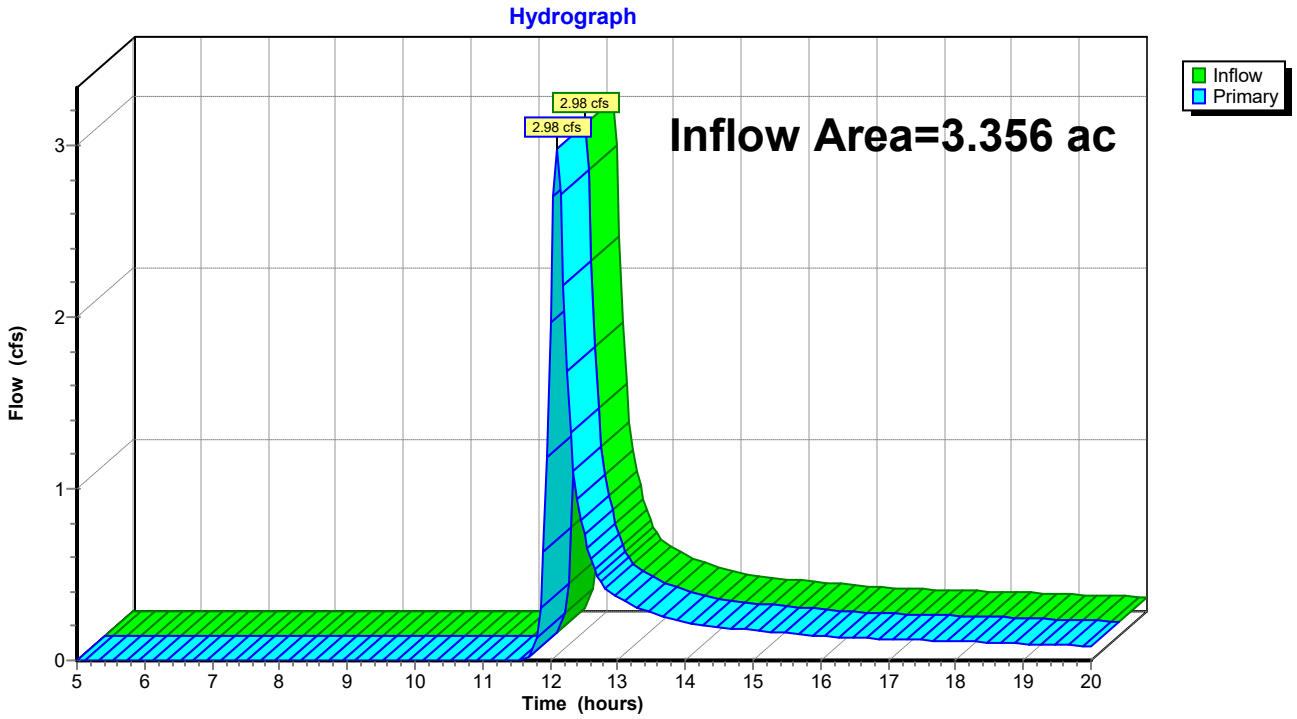


Summary for Link AP-2: AP-2

Inflow Area = 3.356 ac, 0.00% Impervious, Inflow Depth > 0.71" for 10-YEAR event
Inflow = 2.98 cfs @ 12.10 hrs, Volume= 0.197 af
Primary = 2.98 cfs @ 12.10 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EDA 1: EDA 1 Runoff Area=46.083 ac 0.00% Impervious Runoff Depth>3.07"
Flow Length=1,642' Tc=16.7 min CN=78 Runoff=186.60 cfs 11.790 af

Subcatchment EDA 2: EDA 2 Runoff Area=3.356 ac 0.00% Impervious Runoff Depth>2.02"
Flow Length=592' Tc=15.6 min CN=66 Runoff=9.27 cfs 0.565 af

Link AP-1: AP-1 Inflow=186.60 cfs 11.790 af
Primary=186.60 cfs 11.790 af

Link AP-2: AP-2 Inflow=9.27 cfs 0.565 af
Primary=9.27 cfs 0.565 af

Total Runoff Area = 49.439 ac Runoff Volume = 12.355 af Average Runoff Depth = 3.00"
100.00% Pervious = 49.439 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA 1: EDA 1

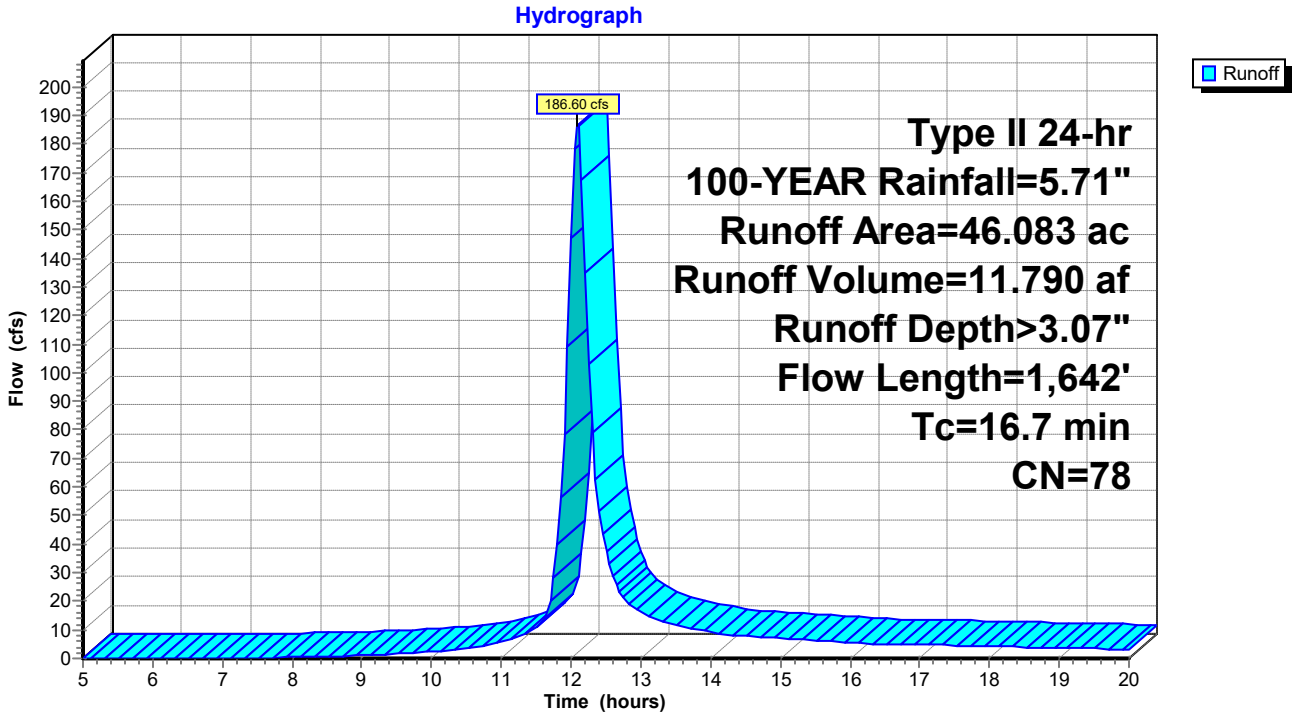
Runoff = 186.60 cfs @ 12.09 hrs, Volume= 11.790 af, Depth> 3.07"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YEAR Rainfall=5.71"

Area (ac)	CN	Description
6.516	60	Woods, Fair, HSG B
8.023	86	Fallow, bare soil, HSG B
4.847	36	Woods, Fair, HSG A
9.756	79	Woods, Fair, HSG D
16.878	94	Fallow, bare soil, HSG D
0.063	73	Woods, Fair, HSG C
46.083	78	Weighted Average
46.083		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.1134	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
0.7	68	0.1107	1.66		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
2.5	419	0.0768	2.77		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
1.2	991	0.0701	13.44	360.19	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.0	64	0.2428	25.01	670.34	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
16.7	1,642	Total			

Subcatchment EDA 1: EDA 1



Summary for Subcatchment EDA 2: EDA 2

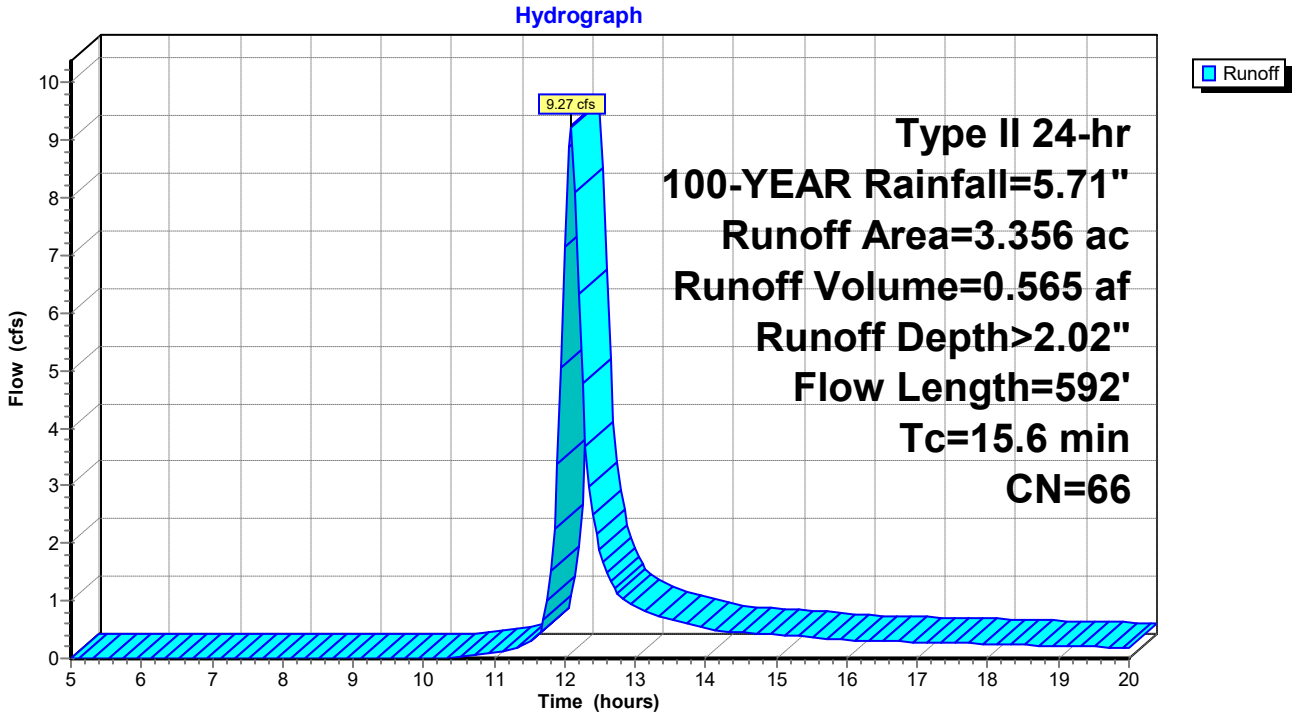
Runoff = 9.27 cfs @ 12.09 hrs, Volume= 0.565 af, Depth> 2.02"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YEAR Rainfall=5.71"

Area (ac)	CN	Description
2.398	60	Woods, Fair, HSG B
0.041	91	Fallow, bare soil, HSG C
0.917	79	Woods, Fair, HSG D
3.356	66	Weighted Average
3.356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.1052	0.13		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
2.6	242	0.0970	1.56		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
0.1	75	0.1509	19.72	528.47	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.2	175	0.0724	13.66	366.05	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
15.6	592	Total			

Subcatchment EDA 2: EDA 2

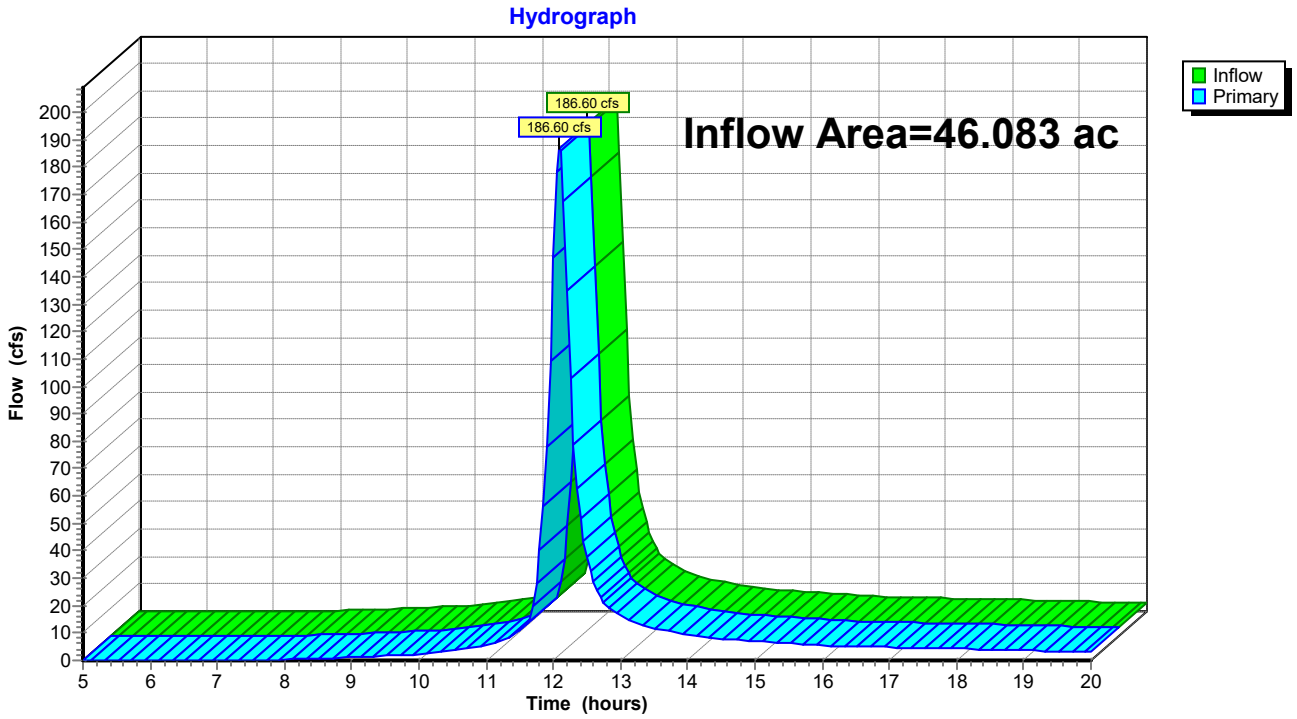


Summary for Link AP-1: AP-1

Inflow Area = 46.083 ac, 0.00% Impervious, Inflow Depth > 3.07" for 100-YEAR event
Inflow = 186.60 cfs @ 12.09 hrs, Volume= 11.790 af
Primary = 186.60 cfs @ 12.09 hrs, Volume= 11.790 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

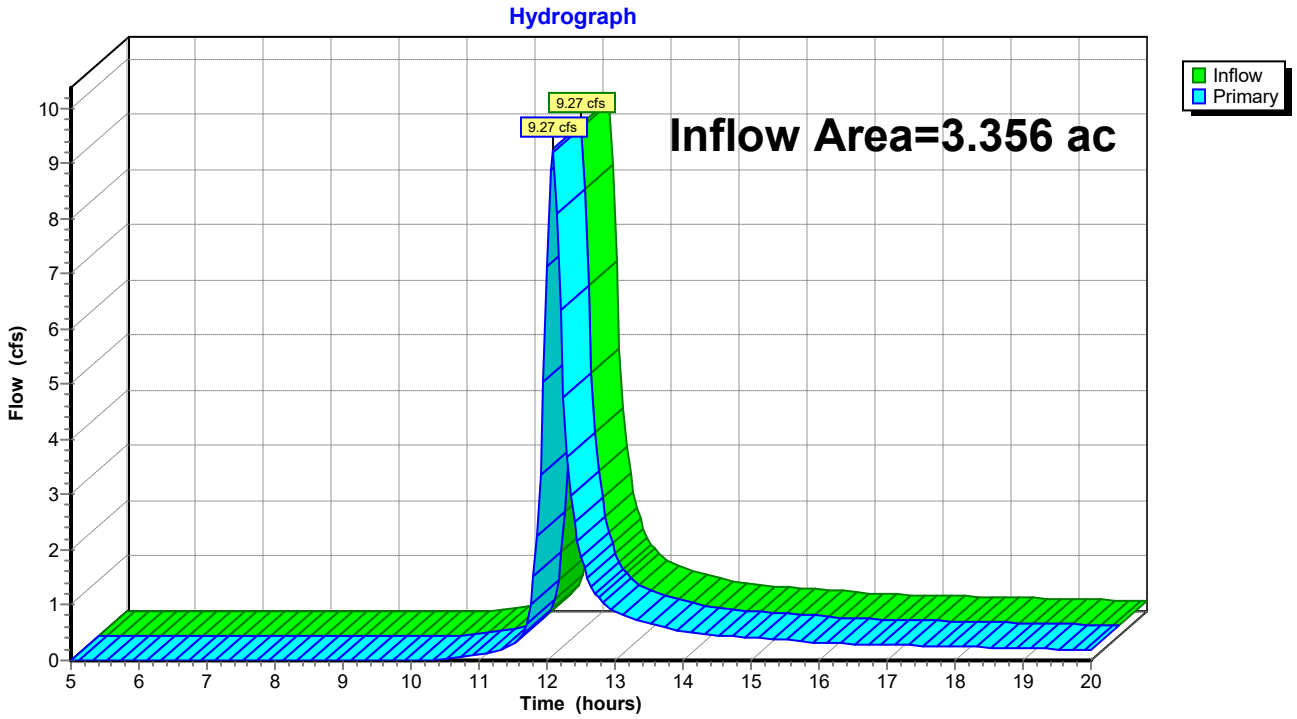


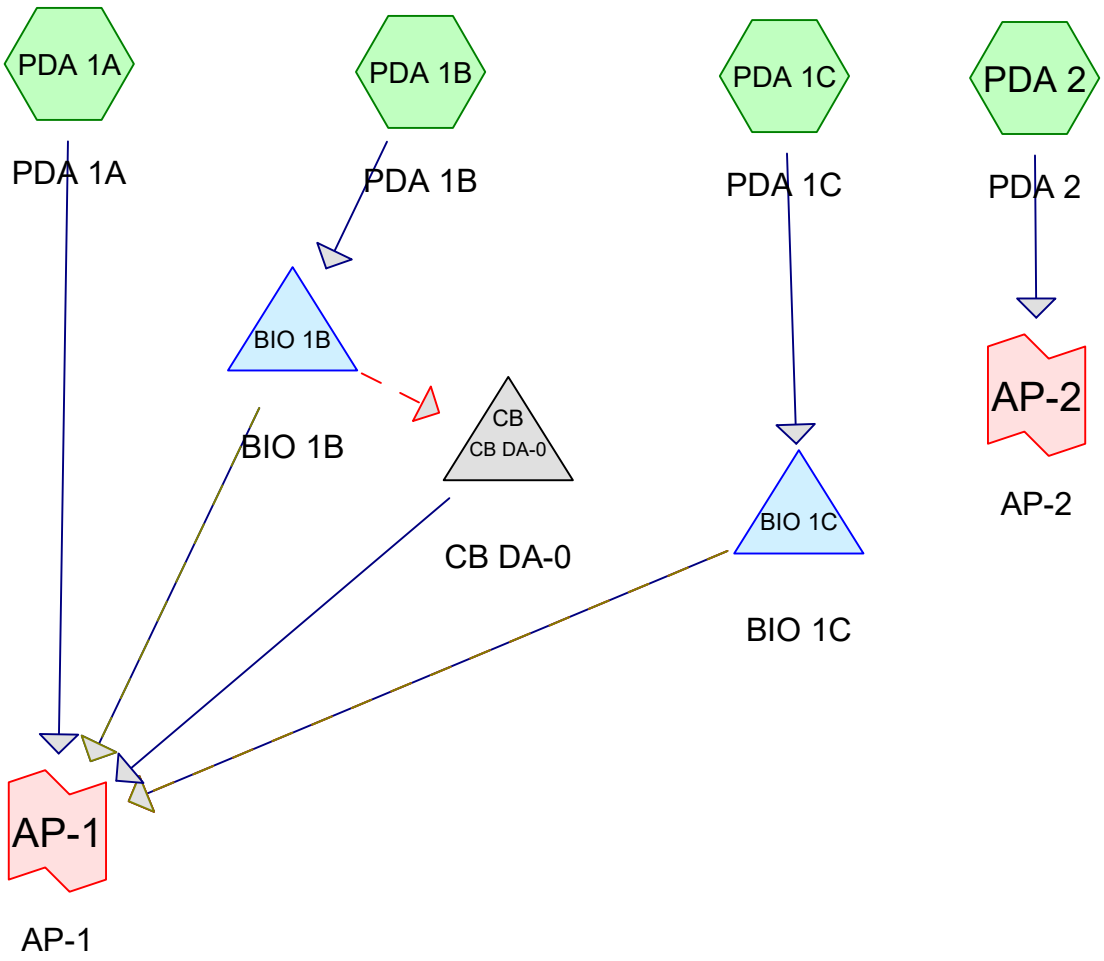
Summary for Link AP-2: AP-2

Inflow Area = 3.356 ac, 0.00% Impervious, Inflow Depth > 2.02" for 100-YEAR event
Inflow = 9.27 cfs @ 12.09 hrs, Volume= 0.565 af
Primary = 9.27 cfs @ 12.09 hrs, Volume= 0.565 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2





Subcat Reach Pond Link

Routing Diagram for SL Amsterdam PROPOSED
Prepared by Passero Associates, Printed 10/16/2026
HydroCAD® 10.20-4c s/n 13263 © 2024 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-YEAR	Type II 24-hr		Default	24.00	1	2.19	2
2	10-YEAR	Type II 24-hr		Default	24.00	1	3.50	2
3	100-YEAR	Type II 24-hr		Default	24.00	1	5.71	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.755	61	>75% Grass cover, Good, HSG B (PDA 1A, PDA 1B, PDA 1C)
9.303	80	>75% Grass cover, Good, HSG D (PDA 1A, PDA 1B, PDA 1C)
0.041	91	Fallow, bare soil, HSG C (PDA 2)
10.776	94	Fallow, bare soil, HSG D (PDA 1A)
0.370	96	Gravel surface, HSG B (PDA 1A, PDA 1B, PDA 1C)
4.847	36	Woods, Fair, HSG A (PDA 1A)
10.769	60	Woods, Fair, HSG B (PDA 1A, PDA 2)
10.586	79	Woods, Fair, HSG D (PDA 1A, PDA 2)
49.447	**73**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
4.847	HSG A	PDA 1A
13.894	HSG B	PDA 1A, PDA 1B, PDA 1C, PDA 2
0.041	HSG C	PDA 2
30.665	HSG D	PDA 1A, PDA 1B, PDA 1C, PDA 2
0.000	Other	
49.447		**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	2.755	0.000	9.303	0.000	12.058	>75% Grass cover, Good	PDA 1A, PDA 1B, PDA 1C
0.000	0.000	0.041	10.776	0.000	10.817	Fallow, bare soil	PDA 1A, PDA 2
0.000	0.370	0.000	0.000	0.000	0.370	Gravel surface	PDA 1A, PDA 1B, PDA 1C
4.847	10.769	0.000	10.586	0.000	26.202	Woods, Fair	PDA 1A, PDA 2
4.847	**13.894**	**0.041**	**30.665**	**0.000**	**49.447**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PDA 1A: PDA 1A Runoff Area=40.890 ac 0.00% Impervious Runoff Depth>0.39"
Flow Length=1,642' Tc=16.7 min CN=74 Runoff=18.42 cfs 1.318 af

Subcatchment PDA 1B: PDA 1B Runoff Area=4.971 ac 0.00% Impervious Runoff Depth>0.42"
Flow Length=1,487' Tc=24.5 min CN=75 Runoff=1.94 cfs 0.173 af

Subcatchment PDA 1C: PDA 1C Runoff Area=0.230 ac 0.00% Impervious Runoff Depth>0.46"
Flow Length=179' Tc=13.0 min CN=76 Runoff=0.15 cfs 0.009 af

Subcatchment PDA 2: PDA 2 Runoff Area=3.356 ac 0.00% Impervious Runoff Depth>0.18"
Flow Length=592' Tc=15.6 min CN=66 Runoff=0.45 cfs 0.050 af

Pond BIO 1B: BIO 1B Peak Elev=336.82' Storage=0.023 af Inflow=1.94 cfs 0.173 af
Primary=0.02 cfs 0.010 af Secondary=1.72 cfs 0.151 af Tertiary=0.00 cfs 0.000 af Outflow=1.73 cfs 0.161 af

Pond BIO 1C: BIO 1C Peak Elev=371.51' Storage=0.005 af Inflow=0.15 cfs 0.009 af
Primary=0.01 cfs 0.004 af Secondary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.004 af

Pond CB DA-0: CB DA-0 Peak Elev=369.21' Inflow=1.72 cfs 0.151 af
Outflow=1.72 cfs 0.151 af

Link AP-1: AP-1 Inflow=18.63 cfs 1.484 af
Primary=18.63 cfs 1.484 af

Link AP-2: AP-2 Inflow=0.45 cfs 0.050 af
Primary=0.45 cfs 0.050 af

Total Runoff Area = 49.447 ac Runoff Volume = 1.550 af Average Runoff Depth = 0.38"
100.00% Pervious = 49.447 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment PDA 1A: PDA 1A

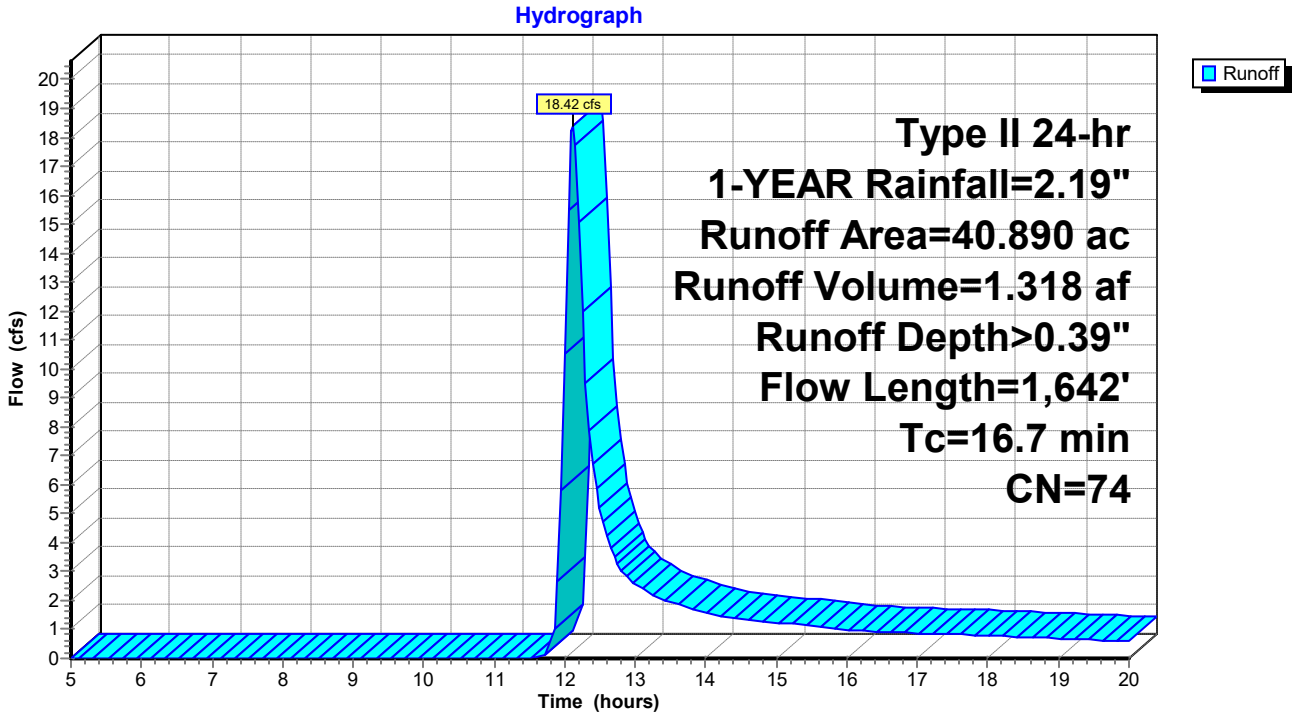
Runoff = 18.42 cfs @ 12.12 hrs, Volume= 1.318 af, Depth> 0.39"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YEAR Rainfall=2.19"

Area (ac)	CN	Description
0.030	96	Gravel surface, HSG B
9.669	79	Woods, Fair, HSG D
4.847	36	Woods, Fair, HSG A
10.776	94	Fallow, bare soil, HSG D
1.236	61	>75% Grass cover, Good, HSG B
5.961	80	>75% Grass cover, Good, HSG D
8.371	60	Woods, Fair, HSG B
40.890	74	Weighted Average
40.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.1134	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
0.7	68	0.1107	1.66		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
2.5	419	0.0768	2.77		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
1.2	991	0.0701	13.44	360.19	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.0	64	0.2428	25.01	670.34	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
16.7	1,642	Total			

Subcatchment PDA 1A: PDA 1A



Summary for Subcatchment PDA 1B: PDA 1B

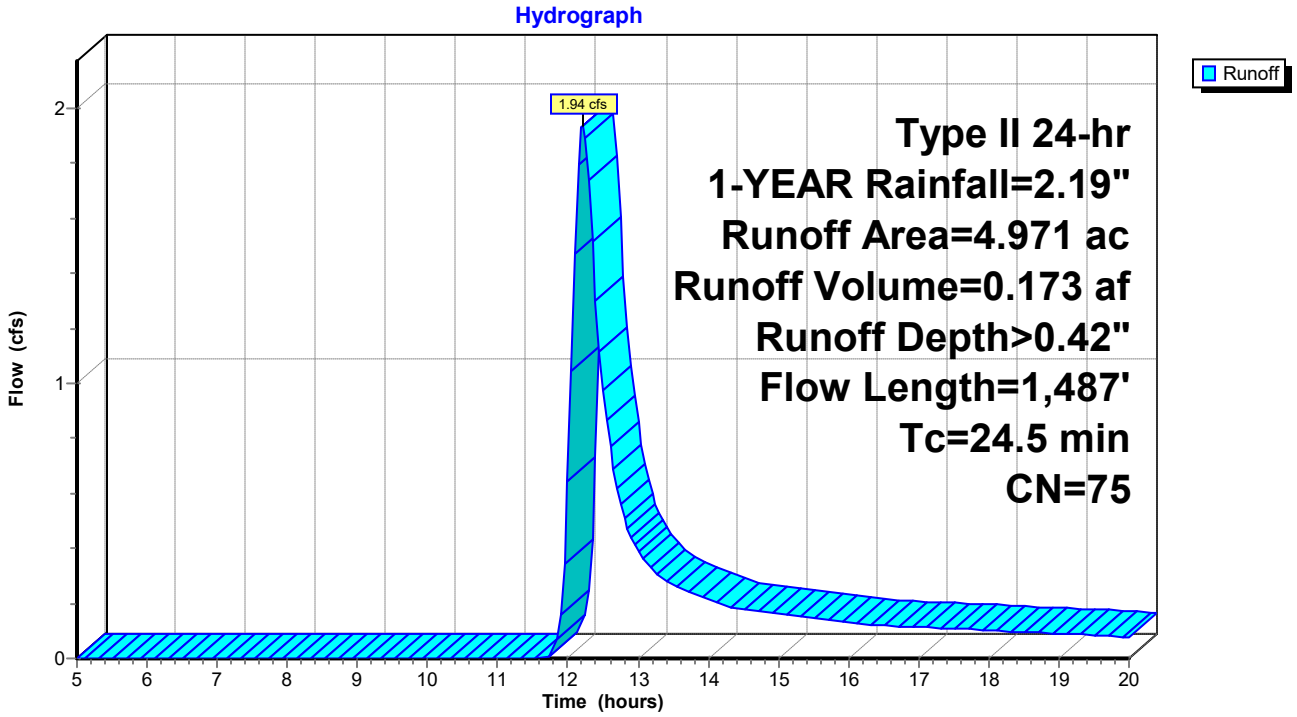
Runoff = 1.94 cfs @ 12.21 hrs, Volume= 0.173 af, Depth> 0.42"
Routed to Pond BIO 1B : BIO 1B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YEAR Rainfall=2.19"

Area (ac)	CN	Description
0.044	80	>75% Grass cover, Good, HSG D
3.250	80	>75% Grass cover, Good, HSG D
0.270	96	Gravel surface, HSG B
1.407	61	>75% Grass cover, Good, HSG B
4.971	75	Weighted Average
4.971		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.7	100	0.0127	0.08		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 2.42"
4.0	895	0.0531	3.71		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
0.1	26	0.0467	4.39		**Shallow Concentrated Flow, Shallow Conc** Paved Kv= 20.3 fps
0.7	466	0.0938	11.22	39.28	**Channel Flow, Channel Flow** Area= 3.5 sf Perim= 5.5' r= 0.64' n= 0.030 Earth, grassed & winding
24.5	1,487	Total			

Subcatchment PDA 1B: PDA 1B



Summary for Subcatchment PDA 1C: PDA 1C

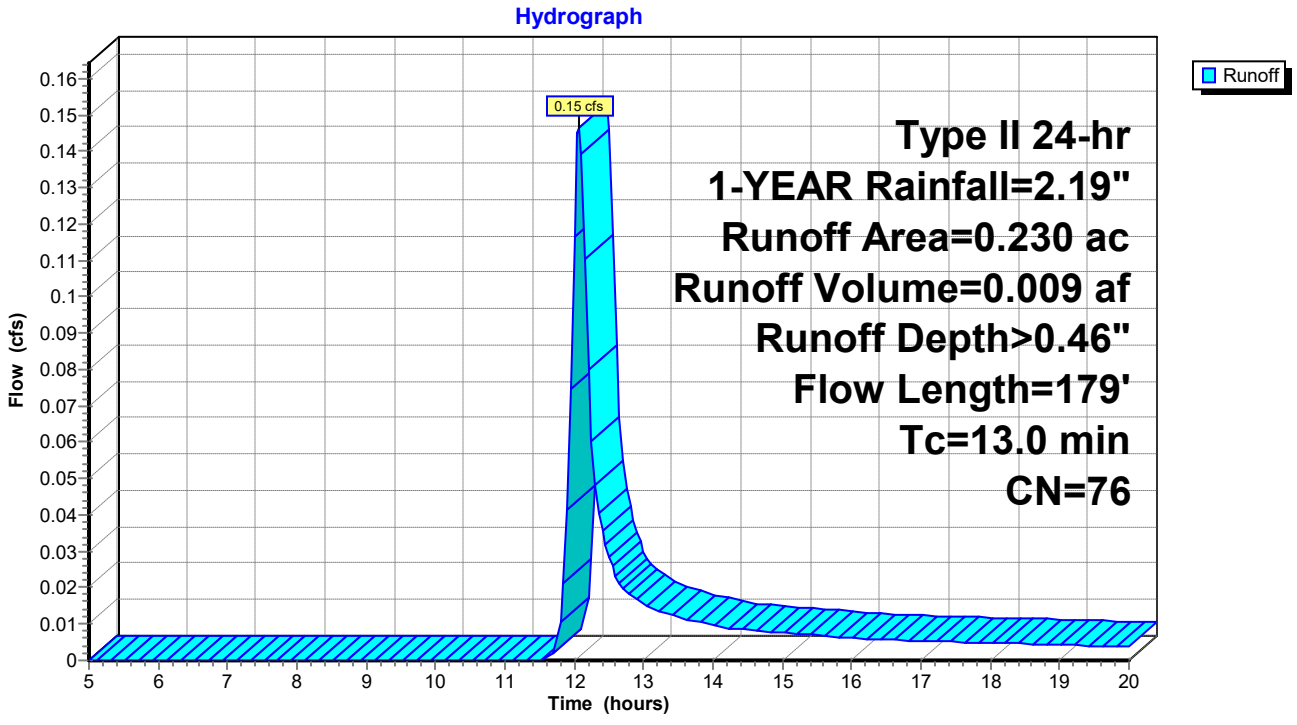
Runoff = 0.15 cfs @ 12.07 hrs, Volume= 0.009 af, Depth> 0.46"
Routed to Pond BIO 1C : BIO 1C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YEAR Rainfall=2.19"

Area (ac)	CN	Description
0.048	80	>75% Grass cover, Good, HSG D
0.112	61	>75% Grass cover, Good, HSG B
0.070	96	Gravel surface, HSG B
0.230	76	Weighted Average
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0377	0.13		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 2.42"
0.3	79	0.0650	5.18		**Shallow Concentrated Flow, Shallow Conc** Paved Kv= 20.3 fps
13.0	179	Total			

Subcatchment PDA 1C: PDA 1C



Summary for Subcatchment PDA 2: PDA 2

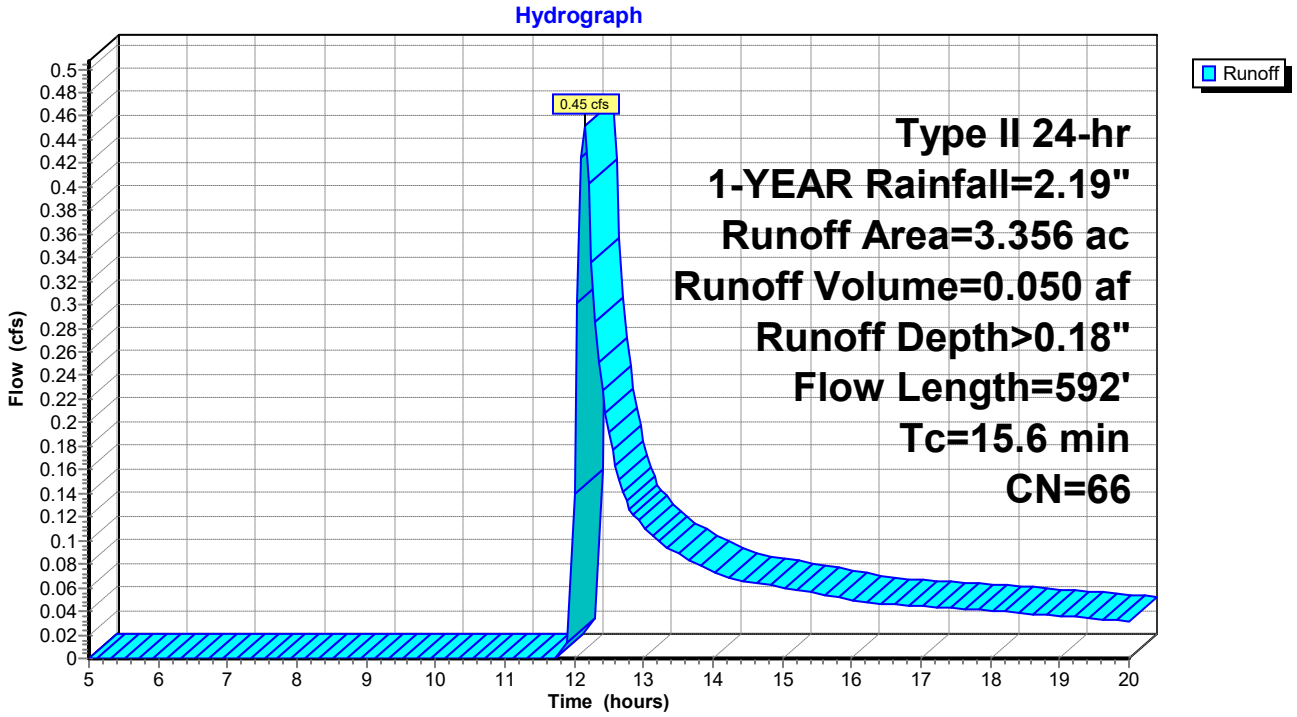
Runoff = 0.45 cfs @ 12.14 hrs, Volume= 0.050 af, Depth> 0.18"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-YEAR Rainfall=2.19"

Area (ac)	CN	Description
2.398	60	Woods, Fair, HSG B
0.041	91	Fallow, bare soil, HSG C
0.917	79	Woods, Fair, HSG D
3.356	66	Weighted Average
3.356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.1052	0.13		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
2.6	242	0.0970	1.56		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
0.1	75	0.1509	19.72	528.47	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.2	175	0.0724	13.66	366.05	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
15.6	592	Total			

Subcatchment PDA 2: PDA 2



Summary for Pond BIO 1B: BIO 1B

Inflow Area = 4.971 ac, 0.00% Impervious, Inflow Depth > 0.42" for 1-YEAR event
Inflow = 1.94 cfs @ 12.21 hrs, Volume= 0.173 af
Outflow = 1.73 cfs @ 12.31 hrs, Volume= 0.161 af, Atten= 11%, Lag= 5.6 min
Primary = 0.02 cfs @ 12.31 hrs, Volume= 0.010 af
Routed to Link AP-1 : AP-1
Secondary = 1.72 cfs @ 12.31 hrs, Volume= 0.151 af
Routed to Pond CB DA-0 : CB DA-0
Tertiary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 336.82' @ 12.31 hrs Surf.Area= 0.032 ac Storage= 0.023 af

Plug-Flow detention time= 36.5 min calculated for 0.161 af (93% of inflow)
Center-of-Mass det. time= 13.3 min (852.4 - 839.1)

Volume	Invert	Avail.Storage	Storage Description
#1	336.00'	0.049 af	**ABOVE MEDIA (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
336.00	0.025	0.000	0.000
337.00	0.034	0.029	0.029
337.50	0.045	0.020	0.049

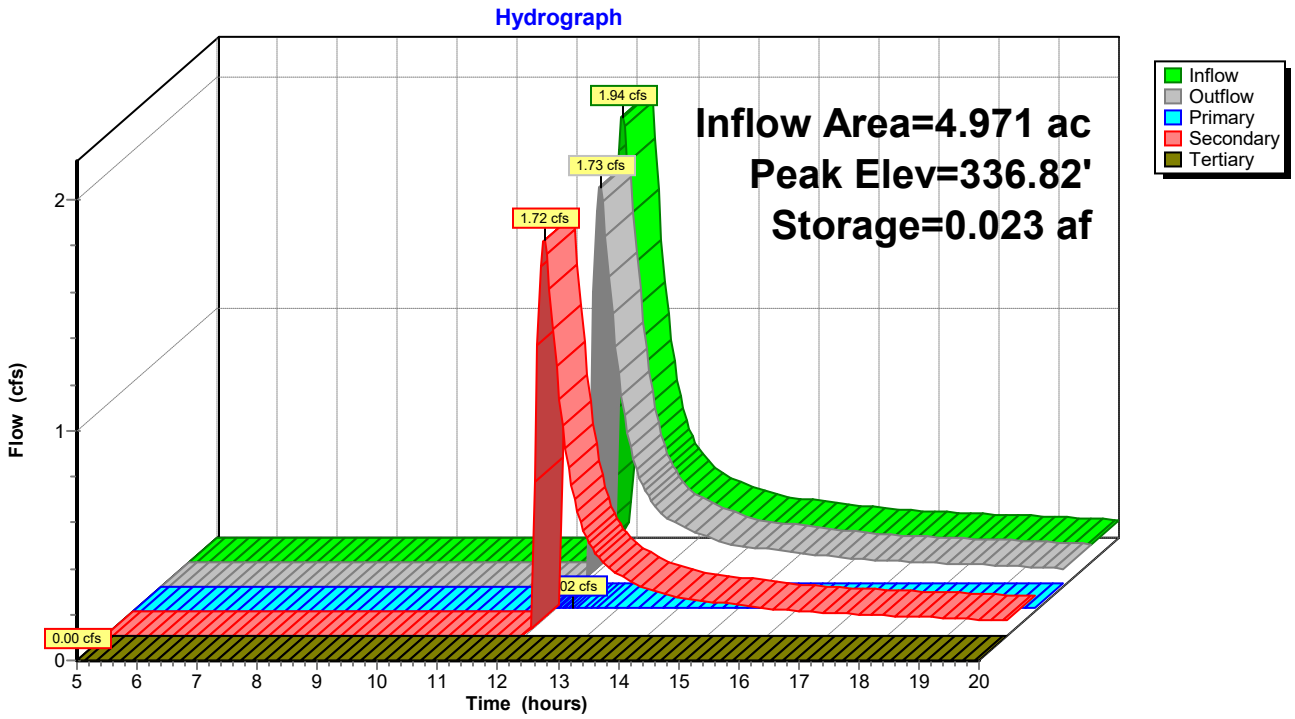
Device	Routing	Invert	Outlet Devices
#1	Tertiary	336.90'	**10.0' long SPILLWAY** 2 End Contraction(s)
#2	Primary	336.00'	**0.500 in/hr EXFILTRATION over Surface area** Conductivity to Groundwater Elevation = 300.00'
#3	Secondary	336.40'	**24.0" W x 24.0" H Vert. 2'x2' CB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 12.31 hrs HW=336.81' (Free Discharge)
↑—**2=EXFILTRATION** (Controls 0.02 cfs)

Secondary OutFlow Max=1.71 cfs @ 12.31 hrs HW=336.81' (Free Discharge)
↑—**3=2'x2' CB** (Orifice Controls 1.71 cfs @ 2.06 fps)

Tertiary OutFlow Max=0.00 cfs @ 5.00 hrs HW=336.00' (Free Discharge)
↑—**1=SPILLWAY** (Controls 0.00 cfs)

Pond BIO 1B: BIO 1B



Summary for Pond BIO 1C: BIO 1C

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 0.46" for 1-YEAR event
Inflow = 0.15 cfs @ 12.07 hrs, Volume= 0.009 af
Outflow = 0.01 cfs @ 15.83 hrs, Volume= 0.004 af, Atten= 96%, Lag= 225.7 min
Primary = 0.01 cfs @ 15.83 hrs, Volume= 0.004 af
Routed to Link AP-1 : AP-1
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 371.51' @ 15.83 hrs Surf.Area= 0.013 ac Storage= 0.005 af

Plug-Flow detention time= 231.0 min calculated for 0.004 af (48% of inflow)
Center-of-Mass det. time= 132.4 min (960.0 - 827.6)

Volume	Invert	Avail.Storage	Storage Description
#1	371.00'	0.025 af	**ABOVE MEDIA (Prismatic)** Listed below (Recalc)

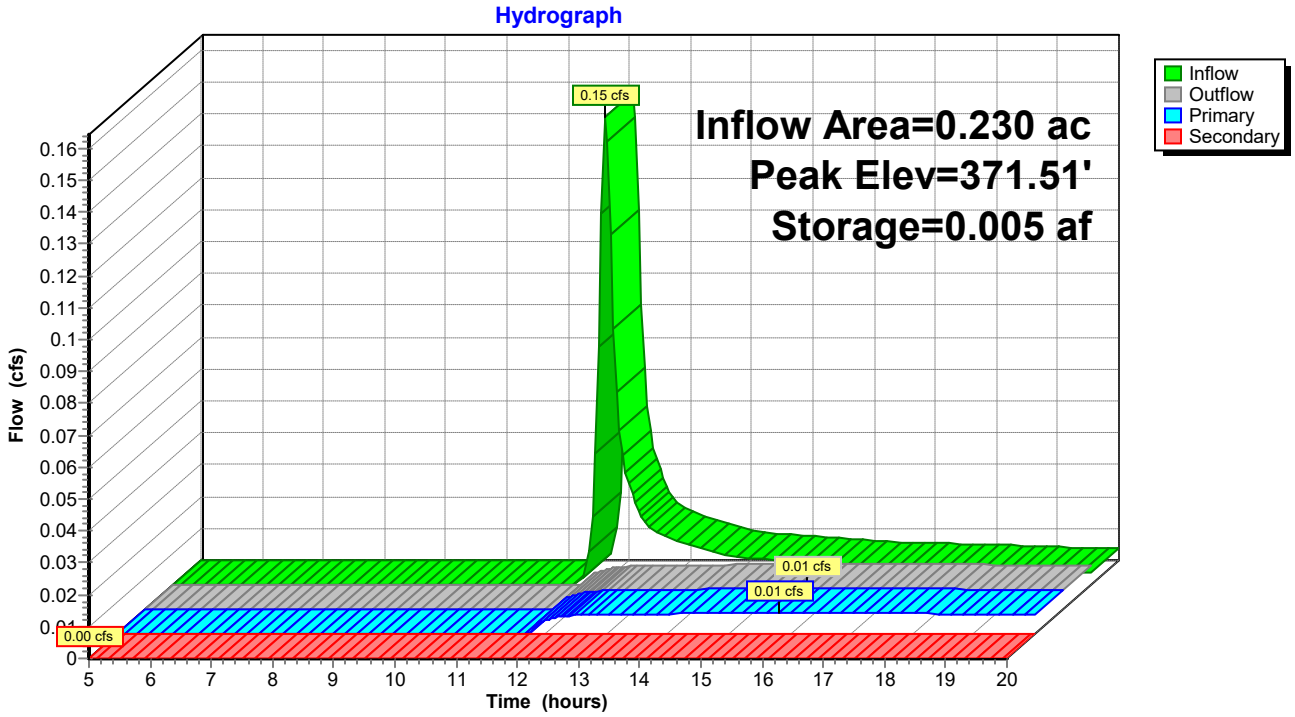
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
371.00	0.007	0.000	0.000
372.00	0.018	0.013	0.013
372.50	0.032	0.012	0.025

Device	Routing	Invert	Outlet Devices
#1	Secondary	371.90'	**10.0' long SPILLWAY** 2 End Contraction(s)
#2	Primary	371.00'	**0.500 in/hr EXFILTRATION over Surface area** Conductivity to Groundwater Elevation = 300.00'

Primary OutFlow Max=0.01 cfs @ 15.83 hrs HW=371.51' (Free Discharge)
↑—**2=EXFILTRATION** (Controls 0.01 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=371.00' (Free Discharge)
↑—**1=SPILLWAY** (Controls 0.00 cfs)

Pond BIO 1C: BIO 1C



Summary for Pond CB DA-0: CB DA-0

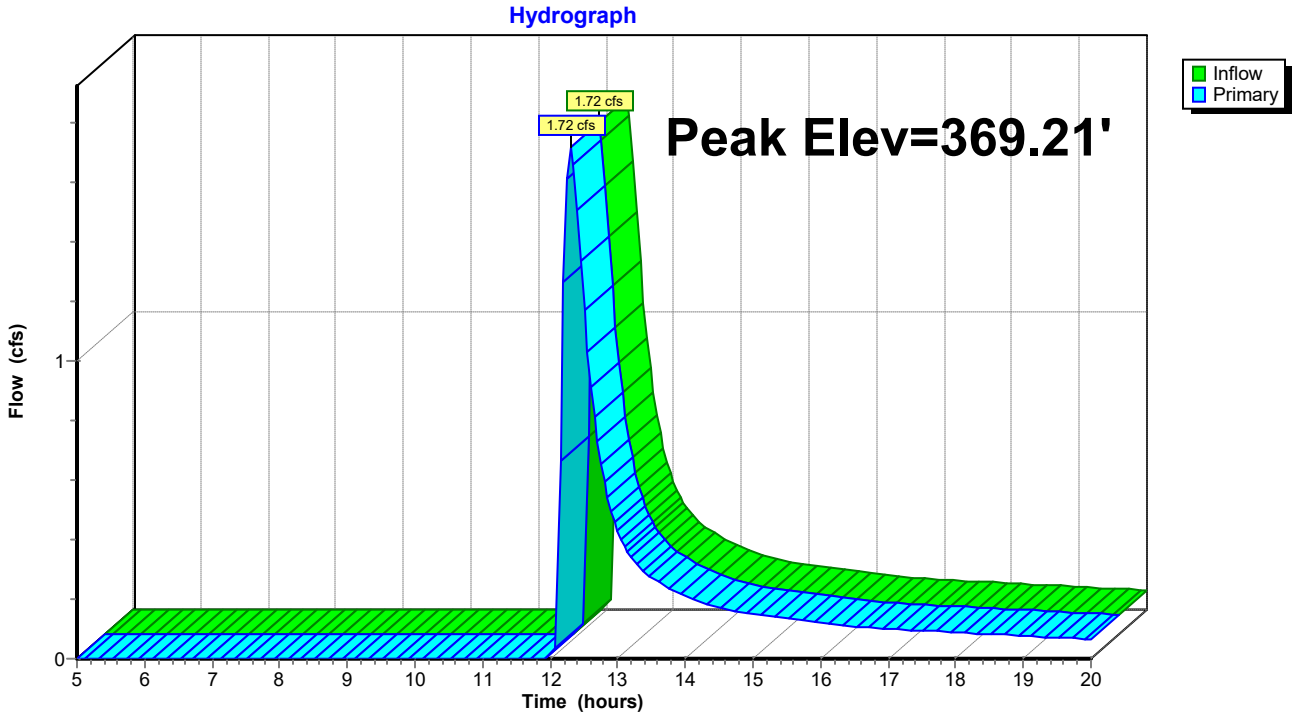
Inflow = 1.72 cfs @ 12.31 hrs, Volume= 0.151 af
Outflow = 1.72 cfs @ 12.31 hrs, Volume= 0.151 af, Atten= 0%, Lag= 0.0 min
Primary = 1.72 cfs @ 12.31 hrs, Volume= 0.151 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 369.21' @ 12.31 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	368.50'	**12.0" Vert. 12" OUTLET PIPE** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.71 cfs @ 12.31 hrs HW=369.21' (Free Discharge)
└**1=12" OUTLET PIPE** (Orifice Controls 1.71 cfs @ 2.87 fps)

Pond CB DA-0: CB DA-0

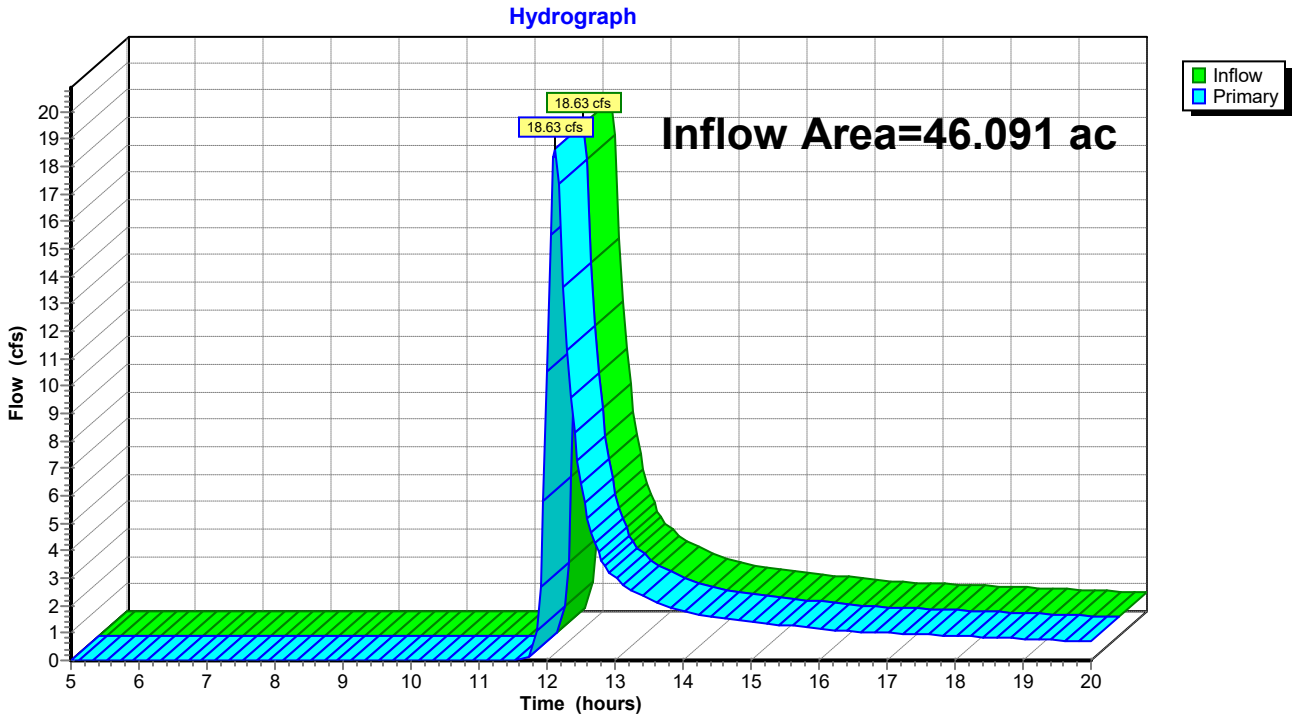


Summary for Link AP-1: AP-1

Inflow Area = 46.091 ac, 0.00% Impervious, Inflow Depth > 0.39" for 1-YEAR event
Inflow = 18.63 cfs @ 12.13 hrs, Volume= 1.484 af
Primary = 18.63 cfs @ 12.13 hrs, Volume= 1.484 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

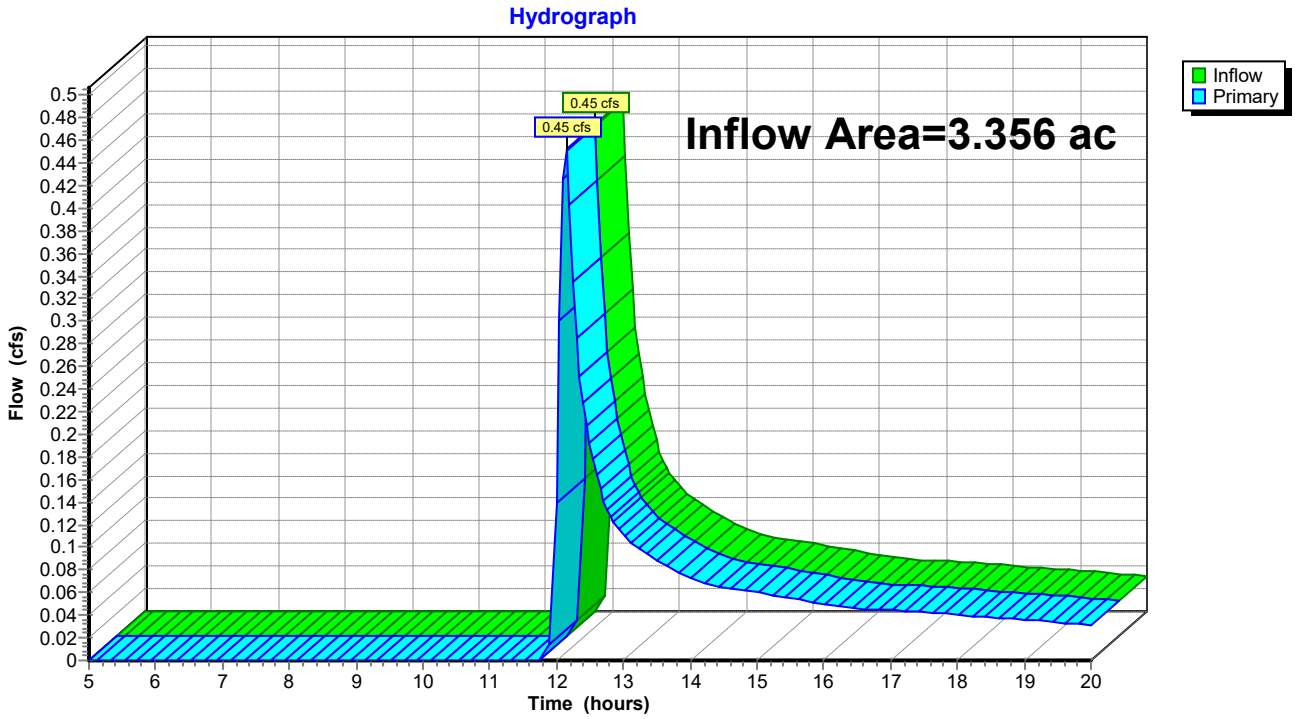


Summary for Link AP-2: AP-2

Inflow Area = 3.356 ac, 0.00% Impervious, Inflow Depth > 0.18" for 1-YEAR event
Inflow = 0.45 cfs @ 12.14 hrs, Volume= 0.050 af
Primary = 0.45 cfs @ 12.14 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PDA 1A: PDA 1A Runoff Area=40.890 ac 0.00% Impervious Runoff Depth>1.12"
Flow Length=1,642' Tc=16.7 min CN=74 Runoff=60.03 cfs 3.810 af

Subcatchment PDA 1B: PDA 1B Runoff Area=4.971 ac 0.00% Impervious Runoff Depth>1.17"
Flow Length=1,487' Tc=24.5 min CN=75 Runoff=6.13 cfs 0.486 af

Subcatchment PDA 1C: PDA 1C Runoff Area=0.230 ac 0.00% Impervious Runoff Depth>1.24"
Flow Length=179' Tc=13.0 min CN=76 Runoff=0.43 cfs 0.024 af

Subcatchment PDA 2: PDA 2 Runoff Area=3.356 ac 0.00% Impervious Runoff Depth>0.71"
Flow Length=592' Tc=15.6 min CN=66 Runoff=2.98 cfs 0.197 af

Pond BIO 1B: BIO 1B Peak Elev=337.08' Storage=0.032 af Inflow=6.13 cfs 0.486 af
Primary=0.02 cfs 0.012 af Secondary=3.60 cfs 0.400 af Tertiary=2.50 cfs 0.061 af Outflow=6.12 cfs 0.473 af

Pond BIO 1C: BIO 1C Peak Elev=371.92' Storage=0.011 af Inflow=0.43 cfs 0.024 af
Primary=0.01 cfs 0.006 af Secondary=0.10 cfs 0.007 af Outflow=0.11 cfs 0.013 af

Pond CB DA-0: CB DA-0 Peak Elev=369.91' Inflow=3.60 cfs 0.400 af
Outflow=3.60 cfs 0.400 af

Link AP-1: AP-1 Inflow=65.04 cfs 4.296 af
Primary=65.04 cfs 4.296 af

Link AP-2: AP-2 Inflow=2.98 cfs 0.197 af
Primary=2.98 cfs 0.197 af

Total Runoff Area = 49.447 ac Runoff Volume = 4.517 af Average Runoff Depth = 1.10"
100.00% Pervious = 49.447 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment PDA 1A: PDA 1A

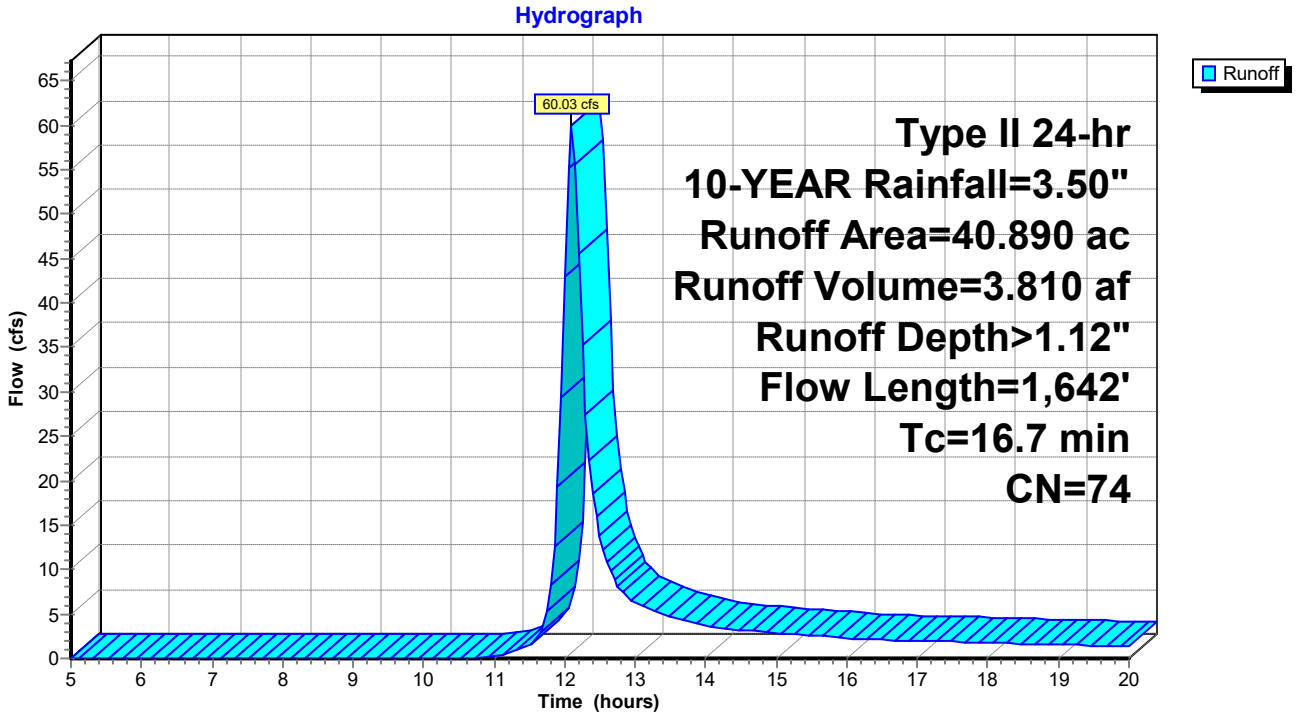
Runoff = 60.03 cfs @ 12.10 hrs, Volume= 3.810 af, Depth> 1.12"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=3.50"

Area (ac)	CN	Description
0.030	96	Gravel surface, HSG B
9.669	79	Woods, Fair, HSG D
4.847	36	Woods, Fair, HSG A
10.776	94	Fallow, bare soil, HSG D
1.236	61	>75% Grass cover, Good, HSG B
5.961	80	>75% Grass cover, Good, HSG D
8.371	60	Woods, Fair, HSG B
40.890	74	Weighted Average
40.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.1134	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
0.7	68	0.1107	1.66		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
2.5	419	0.0768	2.77		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
1.2	991	0.0701	13.44	360.19	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.0	64	0.2428	25.01	670.34	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
16.7	1,642	Total			

Subcatchment PDA 1A: PDA 1A



Summary for Subcatchment PDA 1B: PDA 1B

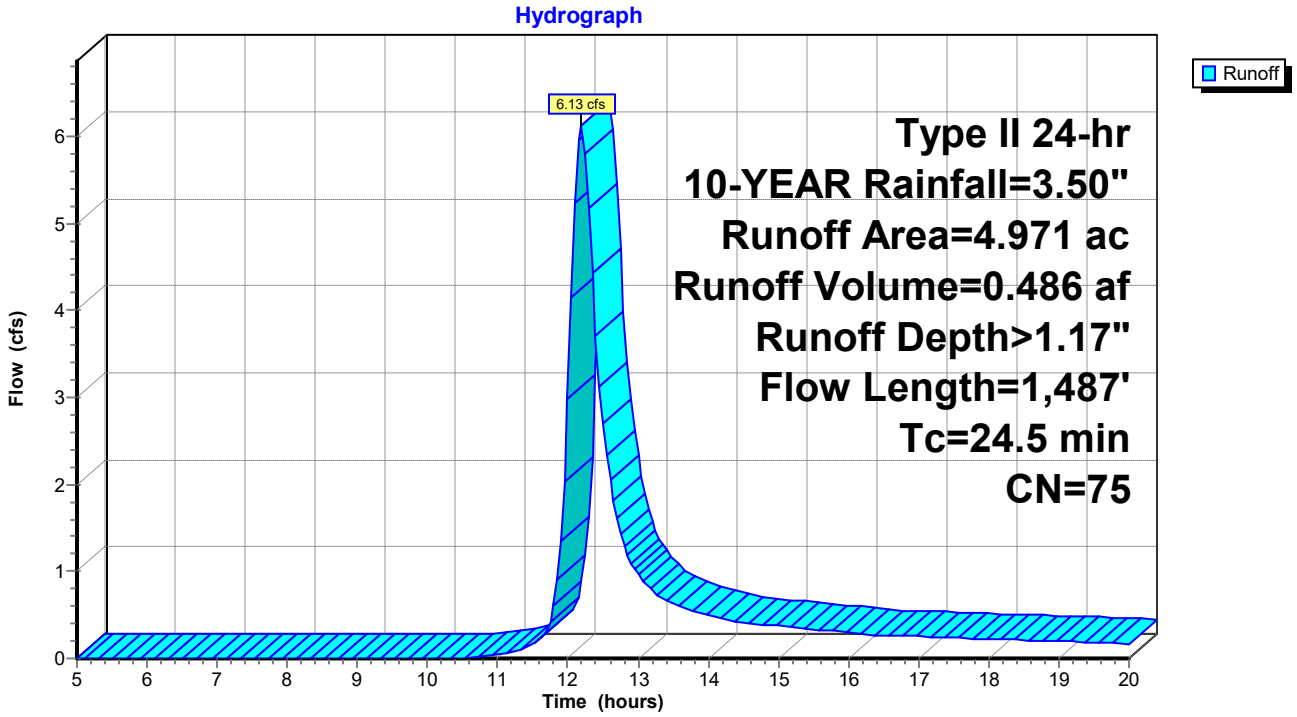
Runoff = 6.13 cfs @ 12.19 hrs, Volume= 0.486 af, Depth> 1.17"
Routed to Pond BIO 1B : BIO 1B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=3.50"

Area (ac)	CN	Description
0.044	80	>75% Grass cover, Good, HSG D
3.250	80	>75% Grass cover, Good, HSG D
0.270	96	Gravel surface, HSG B
1.407	61	>75% Grass cover, Good, HSG B
4.971	75	Weighted Average
4.971		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.7	100	0.0127	0.08		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 2.42"
4.0	895	0.0531	3.71		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
0.1	26	0.0467	4.39		**Shallow Concentrated Flow, Shallow Conc** Paved Kv= 20.3 fps
0.7	466	0.0938	11.22	39.28	**Channel Flow, Channel Flow** Area= 3.5 sf Perim= 5.5' r= 0.64' n= 0.030 Earth, grassed & winding
24.5	1,487	Total			

Subcatchment PDA 1B: PDA 1B



Summary for Subcatchment PDA 1C: PDA 1C

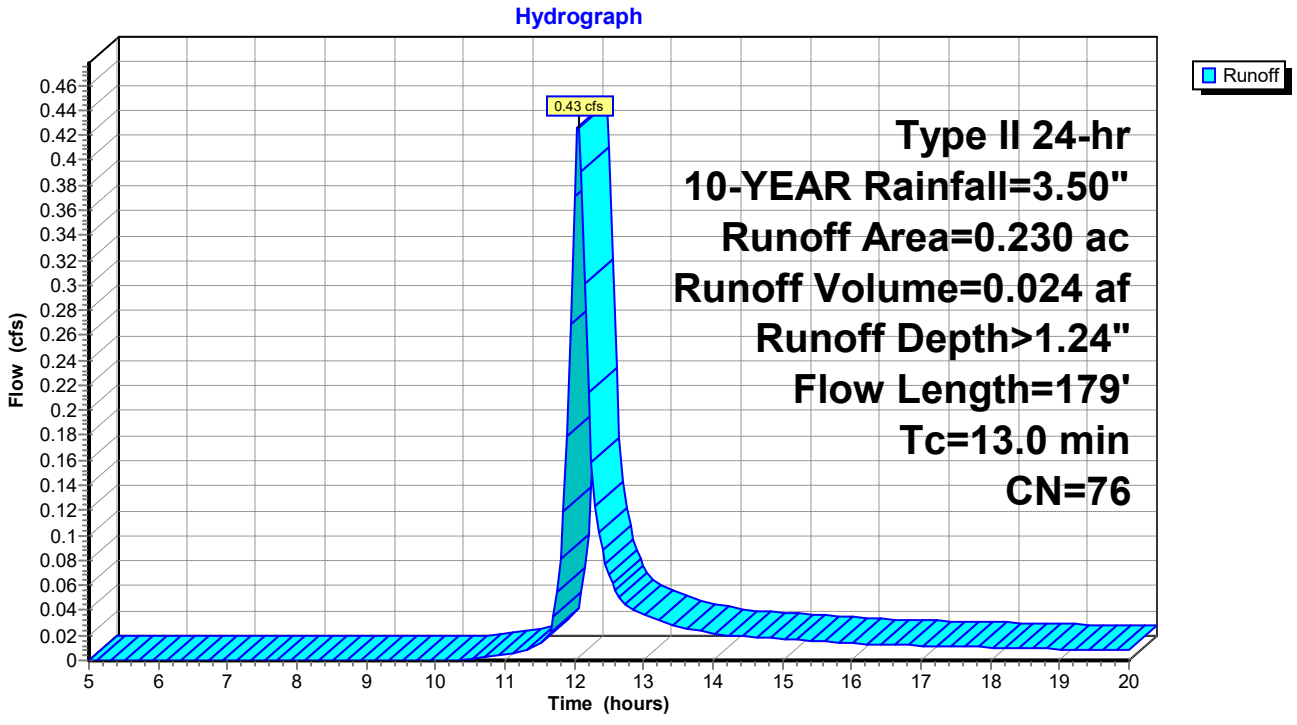
Runoff = 0.43 cfs @ 12.06 hrs, Volume= 0.024 af, Depth> 1.24"
Routed to Pond BIO 1C : BIO 1C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=3.50"

Area (ac)	CN	Description
0.048	80	>75% Grass cover, Good, HSG D
0.112	61	>75% Grass cover, Good, HSG B
0.070	96	Gravel surface, HSG B
0.230	76	Weighted Average
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0377	0.13		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 2.42"
0.3	79	0.0650	5.18		**Shallow Concentrated Flow, Shallow Conc** Paved Kv= 20.3 fps
13.0	179	Total			

Subcatchment PDA 1C: PDA 1C



Summary for Subcatchment PDA 2: PDA 2

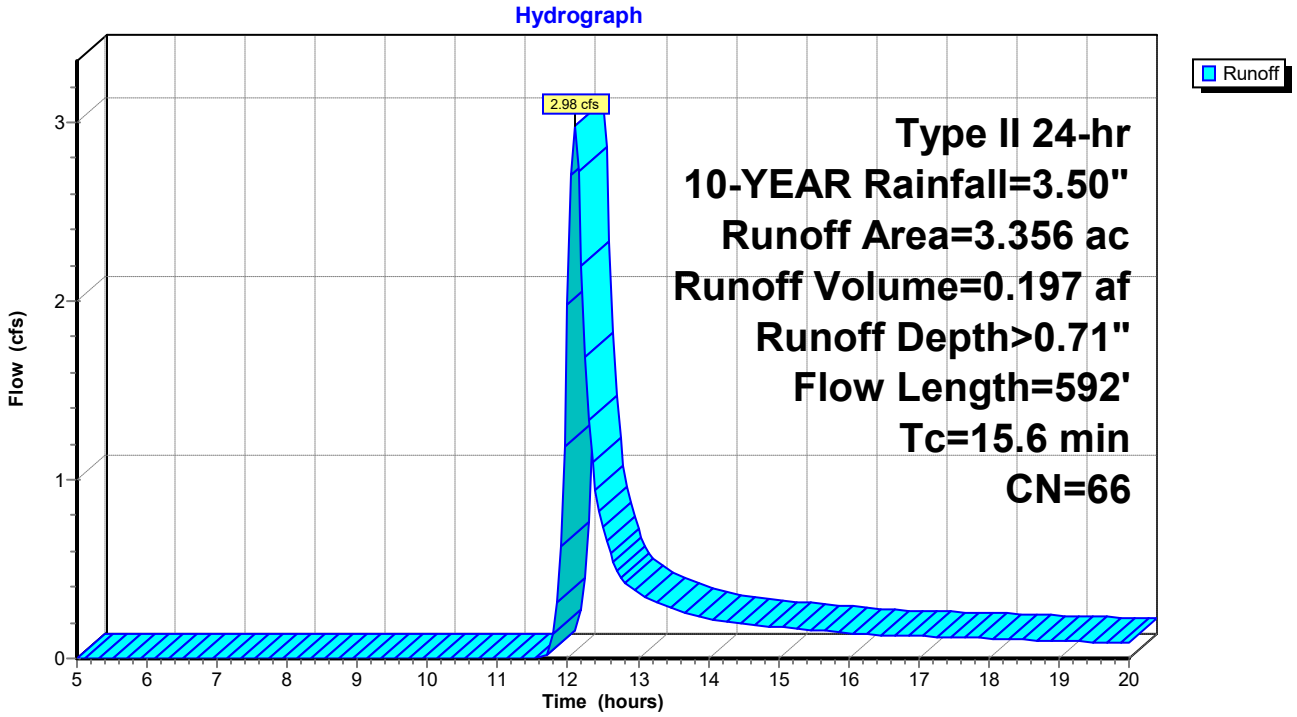
Runoff = 2.98 cfs @ 12.10 hrs, Volume= 0.197 af, Depth> 0.71"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=3.50"

Area (ac)	CN	Description
2.398	60	Woods, Fair, HSG B
0.041	91	Fallow, bare soil, HSG C
0.917	79	Woods, Fair, HSG D
3.356	66	Weighted Average
3.356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.1052	0.13		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
2.6	242	0.0970	1.56		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
0.1	75	0.1509	19.72	528.47	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.2	175	0.0724	13.66	366.05	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
15.6	592	Total			

Subcatchment PDA 2: PDA 2



Summary for Pond BIO 1B: BIO 1B

Inflow Area = 4.971 ac, 0.00% Impervious, Inflow Depth > 1.17" for 10-YEAR event
Inflow = 6.13 cfs @ 12.19 hrs, Volume= 0.486 af
Outflow = 6.12 cfs @ 12.21 hrs, Volume= 0.473 af, Atten= 0%, Lag= 1.0 min
Primary = 0.02 cfs @ 12.21 hrs, Volume= 0.012 af
Routed to Link AP-1 : AP-1
Secondary = 3.60 cfs @ 12.21 hrs, Volume= 0.400 af
Routed to Pond CB DA-0 : CB DA-0
Tertiary = 2.50 cfs @ 12.21 hrs, Volume= 0.061 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 337.08' @ 12.21 hrs Surf.Area= 0.036 ac Storage= 0.032 af

Plug-Flow detention time= 16.3 min calculated for 0.471 af (97% of inflow)
Center-of-Mass det. time= 6.5 min (823.0 - 816.5)

Volume	Invert	Avail.Storage	Storage Description
#1	336.00'	0.049 af	**ABOVE MEDIA (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
336.00	0.025	0.000	0.000
337.00	0.034	0.029	0.029
337.50	0.045	0.020	0.049

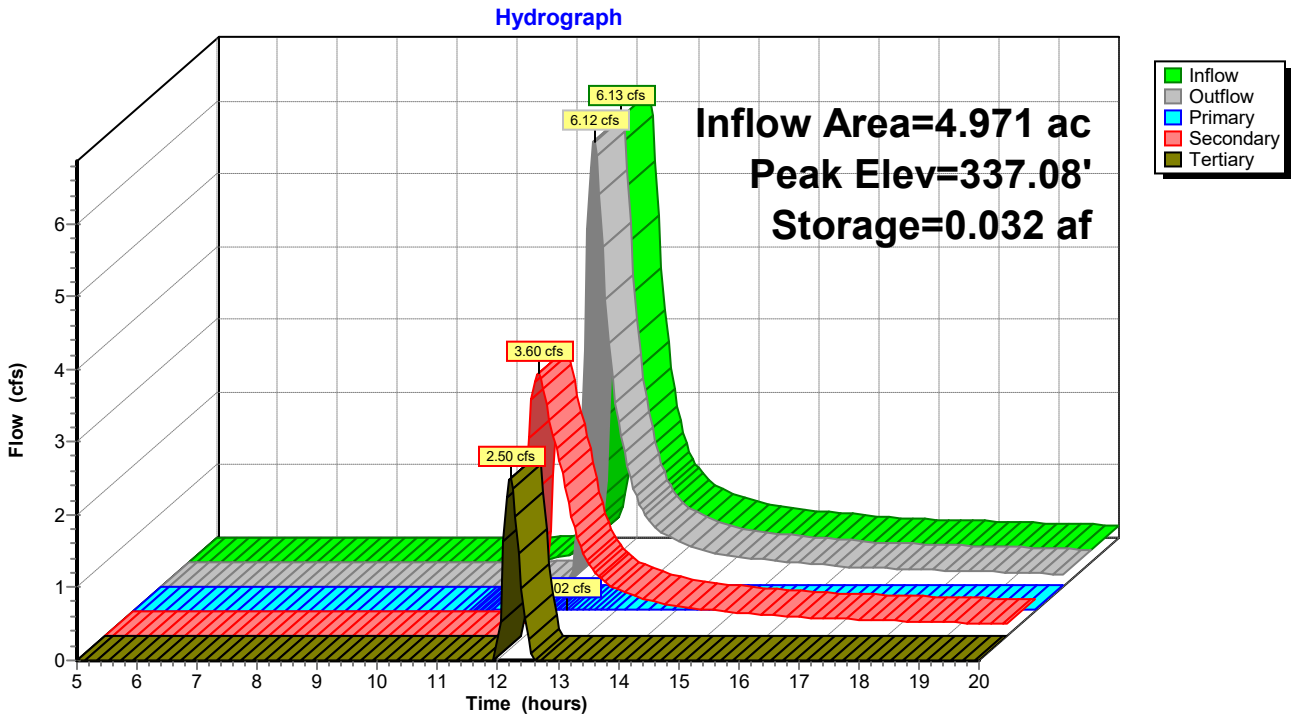
Device	Routing	Invert	Outlet Devices
#1	Tertiary	336.90'	**10.0' long SPILLWAY** 2 End Contraction(s)
#2	Primary	336.00'	**0.500 in/hr EXFILTRATION over Surface area** Conductivity to Groundwater Elevation = 300.00'
#3	Secondary	336.40'	**24.0" W x 24.0" H Vert. 2'x2' CB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 12.21 hrs HW=337.08' (Free Discharge)
↑—**2=EXFILTRATION** (Controls 0.02 cfs)

Secondary OutFlow Max=3.59 cfs @ 12.21 hrs HW=337.08' (Free Discharge)
↑—**3=2'x2' CB** (Orifice Controls 3.59 cfs @ 2.65 fps)

Tertiary OutFlow Max=2.47 cfs @ 12.21 hrs HW=337.08' (Free Discharge)
↑—**1=SPILLWAY** (Weir Controls 2.47 cfs @ 1.38 fps)

Pond BIO 1B: BIO 1B



Summary for Pond BIO 1C: BIO 1C

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 1.24" for 10-YEAR event
Inflow = 0.43 cfs @ 12.06 hrs, Volume= 0.024 af
Outflow = 0.11 cfs @ 12.36 hrs, Volume= 0.013 af, Atten= 74%, Lag= 18.4 min
Primary = 0.01 cfs @ 12.36 hrs, Volume= 0.006 af
Routed to Link AP-1 : AP-1
Secondary = 0.10 cfs @ 12.36 hrs, Volume= 0.007 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 371.92' @ 12.36 hrs Surf.Area= 0.017 ac Storage= 0.011 af

Plug-Flow detention time= 155.2 min calculated for 0.013 af (55% of inflow)
Center-of-Mass det. time= 72.8 min (878.4 - 805.7)

Volume	Invert	Avail.Storage	Storage Description
#1	371.00'	0.025 af	**ABOVE MEDIA (Prismatic)** Listed below (Recalc)

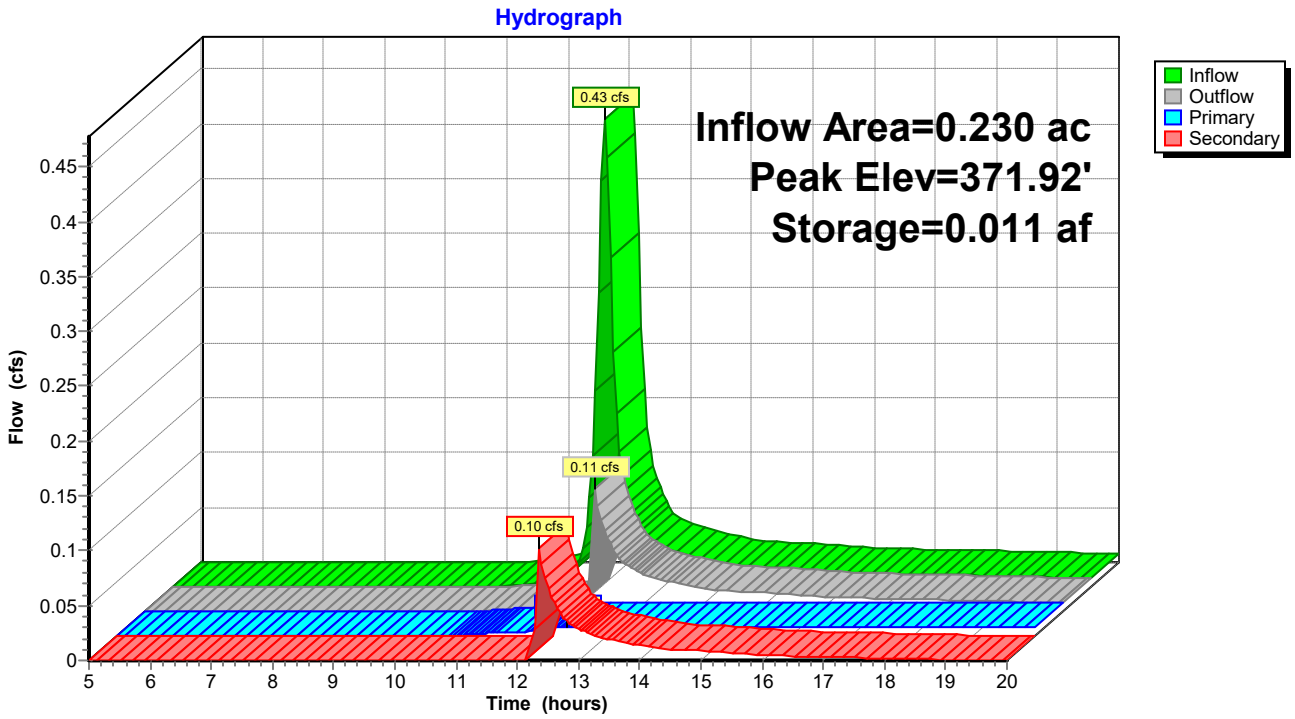
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
371.00	0.007	0.000	0.000
372.00	0.018	0.013	0.013
372.50	0.032	0.012	0.025

Device	Routing	Invert	Outlet Devices
#1	Secondary	371.90'	**10.0' long SPILLWAY** 2 End Contraction(s)
#2	Primary	371.00'	**0.500 in/hr EXFILTRATION over Surface area** Conductivity to Groundwater Elevation = 300.00'

Primary OutFlow Max=0.01 cfs @ 12.36 hrs HW=371.92' (Free Discharge)
↑—**2=EXFILTRATION** (Controls 0.01 cfs)

Secondary OutFlow Max=0.09 cfs @ 12.36 hrs HW=371.92' (Free Discharge)
↑—**1=SPILLWAY** (Weir Controls 0.09 cfs @ 0.46 fps)

Pond BIO 1C: BIO 1C



Summary for Pond CB DA-0: CB DA-0

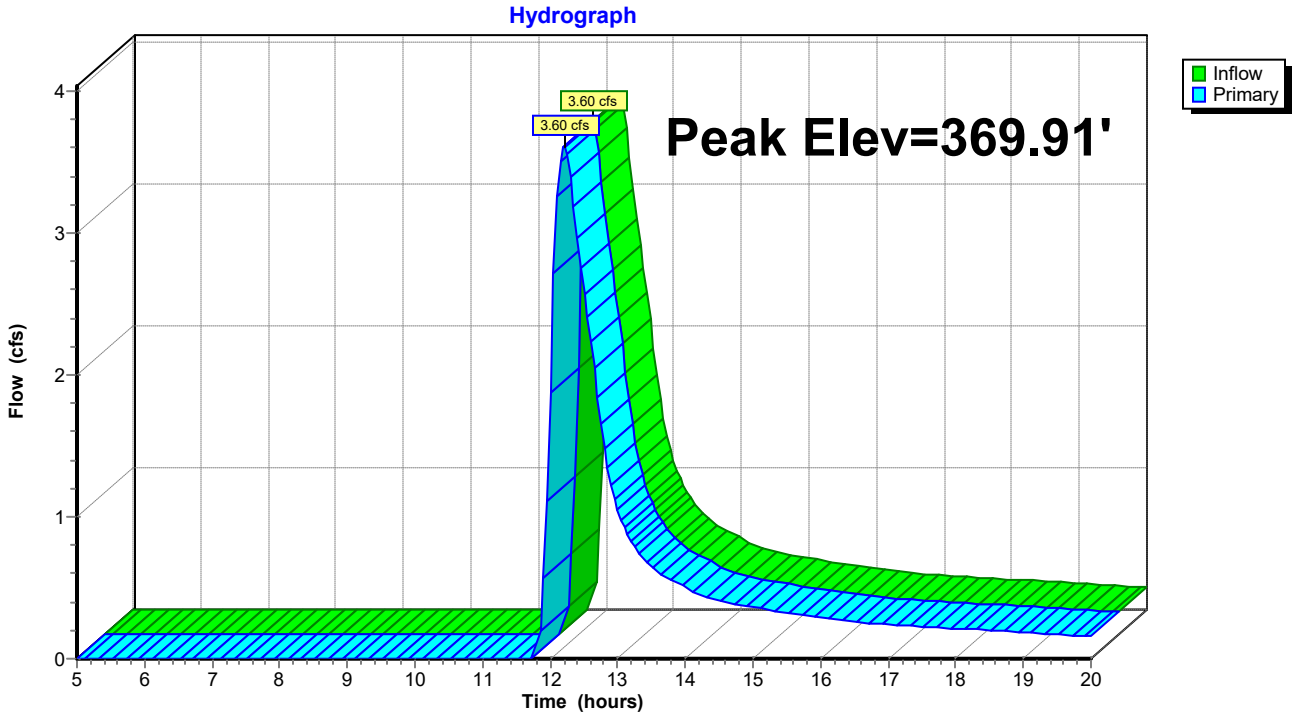
Inflow = 3.60 cfs @ 12.21 hrs, Volume= 0.400 af
Outflow = 3.60 cfs @ 12.21 hrs, Volume= 0.400 af, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 12.21 hrs, Volume= 0.400 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 369.91' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	368.50'	**12.0" Vert. 12" OUTLET PIPE** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.59 cfs @ 12.21 hrs HW=369.90' (Free Discharge)
└**1=12" OUTLET PIPE** (Orifice Controls 3.59 cfs @ 4.57 fps)

Pond CB DA-0: CB DA-0

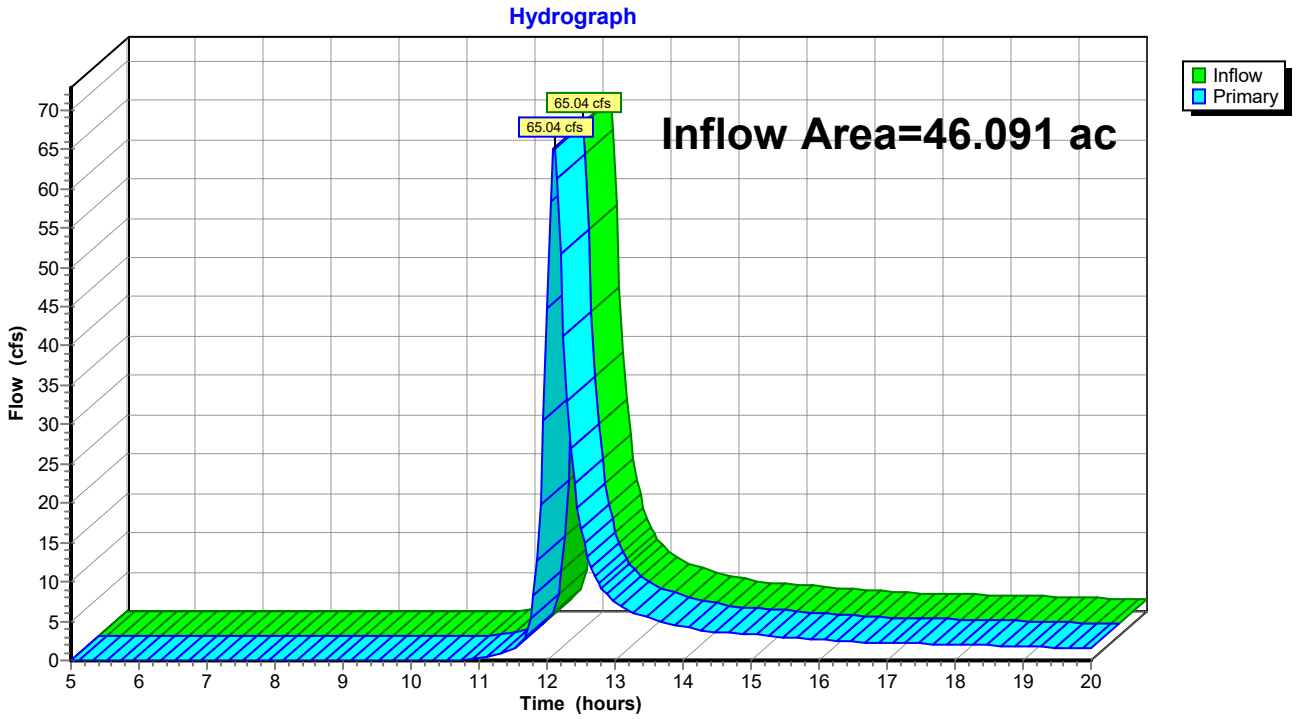


Summary for Link AP-1: AP-1

Inflow Area = 46.091 ac, 0.00% Impervious, Inflow Depth > 1.12" for 10-YEAR event
Inflow = 65.04 cfs @ 12.11 hrs, Volume= 4.296 af
Primary = 65.04 cfs @ 12.11 hrs, Volume= 4.296 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

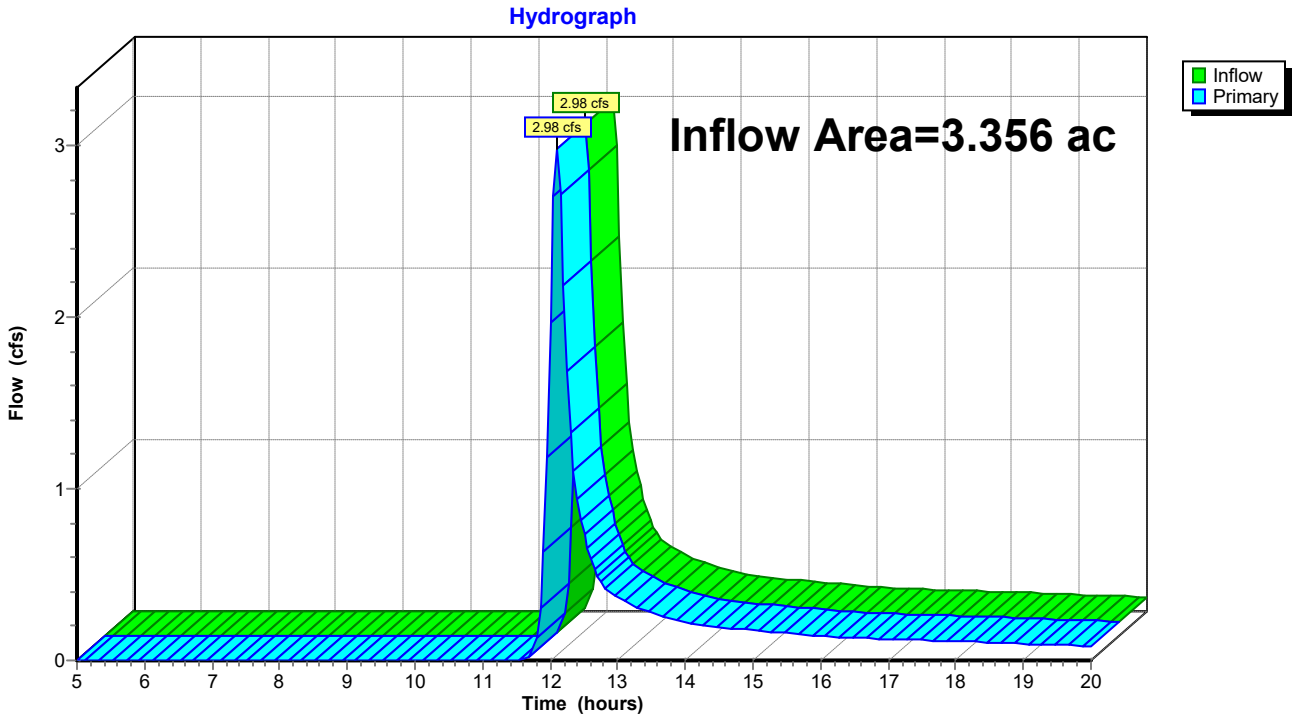


Summary for Link AP-2: AP-2

Inflow Area = 3.356 ac, 0.00% Impervious, Inflow Depth > 0.71" for 10-YEAR event
Inflow = 2.98 cfs @ 12.10 hrs, Volume= 0.197 af
Primary = 2.98 cfs @ 12.10 hrs, Volume= 0.197 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PDA 1A: PDA 1A Runoff Area=40.890 ac 0.00% Impervious Runoff Depth>2.70"
Flow Length=1,642' Tc=16.7 min CN=74 Runoff=146.75 cfs 9.207 af

Subcatchment PDA 1B: PDA 1B Runoff Area=4.971 ac 0.00% Impervious Runoff Depth>2.78"
Flow Length=1,487' Tc=24.5 min CN=75 Runoff=14.81 cfs 1.153 af

Subcatchment PDA 1C: PDA 1C Runoff Area=0.230 ac 0.00% Impervious Runoff Depth>2.89"
Flow Length=179' Tc=13.0 min CN=76 Runoff=0.99 cfs 0.055 af

Subcatchment PDA 2: PDA 2 Runoff Area=3.356 ac 0.00% Impervious Runoff Depth>2.02"
Flow Length=592' Tc=15.6 min CN=66 Runoff=9.27 cfs 0.565 af

Pond BIO 1B: BIO 1B Peak Elev=337.33' Storage=0.042 af Inflow=14.81 cfs 1.153 af
Primary=0.02 cfs 0.015 af Secondary=5.73 cfs 0.811 af Tertiary=9.04 cfs 0.313 af Outflow=14.79 cfs 1.139 af

Pond BIO 1C: BIO 1C Peak Elev=372.00' Storage=0.012 af Inflow=0.99 cfs 0.055 af
Primary=0.01 cfs 0.007 af Secondary=1.01 cfs 0.038 af Outflow=1.02 cfs 0.045 af

Pond CB DA-0: CB DA-0 Peak Elev=371.29' Inflow=5.73 cfs 0.811 af
Outflow=5.73 cfs 0.811 af

Link AP-1: AP-1 Inflow=160.09 cfs 10.391 af
Primary=160.09 cfs 10.391 af

Link AP-2: AP-2 Inflow=9.27 cfs 0.565 af
Primary=9.27 cfs 0.565 af

Total Runoff Area = 49.447 ac Runoff Volume = 10.981 af Average Runoff Depth = 2.66"
100.00% Pervious = 49.447 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment PDA 1A: PDA 1A

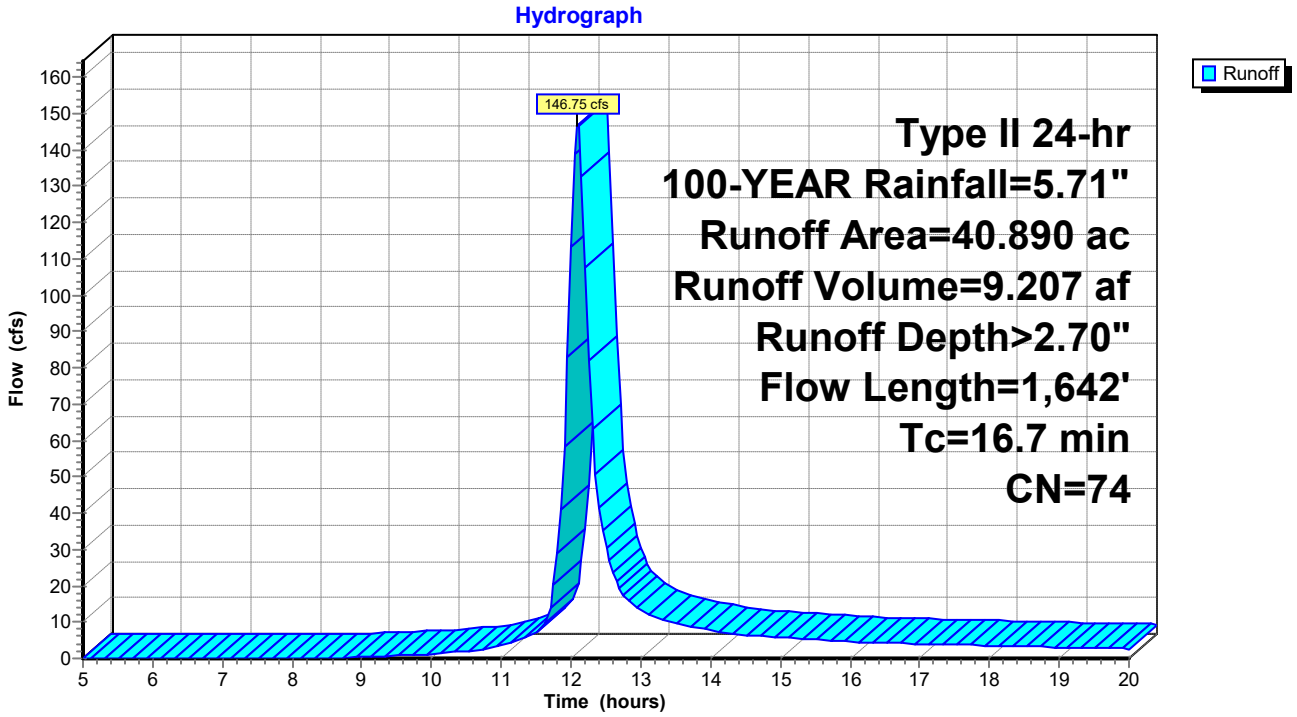
Runoff = 146.75 cfs @ 12.09 hrs, Volume= 9.207 af, Depth> 2.70"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YEAR Rainfall=5.71"

Area (ac)	CN	Description
0.030	96	Gravel surface, HSG B
9.669	79	Woods, Fair, HSG D
4.847	36	Woods, Fair, HSG A
10.776	94	Fallow, bare soil, HSG D
1.236	61	>75% Grass cover, Good, HSG B
5.961	80	>75% Grass cover, Good, HSG D
8.371	60	Woods, Fair, HSG B
40.890	74	Weighted Average
40.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.1134	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
0.7	68	0.1107	1.66		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
2.5	419	0.0768	2.77		**Shallow Concentrated Flow, Shallow Conc** Nearly Bare & Untilled Kv= 10.0 fps
1.2	991	0.0701	13.44	360.19	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.0	64	0.2428	25.01	670.34	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
16.7	1,642	Total			

Subcatchment PDA 1A: PDA 1A



Summary for Subcatchment PDA 1B: PDA 1B

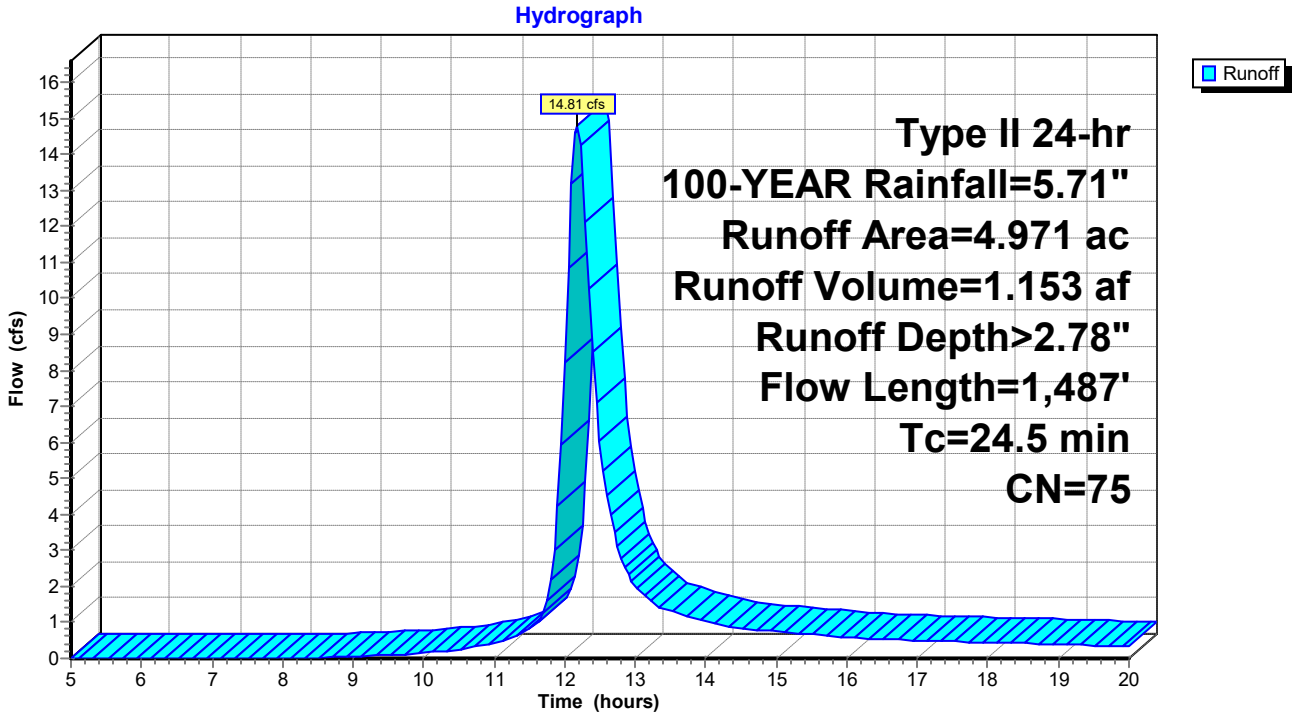
Runoff = 14.81 cfs @ 12.18 hrs, Volume= 1.153 af, Depth> 2.78"
Routed to Pond BIO 1B : BIO 1B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YEAR Rainfall=5.71"

Area (ac)	CN	Description
0.044	80	>75% Grass cover, Good, HSG D
3.250	80	>75% Grass cover, Good, HSG D
0.270	96	Gravel surface, HSG B
1.407	61	>75% Grass cover, Good, HSG B
4.971	75	Weighted Average
4.971		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.7	100	0.0127	0.08		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 2.42"
4.0	895	0.0531	3.71		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
0.1	26	0.0467	4.39		**Shallow Concentrated Flow, Shallow Conc** Paved Kv= 20.3 fps
0.7	466	0.0938	11.22	39.28	**Channel Flow, Channel Flow** Area= 3.5 sf Perim= 5.5' r= 0.64' n= 0.030 Earth, grassed & winding
24.5	1,487	Total			

Subcatchment PDA 1B: PDA 1B



Summary for Subcatchment PDA 1C: PDA 1C

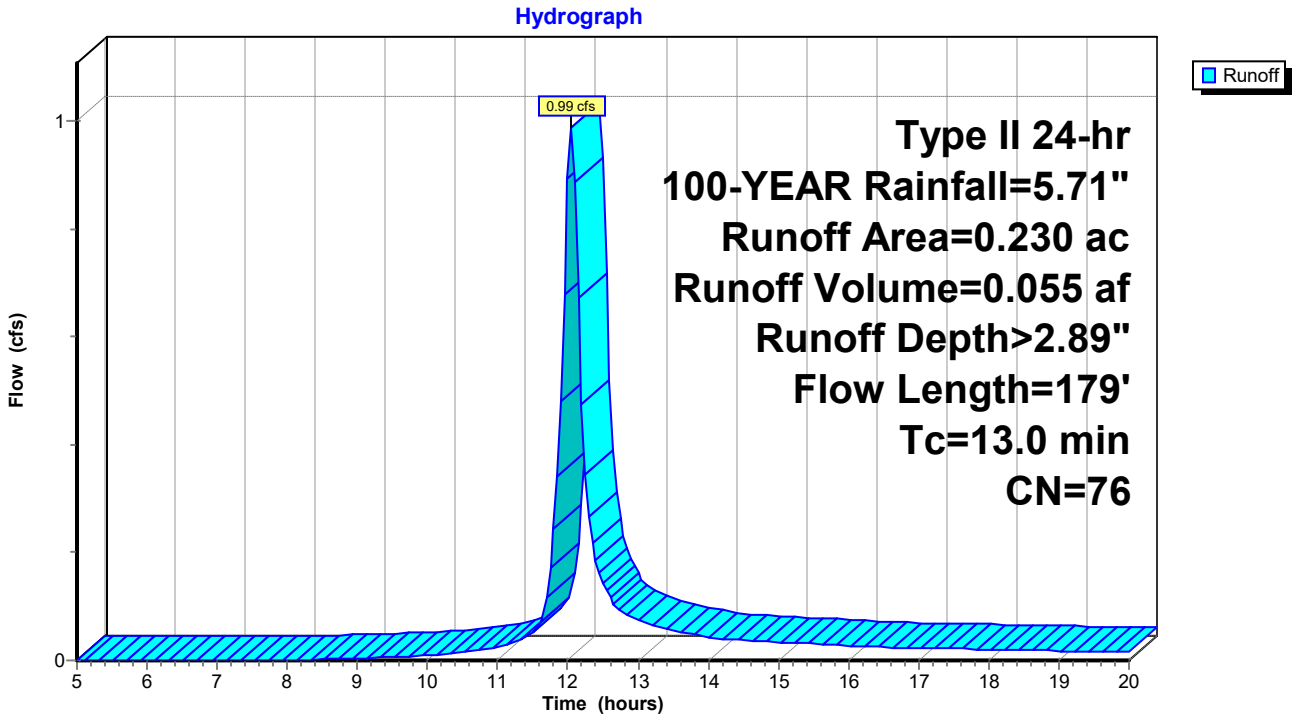
Runoff = 0.99 cfs @ 12.05 hrs, Volume= 0.055 af, Depth> 2.89"
Routed to Pond BIO 1C : BIO 1C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YEAR Rainfall=5.71"

Area (ac)	CN	Description
0.048	80	>75% Grass cover, Good, HSG D
0.112	61	>75% Grass cover, Good, HSG B
0.070	96	Gravel surface, HSG B
0.230	76	Weighted Average
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0377	0.13		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 2.42"
0.3	79	0.0650	5.18		**Shallow Concentrated Flow, Shallow Conc** Paved Kv= 20.3 fps
13.0	179	Total			

Subcatchment PDA 1C: PDA 1C



Summary for Subcatchment PDA 2: PDA 2

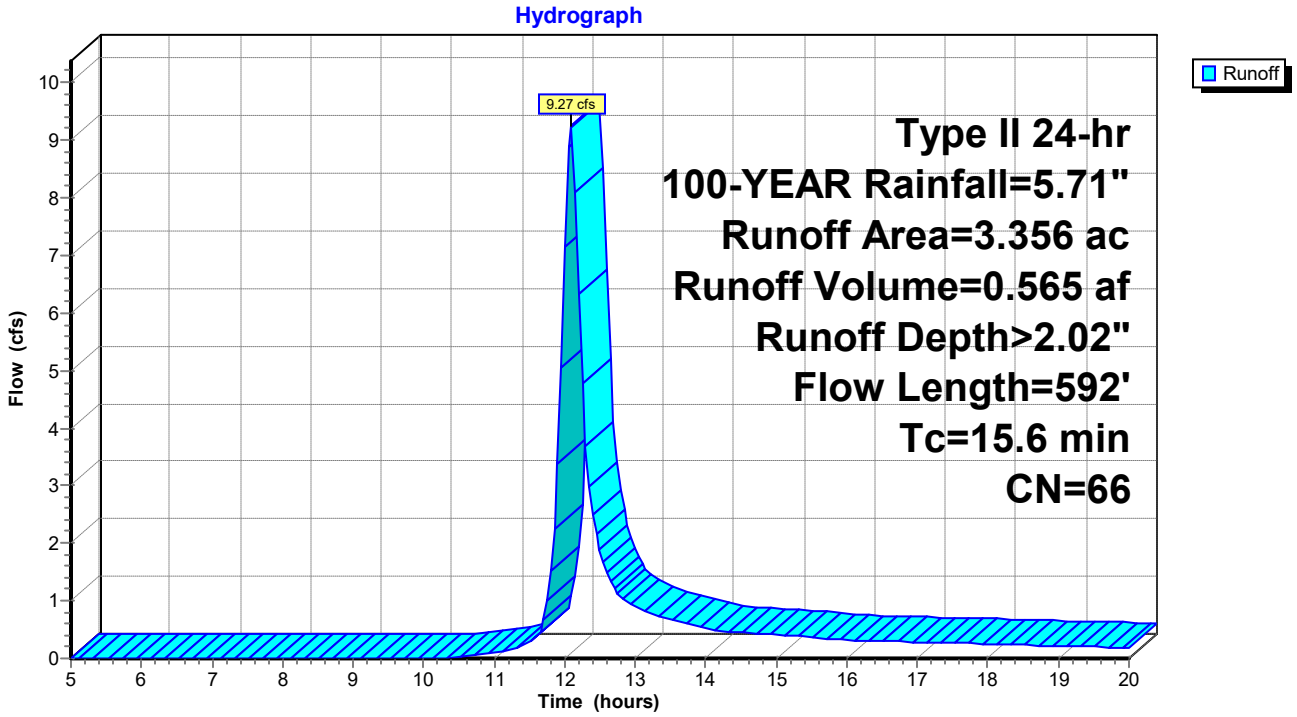
Runoff = 9.27 cfs @ 12.09 hrs, Volume= 0.565 af, Depth> 2.02"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-YEAR Rainfall=5.71"

Area (ac)	CN	Description
2.398	60	Woods, Fair, HSG B
0.041	91	Fallow, bare soil, HSG C
0.917	79	Woods, Fair, HSG D
3.356	66	Weighted Average
3.356		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.1052	0.13		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 2.42"
2.6	242	0.0970	1.56		**Shallow Concentrated Flow, Shallow Conc** Woodland Kv= 5.0 fps
0.1	75	0.1509	19.72	528.47	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
0.2	175	0.0724	13.66	366.05	**Channel Flow, Channel Flow** Area= 26.8 sf Perim= 20.5' r= 1.31' n= 0.035 Earth, dense weeds
15.6	592	Total			

Subcatchment PDA 2: PDA 2



Summary for Pond BIO 1B: BIO 1B

Inflow Area = 4.971 ac, 0.00% Impervious, Inflow Depth > 2.78" for 100-YEAR event
Inflow = 14.81 cfs @ 12.18 hrs, Volume= 1.153 af
Outflow = 14.79 cfs @ 12.19 hrs, Volume= 1.139 af, Atten= 0%, Lag= 0.8 min
Primary = 0.02 cfs @ 12.19 hrs, Volume= 0.015 af
Routed to Link AP-1 : AP-1
Secondary = 5.73 cfs @ 12.19 hrs, Volume= 0.811 af
Routed to Pond CB DA-0 : CB DA-0
Tertiary = 9.04 cfs @ 12.19 hrs, Volume= 0.313 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 337.33' @ 12.19 hrs Surf.Area= 0.041 ac Storage= 0.042 af

Plug-Flow detention time= 9.7 min calculated for 1.139 af (99% of inflow)
Center-of-Mass det. time= 4.8 min (803.6 - 798.7)

Volume	Invert	Avail.Storage	Storage Description
#1	336.00'	0.049 af	**ABOVE MEDIA (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
336.00	0.025	0.000	0.000
337.00	0.034	0.029	0.029
337.50	0.045	0.020	0.049

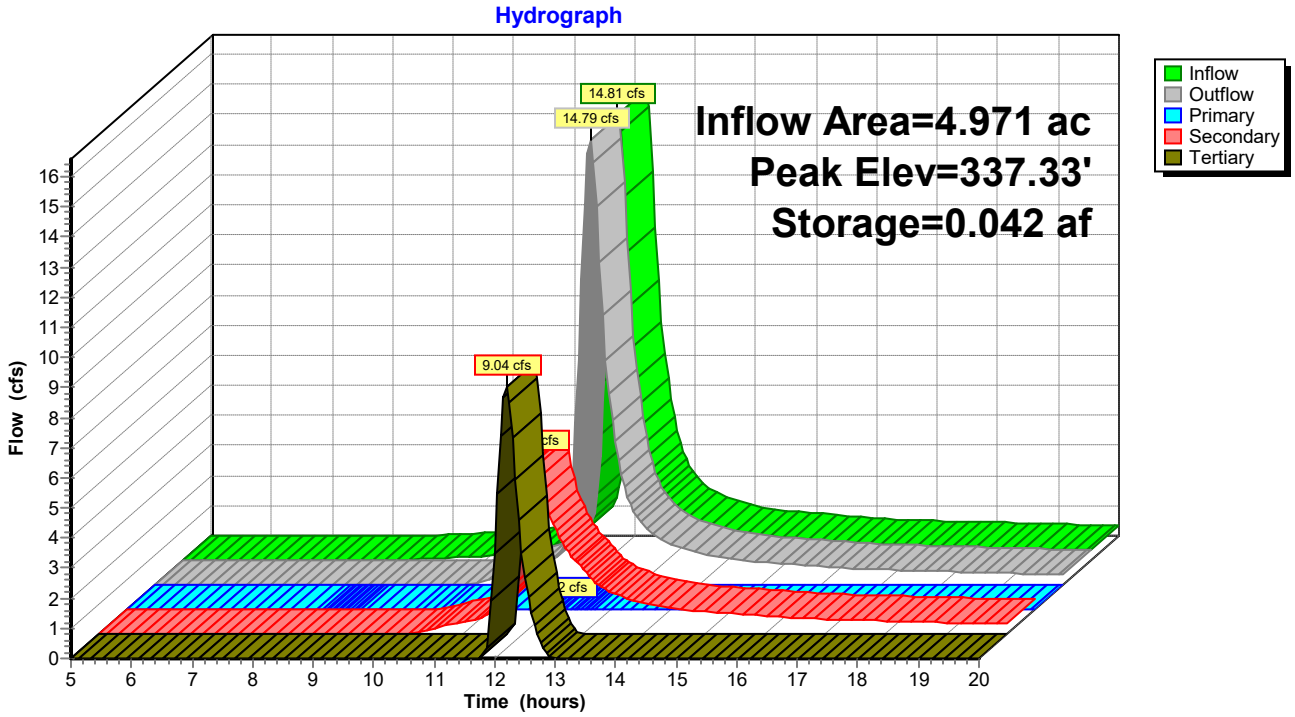
Device	Routing	Invert	Outlet Devices
#1	Tertiary	336.90'	**10.0' long SPILLWAY** 2 End Contraction(s)
#2	Primary	336.00'	**0.500 in/hr EXFILTRATION over Surface area** Conductivity to Groundwater Elevation = 300.00'
#3	Secondary	336.40'	**24.0" W x 24.0" H Vert. 2'x2' CB** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 12.19 hrs HW=337.33' (Free Discharge)
↑—**2=EXFILTRATION** (Controls 0.02 cfs)

Secondary OutFlow Max=5.71 cfs @ 12.19 hrs HW=337.33' (Free Discharge)
↑—**3=2'x2' CB** (Orifice Controls 5.71 cfs @ 3.09 fps)

Tertiary OutFlow Max=8.99 cfs @ 12.19 hrs HW=337.33' (Free Discharge)
↑—**1=SPILLWAY** (Weir Controls 8.99 cfs @ 2.13 fps)

Pond BIO 1B: BIO 1B



Summary for Pond BIO 1C: BIO 1C

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 2.89" for 100-YEAR event
Inflow = 0.99 cfs @ 12.05 hrs, Volume= 0.055 af
Outflow = 1.02 cfs @ 12.06 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.9 min
Primary = 0.01 cfs @ 12.06 hrs, Volume= 0.007 af
Routed to Link AP-1 : AP-1
Secondary = 1.01 cfs @ 12.06 hrs, Volume= 0.038 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 372.00' @ 12.06 hrs Surf.Area= 0.018 ac Storage= 0.012 af

Plug-Flow detention time= 78.1 min calculated for 0.045 af (81% of inflow)
Center-of-Mass det. time= 24.0 min (811.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	371.00'	0.025 af	**ABOVE MEDIA (Prismatic)** Listed below (Recalc)

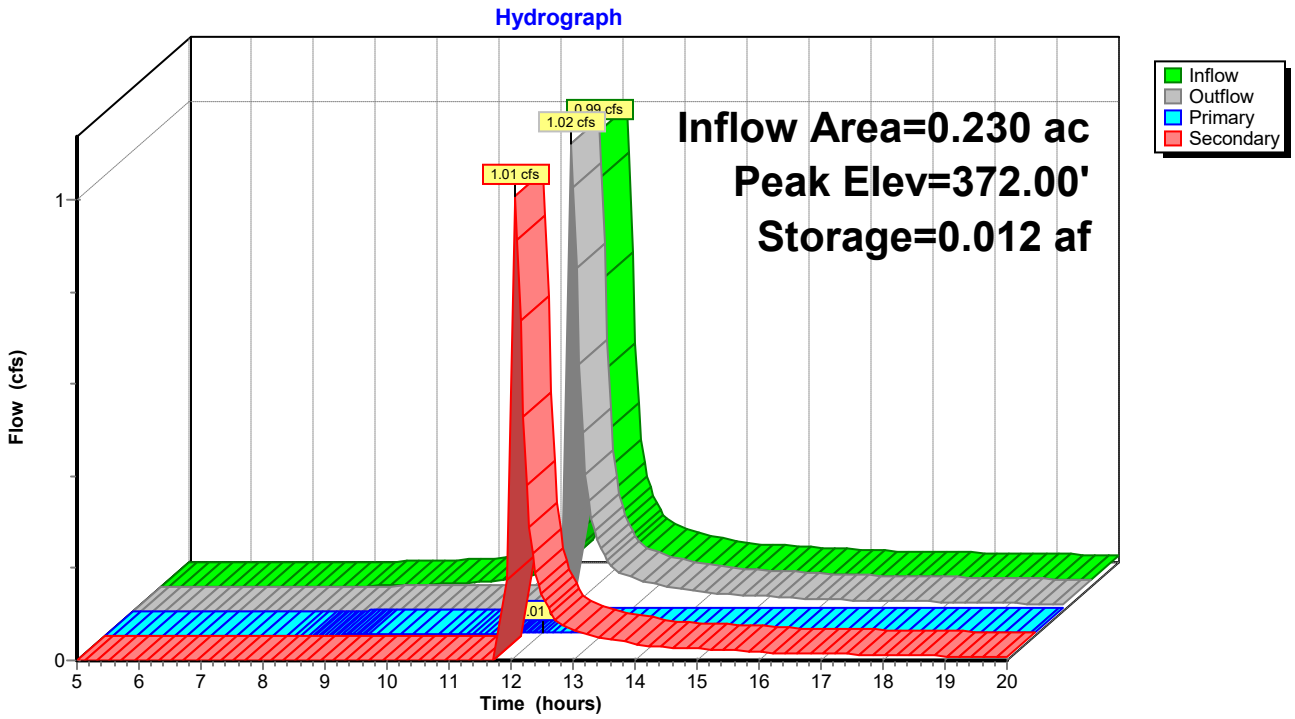
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
371.00	0.007	0.000	0.000
372.00	0.018	0.013	0.013
372.50	0.032	0.012	0.025

Device	Routing	Invert	Outlet Devices
#1	Secondary	371.90'	**10.0' long SPILLWAY** 2 End Contraction(s)
#2	Primary	371.00'	**0.500 in/hr EXFILTRATION over Surface area** Conductivity to Groundwater Elevation = 300.00'

Primary OutFlow Max=0.01 cfs @ 12.06 hrs HW=372.00' (Free Discharge)
↑—**2=EXFILTRATION** (Controls 0.01 cfs)

Secondary OutFlow Max=0.97 cfs @ 12.06 hrs HW=372.00' (Free Discharge)
↑—**1=SPILLWAY** (Weir Controls 0.97 cfs @ 1.01 fps)

Pond BIO 1C: BIO 1C



Summary for Pond CB DA-0: CB DA-0

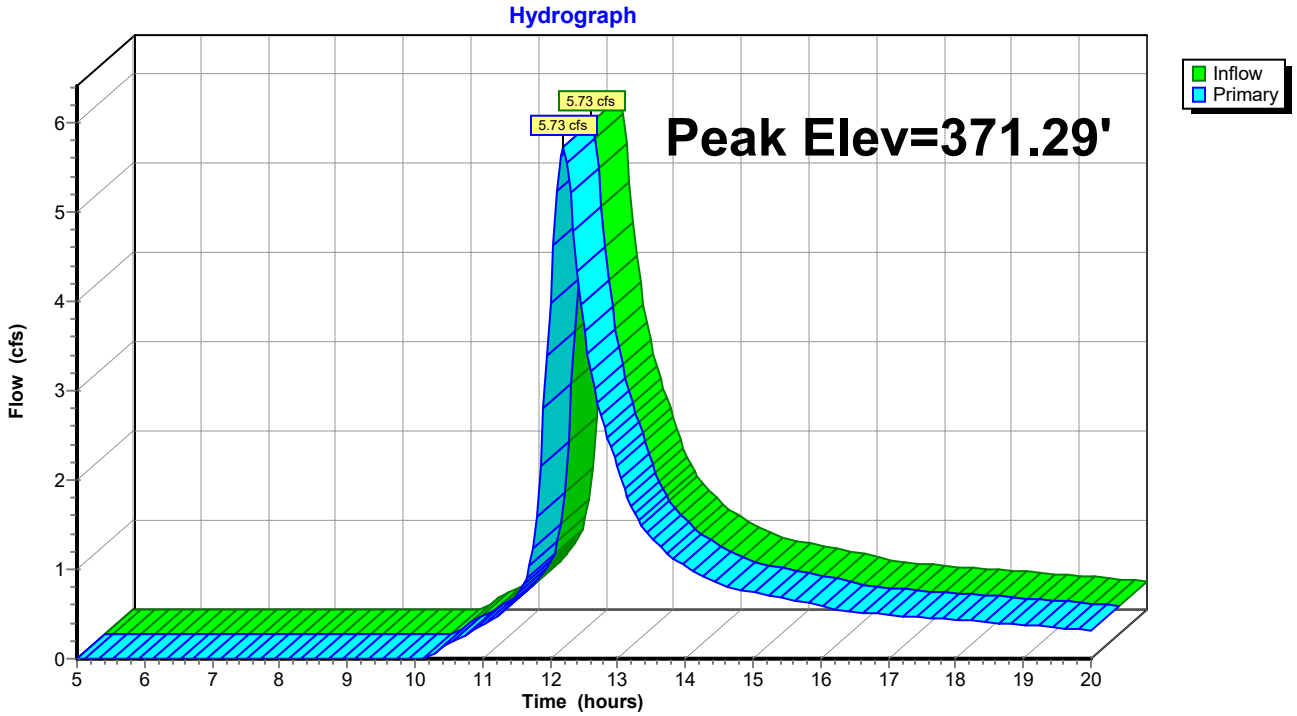
Inflow = 5.73 cfs @ 12.19 hrs, Volume= 0.811 af
Outflow = 5.73 cfs @ 12.19 hrs, Volume= 0.811 af, Atten= 0%, Lag= 0.0 min
Primary = 5.73 cfs @ 12.19 hrs, Volume= 0.811 af
Routed to Link AP-1 : AP-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 371.29' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	368.50'	**12.0" Vert. 12" OUTLET PIPE** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.71 cfs @ 12.19 hrs HW=371.28' (Free Discharge)
└**1=12" OUTLET PIPE** (Orifice Controls 5.71 cfs @ 7.28 fps)

Pond CB DA-0: CB DA-0

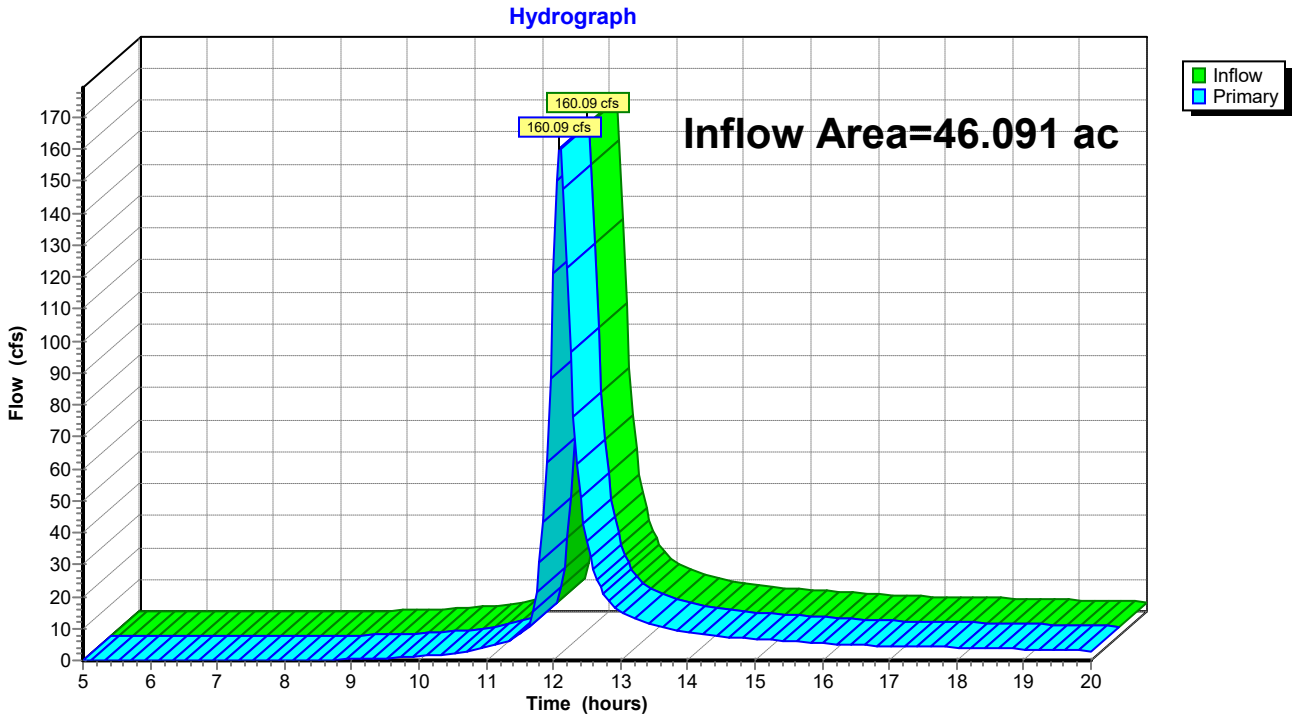


Summary for Link AP-1: AP-1

Inflow Area = 46.091 ac, 0.00% Impervious, Inflow Depth > 2.71" for 100-YEAR event
Inflow = 160.09 cfs @ 12.10 hrs, Volume= 10.391 af
Primary = 160.09 cfs @ 12.10 hrs, Volume= 10.391 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

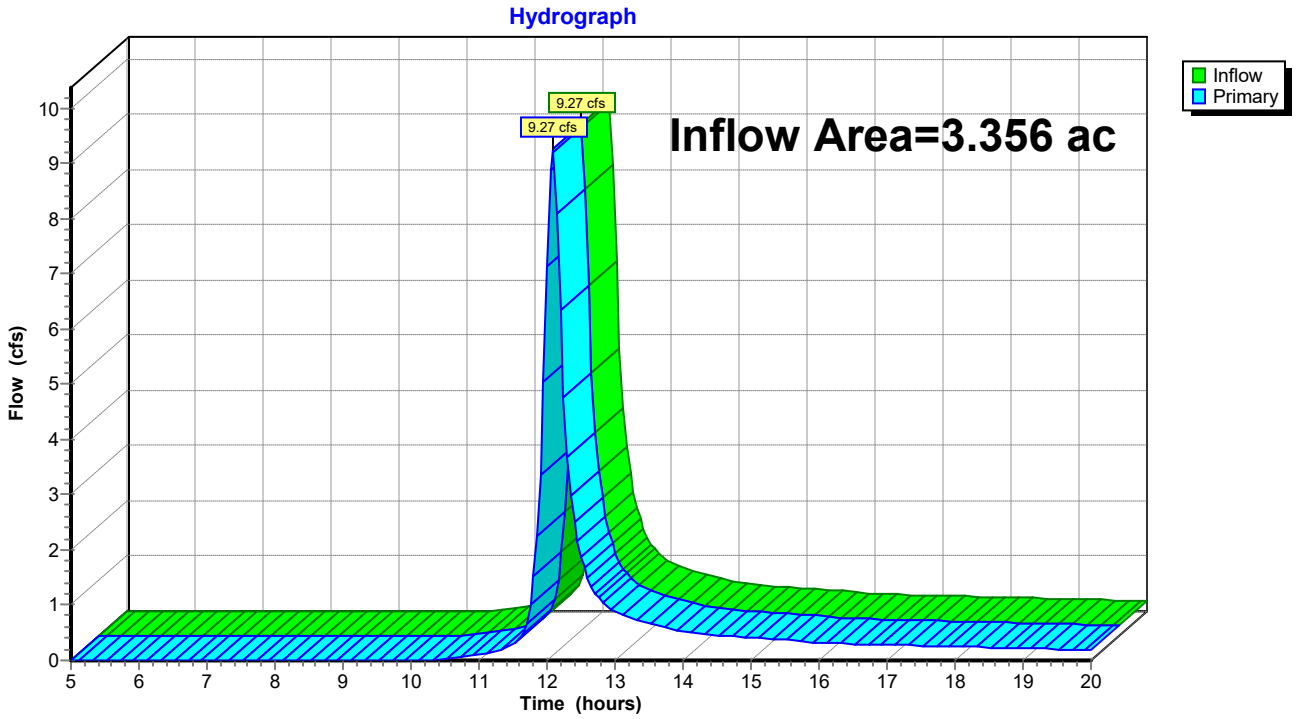


Summary for Link AP-2: AP-2

Inflow Area = 3.356 ac, 0.00% Impervious, Inflow Depth > 2.02" for 100-YEAR event
Inflow = 9.27 cfs @ 12.09 hrs, Volume= 0.565 af
Primary = 9.27 cfs @ 12.09 hrs, Volume= 0.565 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



APPENDIX K: WATER QUALITY CALCULATIONS

NOI QUESTIONS

#	eNOI Question 49	Reported Value		
		cf	af	
49	Total Water Quality Volume (WQv) Required	2260	0.052	
49	Total RRV Provided	1342	0.031	
49	Is RRv Provided ≥WQv Required?	No		
49	Minimum RRv	392	0.009	
49	Is RRv Provided ≥ Minimum RRv Required?	Yes		
49	Total WQv Treated	918	0.021	
49	Sum of Volume Reduced & Treated	2260	0.052	59.40%
49	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes		

Step 1 - Site Planning

	Practice	Description	Applicable	Project Specific Evaluation
Preservation of Natural Features and Conservation Design	**Preservation of Undisturbed Areas**	Delineate and protect undisturbed forests, native vegetated areas, riparian corridors, water bodies, wetlands, and natural terrain.		EXAMPLES - Approximately XX+/- Acres of land will remain undisturbed, in its natural state, which accounts for XX% of the total project parcel. **OR** The project does not propose permanent conservation of this area at this time.
	Preservation of Buffers	Delineate and protect naturally vegetated buffers along perennial streams, rivers, shorelines, and wetlands.		EXAMPLES - There is a stream/river/shorline/wetland located on the project site. For the area adjacent to this water body, a XX-ft naturally vegetated buffer will be applied. No disturbance will occur within this buffer. **OR** The only disturbance that will occur within this buffer will include XX. This disturbance is necessary because XX. **OR** There are no water bodies located on or adjacent to the project site.
	Reduction of Clearing and Grading	Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities.		EXAMPLES - Clearing and grading will be limited to the area of disturbance and will be minimized to the greatest extent practical. The limits of all proposed clearing will be demarcated in the field with orange construction fencing, prior to construction, to prevent unnecessary removal of trees.
	Locating Development in Less Sensitive Areas	Avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.		EXAMPLES - The site has been designed to avoid sensitive resource areas to the greatest extent practical. Include project specific information for the various sensitive resources. **OR** There are no floodplains, steep slopes, erodible soils, wetlands, mature forests or critical habitats located on the project site.
	Open Space Design	Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.		EXAMPLES - The site layout has been designed to maximize open space. Impervious surfaces have been minimized to the greatest extent practical and approximately XX+/- Acres will be maintained as vegetated open space.
	Soil Restoration	Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of post construction practices.		EXAMPLES - All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual. **OR** Compacted areas were considered as impervious cover when calculating the WQv Required and the compacted areas were assigned a post-construction HSG designation that is one level less permeable than existing conditions for the hydrology analysis.

Step 1 - Site Planning

Reduction of Impervious Cover	**Roadway Reduction**	Minimize roadway widths and lengths, below local requirements, to reduce site impervious area		EXAMPLES - Proposed roadways will be constructed with a porous XX surface, in order to minimize the overall impervious surface. **OR** The project proposes to reduce the roadway width to XX-ft, from the required XX-ft. **OR** Reducing the roadway width is not feasible for the project's intended use. **OR** No new roadways are proposed as part of this project.
	Sidewalk Reduction	Minimize sidewalk lengths and widths, below local requirements, to reduce site impervious area		EXAMPLES - All pedestrian walkways will be constructed with a porous XX surface. **OR** Sidewalk widths have been minimized to X-ft and quantity of sidewalk has been reduced to that required to ensure safe pedestrian access throughout the site. **OR** Reducing the sidewalk width/length is not feasible for the project's intended use. **OR** No new sidewalks are proposed as part of this project.
	Driveway Reduction	Minimize driveway lengths and widths, below local requirements, to reduce site impervious area		EXAMPLES - All driveways on-site will be constructed with a permeable XX surface, where feasible, in order to minimize the overall impervious surface. **OR** The project proposes to reduce the driveway width to XX-ft, instead of the required XX-ft. **OR** Reducing the driveway width is not feasible for the intended use. **OR** No new driveways are proposed as part of this project.
	Cul-de-sac Reduction	Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.		EXAMPLES - Proposed cul-de-sacs will utilize a landscaped island to reduce impervious cover. **OR** No cul-de-sacs are proposed as part of this project.
	Building Footprint Reduction	Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.		EXAMPLES - All new building area has been allocated to efficiently implement the intended use. **OR** No new buildings are proposed as part of this project. **OR** The current proposal involves the renovation and reuse of XX existing buildings on-site.
	Parking Reduction	Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, reducing stall dimensions below local requirements, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.		EXAMPLES - All parking lots will be constructed of a porous XX surface, to reduce overall impervious surfaces. **OR** The project proposes to reduce the parking stall dimensions to X-ft wide by XX-ft long, instead of the required XX-ft by XX-ft stall. **OR** The project proposes to reduce the number of parking stalls proposed to XX, instead of the required XX, resulting in an approximate XX% reduction in impervious. **OR** Reducing the parking stall dimensions or number of stalls is not feasible for the intended use. **OR** No new parking stalls are proposed as part of this project.

Step 2 - Calculate Water Quality Volume

Is this project subject to Section 4.3 of the NYS Design Manual for Enhanced Phosphorus Removal?	No
What is the nature of this construction project?	New Construction

Design Point:	1	
P=	1.10	inches

Enter 90% Rainfall Event as P

Calculate Required WQv

Drainage Area Number	Contributing Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (cf)	SMP Description
1	4.97	0.27	5	0.10	1,963	Filtration Bioretention
2	0.23	0.07	30	0.32	297	Filtration Bioretention
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
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14						
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16						
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21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
Total	5.20	0.34	7	0.11	**2260**	**Required WQv**

Steps 3 and 5 - Apply RR Techniques and Standard SMPs

Runoff Reduction Volume and Treated Volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**(cf)**	**(cf)**
RR Techniques	Conservation of Natural Areas	RR-1	4.97		0	
	Sheet Flow to Riparian Buffer/Filter Strip	RR-2	0.00	0.00	0	
	Tree Planting/Tree Pit/Tree Trench	RR-3	0.00	0.00	0	
	Disconnection of Rooftop Runoff	RR-4		0.00	0	
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rainwater Harvesting Systems	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Extensive & Intensive)	RR-10	0.00	0.00	0	
	Stream Daylighting	RR-11				
Standard SMPs w/ RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00	0.00	0	0
	Infiltration Bioretention	F-4	0.00	0.00	0	0
	Filtration Bioretention	F-5	5.20	0.34	1,342	918
	Bioslope	F-6	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention	P-1	0.00	0.00		0
	Wet Pond	P-2	0.00	0.00		0
	Wet Extended Detention	P-3	0.00	0.00		0
	Multiple Pond System	P-4	0.00	0.00		0
	Shallow Wetland	W-1	0.00	0.00		0
	Extended Detention Shallow Wetland	W-2	0.00	0.00		0
	Pond/Wetland System	W-3	0.00	0.00		0
	Pocket Wetland	W-4	0.00	0.00		0
	Gravel Wetland	W-5	0.00	0.00		0
	Surface Sand Filter	F-1	0.00	0.00		0
	Underground Sand Filter	F-2	0.00	0.00		0
	Perimeter Sand Filter	F-3	0.00	0.00		0
	Wet Swale	O-2	0.00	0.00		0
Alt. SMPs	Flow Based Alternative Practice	-	0.00	0.00		0
	Volume Based Alternative Practice	-				
	Totals by RR Technique →		4.97	0.00	0	
	Totals by Standard SMP w/RRV →		5.20	0.34	1,342	918
	Totals by Standard SMP →		0.00	0.00		0
	Totals by Alternative SMP →		0.00	0.00		0
	Totals (RR Techniques + all SMPs) →		10.17	0.34	1,342	918

Step 3 - Evaluation of RR Techniques and Standard SMPs with RRv Capacity

	Practice	Description	Applicable	Project Specific Evaluation
RR Techniques	**Conservation of Natural Areas (RR-1)**	Retain the pre-development hydrologic and water quality characteristics of undisturbed natural areas by permanently conserving these areas on a site. Undisturbed natural areas include: forest retention areas; reforestation areas; stream and river corridors; shorelines; wetlands, vernal pools, and associated vegetated buffers; and undisturbed open space.		EXAMPLES - The project site does not contain any significant natural resources. **OR** As a Redevelopment Project, the proposed site layout has been designed to limit land disturbance to the greatest extent practical. **OR** Approximately XX+/- Acres will be placed into permanent conservation, which accounts for XX% of the total property. **OR** The project does not propose permanent conservation of these areas at this time.
	Sheet Flow to Riparian Buffer/Filter Strip (RR-2)	Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips and riparian buffers can be used to treat and control stormwater runoff from some areas of a development project.		EXAMPLES - The project site does not contain any riparian buffers. **OR** Sheet flow to riparian buffers or grass filter strips is not proposed at this time. The project proposes treatment by RR techniques, Standard SMPs with RRv capacity, or Standard SMPs without RRv capacity. **OR** The project proposes sheet flow to riparian buffers to reduce runoff from XX. Calculations have been provided in the SWPPP. **OR** The project proposes sheet flow to grass filter strips to reduce runoff from XX. Calculations have been provided in the SWPPP.
	Tree Planting/Tree Pit/Tree Trench (RR-3)	Plant or conserve trees to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. Trees can be used for applications such as landscaping, stormwater management practice areas, conservation areas and erosion and sediment control.		EXAMPLES - The project proposes the preservation of existing mature trees, as well as the planting of numerous trees throughout the site, in order to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. **OR** The project proposes new tree plantings/tree pits/tree trenches, adjacent to impervious surfaces, Calculations have been provided in the SWPPP. **OR** Tree plantings/tree pits/tree trenches are proposed on site. However, credit for these trees will not be taken toward area reduction/volume reduction in the RRv calculations.
	Disconnection of Rooftop Runoff (RR-4)	Direct runoff from rooftop areas and upland overland runoff flow to designated pervious areas to reduce runoff volumes and rates.		EXAMPLES - The building roof(s) will be directed to downspouts with splash blocks and discharge over a grassed filter. Calculations have been provided in the SWPPP. **OR** The building roof(s) will be directed to downspouts with splash blocks and vegetated areas, which will promote sheet flow and filtering. However, credit for rooftop disconnect will not be taken toward an impervious area reduction in the RRv calculations. **OR** Due to the size/use/layout of the proposed building(s), rooftop disconnect is not proposed at this time.

Step 3 - Evaluation of RR Techniques and Standard SMPs with RRv Capacity

RR Techniques

Vegetated Swale (RR-5)	The natural drainage paths, or properly designed vegetated channels, can be used instead of constructing underground storm sewers or concrete open channels to increase time of concentration, reduce the peak discharge, and provide infiltration.		EXAMPLES - Due to flat topography/steep topography/etc., vegetated swales are not feasible for use on the project site. **OR** Vegetated swale(s) will be used to treat XX. Calculations have been provided in the SWPPP.
Rain Garden (RR-6)	Manage and treat small volumes of stormwater runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression.		EXAMPLES - Due to the size of contributing area/tributary driveway/tributary roadway, a bioretention facility will be implemented instead of rain gardens. **OR** Due to XXX,rain gardens are not feasible for use on the project site. **OR** Rain gardens will be used to treat roof runoff at the source for the building(s). Calculations have been provided in the SWPPP.
Stormwater Planter (RR-7)	Small landscaped stormwater treatment devices that can be designed as infiltration or filtering practices. Stormwater planters use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality.		EXAMPLES - Due to XXX, a bioretention facility will be implemented instead of stormwater planter(s). **OR** Due to XXX,stormwater planters are not feasible for use on the project site. **OR** Stormwater planters will be used to treat roof runoff at the source for the building(s). Calculations have been provided in the SWPPP.
Rainwater Harvesting System (RR-8)	Capture and store stormwater runoff to be used for irrigation systems or filtered and reused for non-contact activities.		EXAMPLES - Rainwater harvesting is not proposed on-site due to XXX. **OR** A below-grade cistern will be implemented for reuse as XXX. The system has been sized to provide adequate storage capacity for the entire WQv & RRv calculated for the tributary area. Calculations have been provided in the SWPPP. An above-grade rain barrel/cistern will be implemented for reuse as XXX. The system has been sized to provide adequate storage capacity for the entire WQv & RRv calculated for the tributary area. Calculations have been provided in the SWPPP.
Porous Pavement (RR-9)	Pervious types of pavements that provide an alternative to conventional paved surfaces, designed to infiltrate rainfall through the surface, thereby reducing stormwater runoff from a site and providing some pollutant uptake in the underlying soils.		EXAMPLES - Due to XXX, porous pavement is not feasible for use on the project site. **OR** Porous asphalt will be used, in place of XX, for the proposed XX. Calculations have been provided in the SWPPP. **OR** Porous concrete will be used, in place of XX, for the proposed XX. Calculations have been provided in the SWPPP. **OR** Porous pavers will be used, in place of XX, for the proposed XX. Calculations have been provided in the SWPPP.

Step 3 - Evaluation of RR Techniques and Standard SMPs with RRv Capacity

	Green Roof (RR-10)	Capture runoff by a layer of vegetation and soil installed on top of a conventional flat or sloped roof. The rooftop vegetation allows evaporation and evapotranspiration processes to reduce volume and discharge rate of runoff entering conveyance system.		EXAMPLES - Due to XX, a green roof is not feasible for use on the project site. **OR** An extensive/intensive green roof is proposed on-site. Calculations have been provided in the SWPPP.
	Stream Daylighting (RR-11)	Stream Daylight previously-culverted/piped streams to restore natural habitats, better attenuate runoff by increasing the storage size, promoting infiltration, and help reduce pollutant loads.		EXAMPLES - No stream daylighting opportunities are present on the site. **OR** Although stream daylighting opportunities are present, due to XX, stream daylighting is not proposed on this site. **OR** The project proposes stream daylighting for an XX-ft length of stream.
Standard SMPs with RRv Capacity	**Infiltration Trench (I-1)**	An infiltration practice that stores the water quality volume in the void spaces of a gravel trench before it is infiltrated into the ground.		EXAMPLES - Due to XX, infiltration trenches are not feasible for use on the project site. **OR** Infiltration trench(es) are proposed on-site to treat XX. Calculations have been provided in the SWPPP.
	Infiltration Basin (I-2)	An infiltration practice that stores the water quality volume in a shallow depression, before it is infiltrated it into the ground.		EXAMPLES - Due to XX, infiltration basins are not feasible for use on the project site. **OR** An infiltration basin(s) is proposed on-site to treat XX. Calculations have been provided in the SWPPP.
	Dry Well (I-3)	An infiltration practice similar in design to the infiltration trench, and best suited for treatment of rooftop runoff.		EXAMPLES - Due to XX, dry wells are not feasible for use on the project site. **OR** Dry well(s) are proposed on-site to treat XX. Calculations have been provided in the SWPPP.
	Underground Infiltration System (I-4)	An infiltration practice below grade that stores the water quality volume in pre-manufactured pipes, vaults or other modular structures, before it is infiltrated into the ground.		EXAMPLES - Due to XX, underground infiltration systems are not feasible for use on the project site. **OR** An underground infiltration system(s) is proposed on-site to treat XX. Calculations have been provided in the SWPPP.
	Infiltration Bioretention (F-4)	A shallow depression that treats stormwater as it flows through a soil matrix, before it is infiltrated into the ground.		EXAMPLES - Due to XXX, a filtration bioretention will be implemented, instead of an infiltration bioretention. **OR** Due to XXX, bioretention is not feasible for use on the project site. **OR** Infiltration bioretention will be used to treat XX. Calculations have been provided in the SWPPP.
	Filtration Bioretention (F-5)	A shallow depression that treats stormwater as it flows through a soil matrix and is returned to the storm drain system.		EXAMPLES - Due to XXX, an infiltration bioretention will be implemented, instead of a filtration bioretention. **OR** Due to XXX, bioretention is not feasible for use on the project site. **OR** Filtration bioretention will be used to treat XX. Calculations have been provided in the SWPPP.

Step 3 - Evaluation of RR Techniques and Standard SMPs with RRv Capacity

	Bioslope (F-6)	Permeable engineered soil media that is installed along embankments or other slopes, designed to capture and treat stormwater runoff from adjacent paved areas.		EXAMPLES - Due to XXX, bioslopes are not feasible for use on the project site. **OR** Bioslope(s) will be used to treat XX. Calculations have been provided in the SWPPP.
	Dry Swale (O-1)	An open drainage channel or depression explicitly designed to detain and promote the filtration of stormwater runoff into the soil media.		EXAMPLES - Due to XXX, dry swales are not feasible for use on the project site. **OR** A dry swale(s) will be used to treat XX. Calculations have been provided in the SWPPP.

Step 4 - Calcuate Minimum RRv Required

Enter the Soils Data for the entire site		
Hydrologic Soil Group	Acres	S
A	4.85	55%
B	16.04	40%
C	0.06	30%
D	28.50	20%
Total Area	49.45	

Calculate the Minimum RRv		
S =	**0.30**	
Impervious =	0.34	*acres*
Precipitation	1.10	*inches*
Rv	0.95	
Minimum RRv	**0.009**	***af***
	392	cf

Filtration Bioretention (F-5)

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
1	4.97	0.27	5	0.10	1,963	1.10	Filtration Bioretention

Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.65	
Is the contributing area to the practice a stormwater hotspot?	No	
Is the practice the first in series for treatment of a Level 1 (Infiltration Restricted) hotspot?	No	
Is contributing area greater than max. contributing area?	No	
Enter depth to seasonal high water table (ft)	15	
Enter depth to bedrock (ft)	15	
Is pretreatment provided, in conformance with Section 6.4.3.1?	Yes	
Enter average height of ponding (ft)	0.5	
Enter depth of surface layer (inches)	3	
Enter depth of filter media (ft)	2.5	
Enter depth of drainage layer (inches)	12	
Enter slope of maintenance access (%)	10	
Enter width of maintenance access (ft)	12	

Sizing Criteria				
		Value	Units	Notes
Permeability Flow Rate	k	1	ft/day	
Filter Time	tf	2	days	
Required Filter Area	Af	818	sf	
Enter Provided Filter Area	Af	1089	sf	
Recalculated Water Quality Volume (based on provided filter area)	WQv calc	2613.6	cf	

Calculate Runoff Reduction			
RRv Provided	**1,045**	***cf***	
WQv Treated	918	cf	This is the portion of the WQv that is not reduced in the practice.

Filtration Bioretention (F-5)

Design Point:	1

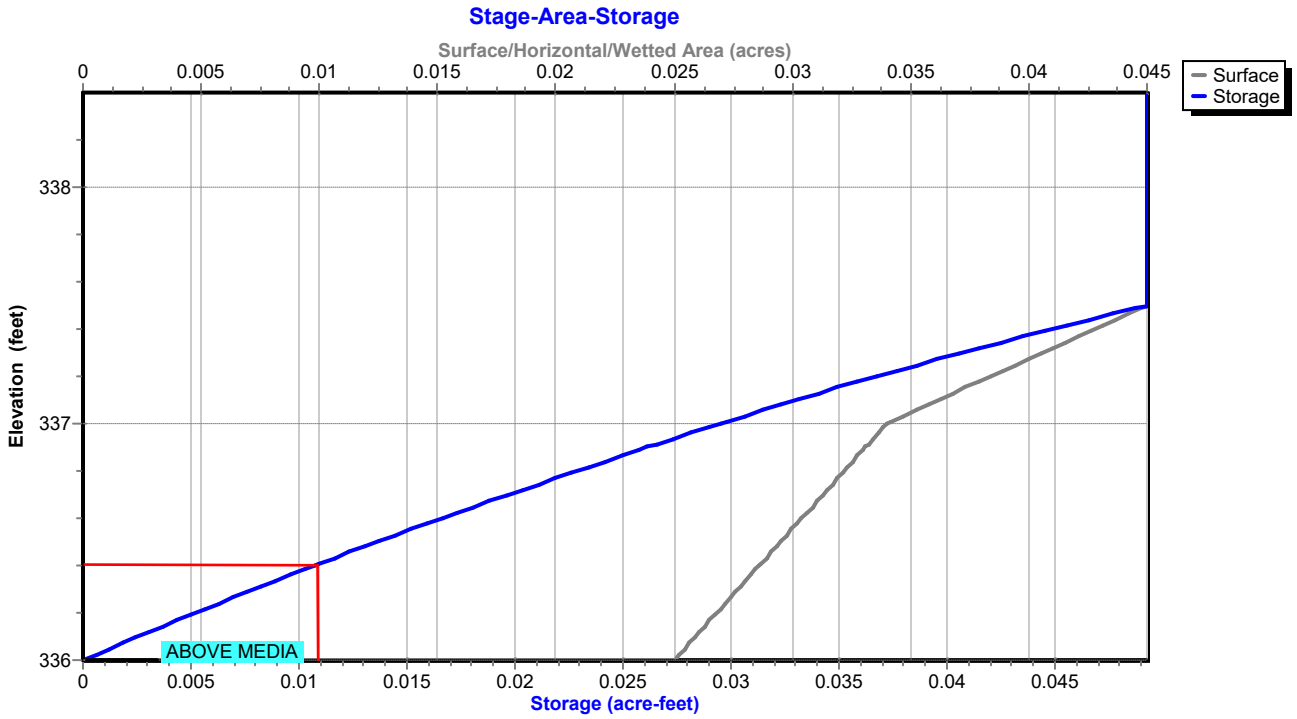
Enter Site Data For Drainage Area to be Treated by Practice							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
2	0.23	0.07	30	0.32	297	1.10	Filtration Bioretention

Design Criteria		
Enter underlying soil infiltration rate (based on geotechnical testing, refer to Appendix D)	0.65	
Is the contributing area to the practice a stormwater hotspot?	No	
Is the practice the first in series for treatment of a Level 1 (Infiltration Restricted) hotspot?	No	
Is contributing area greater than max. contributing area?	No	
Enter depth to seasonal high water table (ft)	15	
Enter depth to bedrock (ft)	15	
Is pretreatment provided, in conformance with Section 6.4.3.1?	Yes	
Enter average height of ponding (ft)	0.5	
Enter depth of surface layer (inches)	3	
Enter depth of filter media (ft)	2.5	
Enter depth of drainage layer (inches)	12	
Enter slope of maintenance access (%)	10	
Enter width of maintenance access (ft)	12	

Sizing Criteria				
		Value	Units	Notes
Permeability Flow Rate	k	1	ft/day	
Filter Time	tf	2	days	
Required Filter Area	Af	124	sf	
Enter Provided Filter Area	Af	310	sf	
Recalculated Water Quality Volume (based on provided filter area)	WQv calc	744	cf	

Calculate Runoff Reduction			
RRv Provided	**297**	***cf***	
WQv Treated	0	cf	This is the portion of the WQv that is not reduced in the practice.

Pond BIO 1B: BIO 1B



APPENDIX L: NYSDEC SPEDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY (PERMIT NO. GP-0-25-01)

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 not 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 not 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

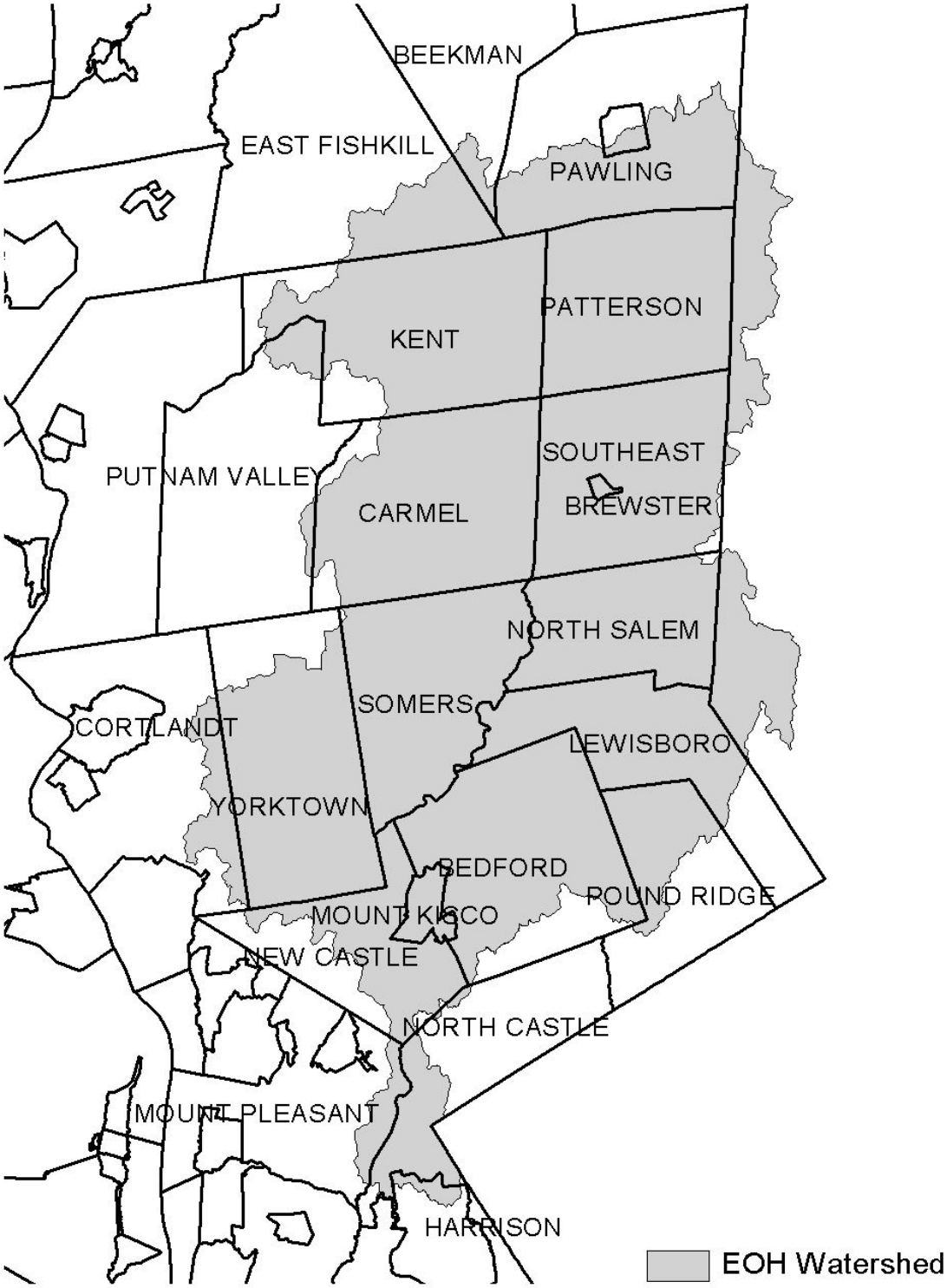


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

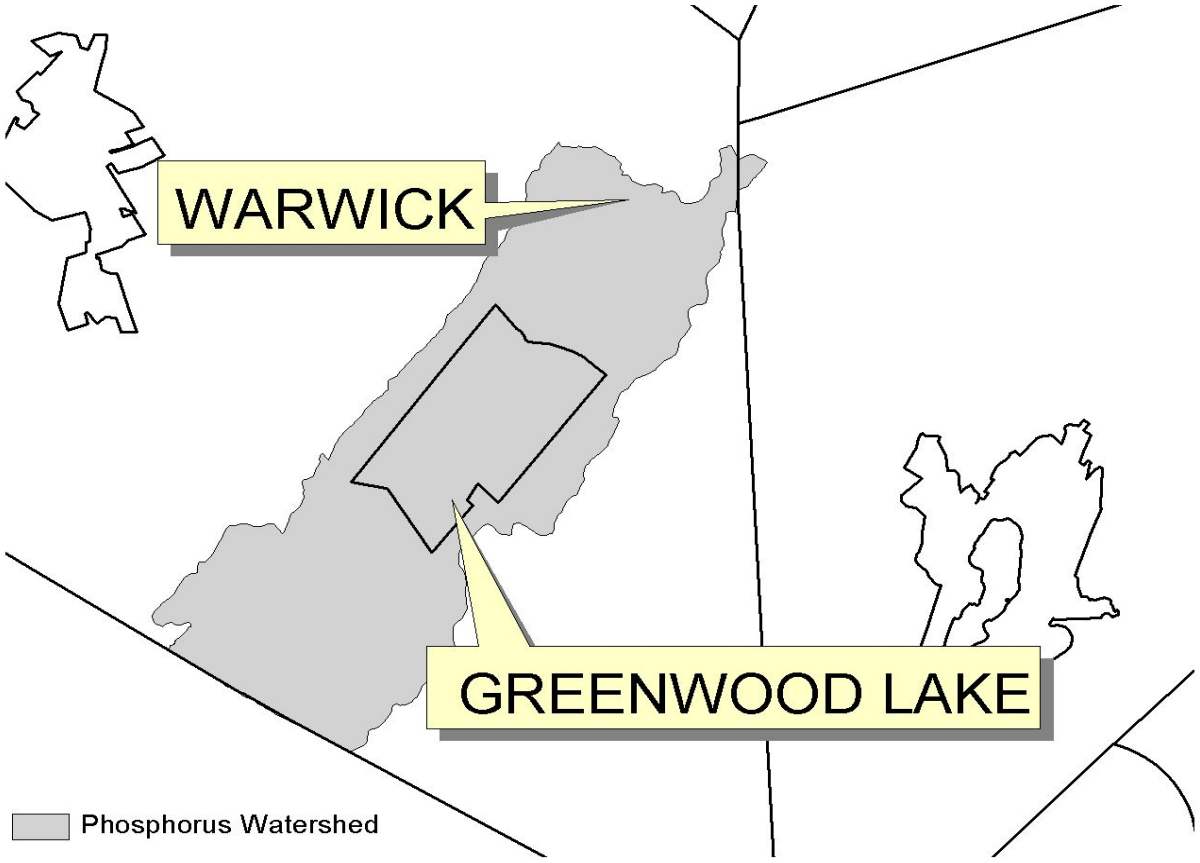


Figure 4 - Oscawana Lake Watershed

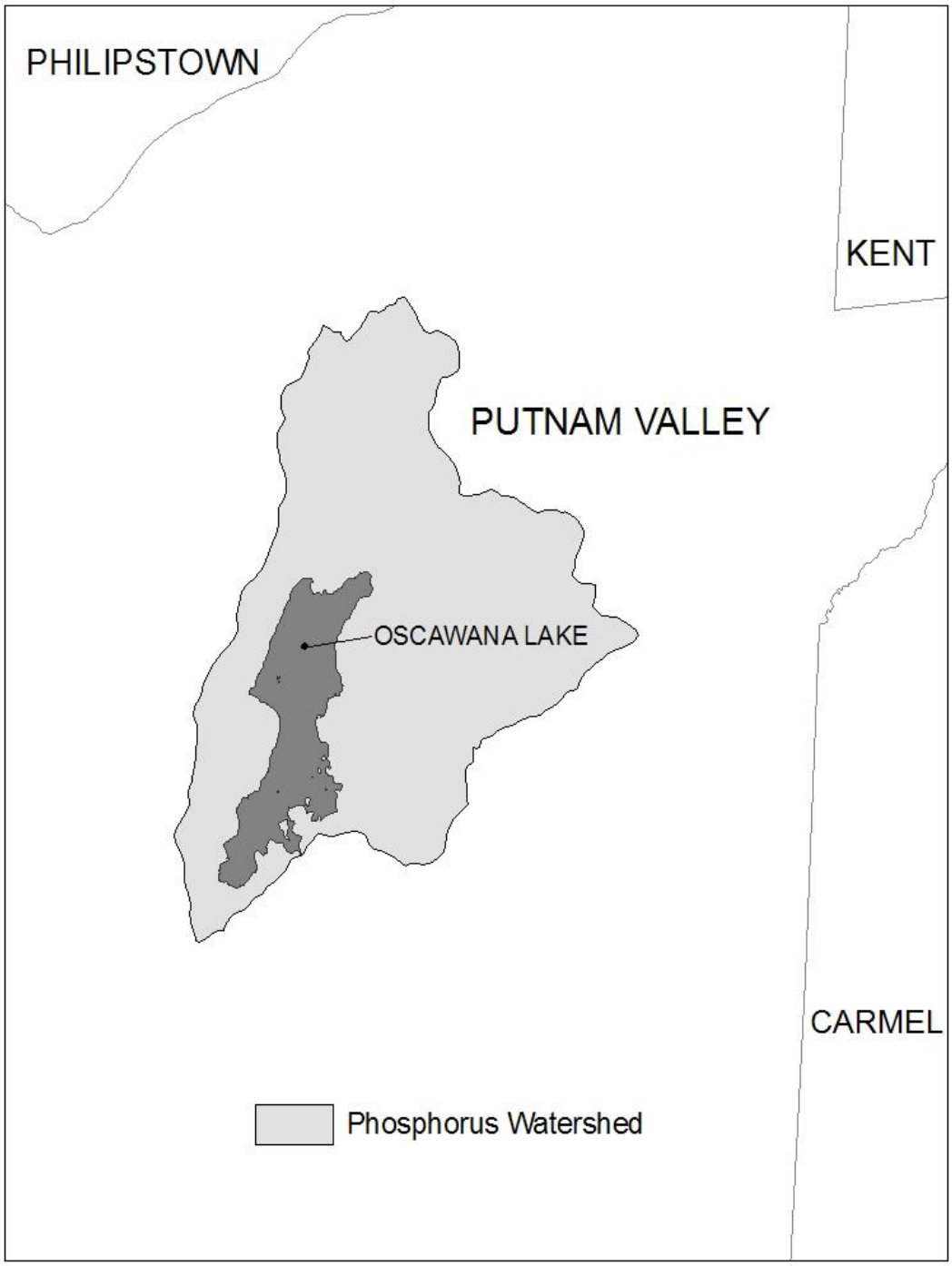
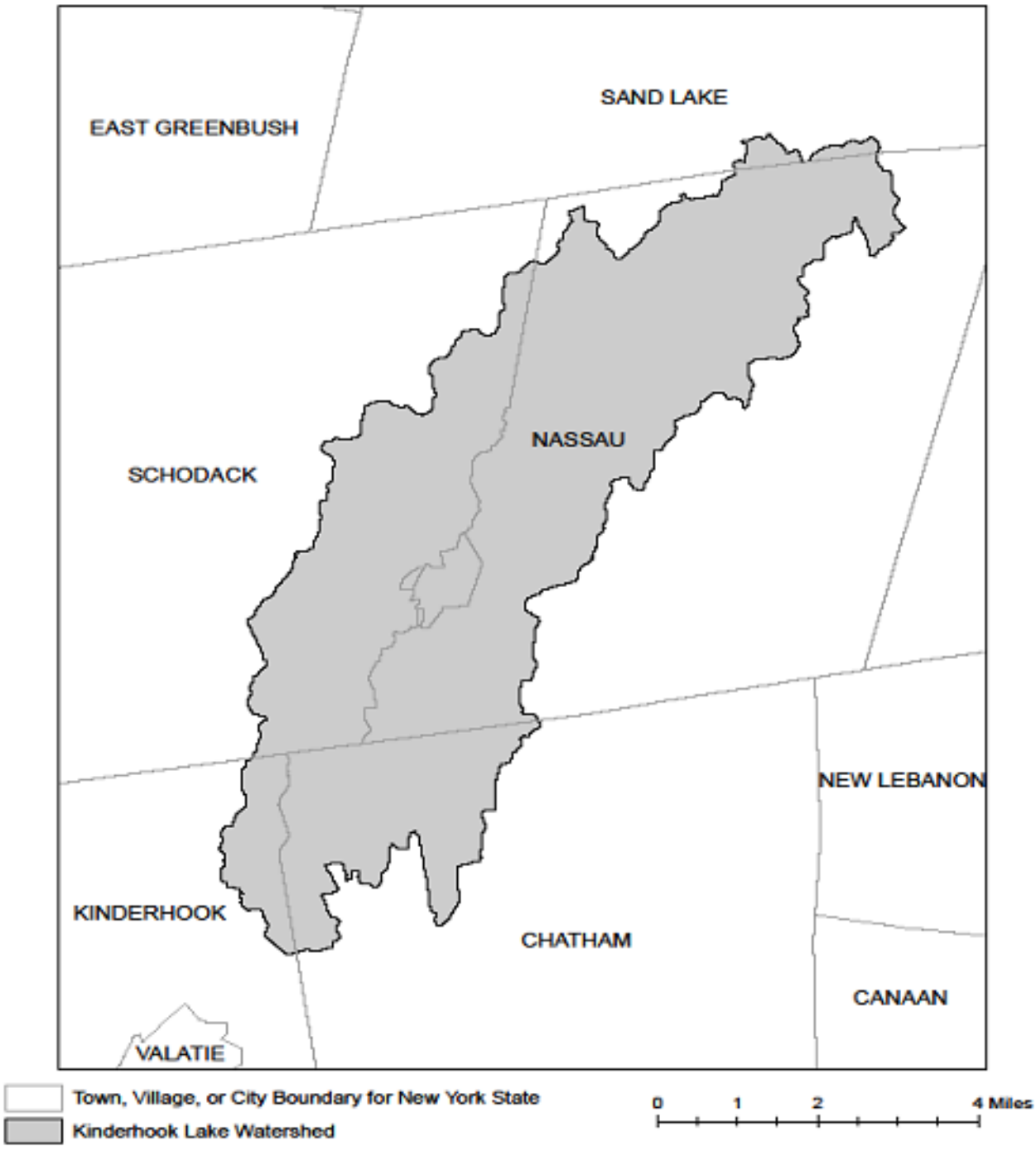


Figure 5 - Kinderhook Lake Watershed



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 M: CONSTRUCTION SITE INSPECTION, WINTER SHUTDOWN AND SWPPP REVISION FORM

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

Standardized Qualified Inspector Form

Project Name and Location of Project: _____ _____ _____ Municipality:_____ County: _____ Qualified Inspector: _____ Qualified Inspector Title:_____	Date:	Weather:
	Permit #: **NYR10**	
	Entry Time:	Exit Time:
5 Acre Waiver: □ Yes □ No Name of SPDES Permittee:_____ Phone: _____Fax:_____ Name of Representative on Site: _____		

Qualified Inspector's Credentials & Certification

Qualified Inspector (QI) means a person that is knowledgeable in the principles and practices of erosion and sediment control (ESC). A person is considered qualified under the following conditions:

1. A licensed Professional Engineer; licensed Landscape Architect with documented training and education in the principles and practices of ESC;
2. An individual certified in ESC by CPESC, Incorporated or any other agency endorsed by the NYS Department of Environmental Conservation Office of Water Resources;
3. An individual working under the direct supervision of a qualified licensed Professional Engineer or qualified licensed Landscape Architect with documented training and education in the principles and practices of ESC **and has** completed the four (4) hour training program in the principles and practices of erosion and sediment control from either a Soil and Water Conservation District, CPESC or any other agency endorsed by the NYS Department of Environmental Conservation Office of Water Resources. This initial training must be completed no later than May 1, 2010. After receiving the initial training, an individual working under the direct supervision of a qualified licensed Professional Engineer or qualified licensed Landscape Architect must complete four (4) hours of training every three (3) years.
4. Any other individual endorsed by the NYS Department of Environmental Conservation by written documentation.
5. 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.1

Part I. CONSTRUCTION DURATION INSPECTIONS **Page 2 of _____**

a. Important Site Notes for Contractor. Failure to maintain these requirements may be subject to fines at discretion of NYS Dept. of Environmental Conservation.

#1: Is the most recent SWPPP book & SWPPP Mailbox on site?
- Or located inside job trailer & easily accessible?

#2: Is the most recent SWPPP inspection(s) located in the mailbox or on site?

#3: If the site has a 5 acre waiver, is the phasing plan located on site?
-Is the contractor following the approved phasing plan?

LIST OF DEFICIENCES NOTED BY INSPECTOR:
-
-
-
-
-
-
-

CONTRACTOR TO REFER TO ATTACHED SKETCH DRAWING FOR LOCATIONS, AS WELL AS FOLLOWING SHEETS.

b. Other Permit Required Reporting

Maintaining Water Quality - *Attach Color Photographs of the site documenting discharge points and site conditions.*
Describe the condition of runoff at all points of discharge.
Is there an increase in turbidity causing a substantial visible contrast to natural conditions? _____
Is there residue from oil and floating substances, visible oil film, or globules or grease? _____
Is there evidence of silt deposition from project in a stream, wetland, or other water body? _____
If yes, where? _____remedial measure needed? _____
Provide a description of the conditions of all natural water bodies within or immediately adjacent to the project. _____

Area of Disturbance
Total area of disturbance (as shown on sketch plan and not including areas that have temporary or permanent stabilization measures applied) _____
Are all disturbances within the limits of the SWPPP? _____

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

General Housekeeping
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?_____
Describe corrective action(s): _____
Date correction needed: _____

c. Runoff Controls *Direct runoff away from exposed soil surfaces and control water that falls onto the site*

Runoff conveyance systems ☐ N A
Are all runoff conveyance systems called for in the SWPPP installed, stabilized and working? _____
If not, what specific areas need detailing?_____
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? _____
Describe corrective action(s): _____
Date correction needed: _____

Runoff Control Structures ☐ N A
Have all required runoff control structures (rock outlets and aprons) been installed and constructed per plan and according to the Blue Book?_____ Installed concurrently with pipe installation? _____
Describe corrective action(s): _____
Date correction needed: _____

Temporary Stream or Channel Crossing □ N A
Have construction crossings at concentrated flow areas been culverted?_____
Describe corrective action(s): _____
Date correction needed: _____

Stone Check Dam □ N A
Installed per standards? _____ channel stable (flow is not eroding soil underneath or around the structure). _____does sediment need to be removed? _____
Describe corrective action(s): _____
Date correction needed: _____

Excavation Dewatering □ N A
1. Flowing water □ N A – Upstream berm (sandbags, inflatable dams, etc. with one-foot minimum freeboard) and downstream berms are installed per plan? _____and functioning? (clean water from upstream pool is being pumped to the downstream pool)?
_____
2. Sediment laden water from work area □ N A - Is being discharged to a silt-trapping device? _____
3. Groundwater from excavations □ N A - is being managed properly (sumps and sediment control)? _____
Describe corrective action(s): _____
Date correction needed: _____

d. Soil Stabilization *Basic erosion control is achieved by covering all bare ground areas.*

Topsoil and Spoil Stockpiles □ N A
Stabilized - sediment controls at downhill slope? _____
Describe corrective action(s): _____
Date correction needed: _____

Revegetation/Stabilization □ N A
Has temporary or permanent seeding *and* mulch (as shown on site sketch plan) been applied to areas that have been inactive for 14 days or less (or, inactive for 7 days if over 5 acres disturbed)?_____
Has soil preparation been applied as specified in the SWPPP and in accordance with the Blue Book (Assure that all the necessary soil testing/fertilizer/lime, topsoil, decompaction has been applied)?
_____
Have rolled erosion control products specified for steep slopes or channels been installed? _____
Describe corrective action(s): _____
Date correction needed: _____

e. Sediment Controls

Stabilized Construction Entrance □ N A
Stone is clean and all access areas covered (entrances, construction routes, materials storage areas, equipment parking)?_____ Tracking onto public streets is minimized and cleaned daily? _____
Describe:_____
Date correction needed: _____

Silt Fence □ N A

Installed on contour? not across conveyance channels?_____ At least 10 feet from toe of slope?_____At appropriate spacing intervals based on slope?_____Wrapped ends for continuous support?_____Fabric is tight, without rips or frayed areas?_____Posts are stable?_____ buried 6 inches minimum?_____Any "bulges"?_____
Describe:_____
_____
Date correction needed: _____

Temporary Sediment Trap □ N A

Is outlet structure constructed properly?_____geotextile fabric has been placed beneath rock fill?_____Maintenance – depth of sediment in basin? _____ 50% capacity?
_____
Describe:_____
_____
Date correction needed: _____

Temporary Sediment Basin □ N A

Is basin and outlet structure constructed per the approved plan? _____
Are basin side slopes stabilized with seed/mulch?
_____
Maintenance – depth of sediment in basin? _____ 50% capacity?
_____
Describe:_____
_____
Date correction needed: _____

Drop Inlet Protection □ N A

Type(s) of inlet control? _____
Installed per Blue Book specifications: drainage area (typically 1 acre)? _____
Appropriate for location? _____
Describe:_____
_____
Date correction needed: _____

f. Digital Color Photographs of Deficient BMPs

The *qualified inspector* shall attach paper color copies of the digital photographs to this inspection report of deficient BMPs with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions.

g. Digital Color Photographs of BMPs that have been Corrected

The *qualified inspector* shall attach paper color copies of the digital photographs to this inspection report of corrected BMPs with date stamp, that clearly show the condition of the practice(s) after the corrective actions has been completed.

h. Post-Construction Stormwater Management

Report of any corrective action(s) that must be taken to install, correct, repair, replace or maintain any deficiencies identified with the construction of the post-construction stormwater management practice(s).
Report the current phase of construction of all post-construction stormwater management practice(s) and whether the installation appears to be geometrically consistent with the approved hydraulic design (e.g. the pond, the outlet structure, orifice, pipe sizing and slope is geometrically consistent with the SWPPP):_____

_____
_____
_____

i. Revisions to SWPPP

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 other report, 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 and/or the MS4, they shall promptly submit such facts or information. 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 permit violation (GP-0-10-001 PartVII.G)

_____
_____
_____
_____

j. Inspection Notes and Signature

Inspection Notes:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Standardized Qualified Inspector Form

PART I. j. Signature

GP-0-10-001 Part VII.Q

Articles 175 and 210 of the New York State Penal Law provide for Criminal penalty of a fine and/or imprisonment for falsifying forms and reports required by this permit.

_____ _____

Qualified Inspector (print name) **Date of Inspection**

_____

Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Title: _____ Address: _____

Phone: _____ Email: _____

CPESC#: _____

Stormwater Training Number for *Trained Individuals*: _____
P.E. or L.A. Supervisor Name for *Trained Individuals*:_____

Compliance certification:

Received and reviewed by_____Title:_____

The above signed acknowledges receipt of this inspection report

APPENDIX N: MS4 SWPPP ACCEPTANCE FORM OR NO JURISDICTION FORM

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX O: NOTICE OF INTENT, SWPPP PREPARER CERTIFICATION, OWNER CERTIFICATION FORMS.

Construction General Permit (CGP) Electronic Notice of Intent (eNOI) GP-0-25-001

version 1.21

(Submission #: HQS-MA45-BWG74, version 1)

Details

Originally Started By	Pamela Freeman
Alternate Identifier	Solar Liberty Amsterdam —Region 4
Submission ID	HQS-MA45-BWG74
Status	Draft

Form Input

Eligibility

Disturbance Threshold

1. Will the construction activity involve soil disturbances listed in Part I.A.1 of GP-0-25-001?
Yes

1.a. Will any runoff from the site enter a sewer system classified as a combined sewer?
No

1.b. Is this a remediation project being done under a Department approved work plan (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) with a SWPPP which meets the substantive requirements of GP-0-25-001?
No

1.c. Is the construction activity related to a stormwater discharge that does not require a permit as described in 40 CFR 122.3(e), e.g. non-point source agriculture or silviculture activities?
No

Other SPDES Permits

2. Will the discharge from the construction activity meet all conditions listed in Part I.A.2 of GP-0-25-001?
Yes

Threatened and Endangered Species

3. Will the construction activity potentially adversely affect a species that is endangered or threatened per Part I.A.3.?
No

State Historic Preservation Act (SHPA)

4. Is the construction activity designated by the Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP), pursuant to 9 NYCRR §§428.12 or 428.13 as exempt from the SHPA review (see Attachment 2 of the Letter of Resolution between NYSDEC and OPRHP, dated January 9, 2015)?
No

4.a. Will the construction activity:

a) occur within an archeologically sensitive area indicated on the sensitivity map, or

b) have the potential to affect a property that is listed or determined to be eligible for listing on the National or State Registers of Historic Places, or

c) include a new permanent building on the construction site within the following distances from a building, structure, or object that is more than 50 years old and OPRHP, a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined is a historically/archeologically significant building, structure, or object:

- 1-5 acres of disturbance—20 feet
- 5-20 acres of disturbance—50 feet
- 20+ acres of disturbance—100 feet?

No

4.b. Is there documentation at the construction site demonstrating:

a) that the construction activity is not within an archeologically sensitive area indicated on the sensitivity map, and that the construction activity is not immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and

b) that there is no new permanent building to be built 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 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?

Yes

State Environmental Quality Review (SEQR)

5. Is the construction activity subject to SEQR (Part I.A.5.), or the equivalent environmental review from another NYS or federal agency (Part I.A.6.)?
Yes

5.a. Has the owner/operator obtained documentation that the project review pursuant to SEQR, or the equivalent, has been satisfied per Part I.A.5. or I.A.6. of GP-0-25-001?
Yes

Uniform Procedures Act (UPA) Permits

6. Has the owner/operator obtained all necessary UPA permits from NYSDEC, or the equivalent from another NYS or federal agency per Part I.A.7.a. of GP-0-25-001? Select "Yes" if no UPA permits, or the equivalent, are required for this construction activity.
Yes

Steep Slope

7. Is the construction activity within the watershed of surface waters of the State classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website?
No

Owner/Operator Information

8. Owner/Operator Name
Solar Liberty

9. Owner/Operator Contact Person Information

First and Last Name	Phone	E-mail
Will Appenheimer	(866) 807-3639	william.appenheimer@solarliberty.com

10. Owner/Operator Mailing Address

6500 Sheridan Drive
Buffalo, NY 14211
USA

11. Is the billing contact different from the Owner/Operator Contact?
No

12. What type of organization is the owner/operator?
Privately Owned Facility

12.b. Is the owner/operator registered with the Department of State to do business in New York State?
Yes

12.b.i. Department of State ID #
2955307

The Department of State ID can be found using the following link:
Department of State | Division of Corporations

Site Information

13. Project/Site Name
Solar Liberty Amsterdam

14. Site Address

1247 NY-5S
Florida, NY 12010
Montgomery

DEC Region
4

15. Site Latitude & Longitude
42.923990089593104,-74.18757719945877

Project Details

16. This eNOI submission is for:
A construction activity not part of a common plan of development or sale in accordance with Part I.D.1.a.

17. Does the project type fall under Table 1 or Table 2 of Appendix B of GP-0-25-001? If any portion of the construction activity falls under Table 2, regardless of the size of the disturbance, select "Table 2".
Table 2

18. Consistent with Part III.B.1.c.i. of GP-0-25-001, provide a concise overview of the project. Describe existing and proposed conditions, and include any other relevant information.
The proposed project is located along NY-5S right of way. The project consists of a parcel situated on approximately 49.45 acres.

The parcel has varied land covers, which range from agricultural soils to forested land. The land also varies in slope throughout the site, with slopes between 0-35%.

Stormwater generally drains to the Northeast into existing wetlands, the roadside ditch, and eventually the Mohawk River offsite. The remaining part of the site drains to the Northwest offsite.

The lot will consist of a proposed solar array. The project consists of approximately 3.00± acres of disturbance including the areas of tree removal. This project will include a new access road, green infrastructure, and electrical utilities that will serve the proposed solar array.

Enter the total project site acreage, the acreage to be disturbed, and the future impervious area (acreage) within the disturbed area, rounded to the nearest tenth of an acre.

19. Total Site Area (acres)
49.4

20. Total Area to be Disturbed (acres)
3.0

21. Existing Impervious Area to be Disturbed (acres)
0.0

22. Future Impervious Area Within Disturbed Area (acres)
0.4

Nature of the project:
New Construction

23. Do you plan to disturb more than 5 acres of soil at any one time?
No

---

24. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
10

B (%)
34

C (%)
56

D (%)
0

25. Enter the planned start and end dates of the disturbance activities.

Start Date
03/01/2027

End Date
03/01/2028

26. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
onsite wetland and stream

27. Type of waterbody identified in question 26?
Wetland/Federal Jurisdiction On Site
Stream/Creek On Site

28. Has the surface waterbody in question 26 been identified as a 303(d) segment in Appendix D of GP-0-25-001?
No

29. Is this project located in one of the Watersheds identified in Appendix C of GP-0-25-001?
No

30. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

31. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
No

32. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

33. Is this property owned by a state authority, state agency, federal government or local government?
No

Required SWPPP Components

General SWPPP Requirements

34. Has a SWPPP been developed in conformance with the requirements in Part III. of GP-0-25-001?
Yes

35. Does the SWPPP demonstrate consideration of the future physical risks due to climate change pursuant to the CRRA, 6 NYCRR Part 490, and associated guidance per Part III.A.2. of GP-0-25-001?
Yes

36. 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

37. Which version of the NYS Stormwater Management Design Manual was used to develop the SWPPP?
2024

37.a. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the NYS Stormwater Management Design Manual?
Yes

SWPPP Preparer

39. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

40. Name of the person who prepared the SWPPP
Shauncy Maloy, P.E.

41. SWPPP Preparer Organization Name
Passero Associates

42. SWPPP Preparer Contact Information

First and Last Name	Phone	E-mail
Shauncy Maloy	(980) 655-5382	smaloy@passero.com

43. SWPPP Preparer Address

1801 N GRAHAM ST # 220

CHARLOTTE, NC 28206-3574

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Upload the completed form

Download SWPPP Preparer Certification Form

44. Please upload the SWPPP Preparer Certification

NONE PROVIDED

Comment

NONE PROVIDED

44.a. Has the SWPPP Preparer Certification Form been signed by the SWPPP preparer in accordance with Part VII.J of GP-0-25-001?

NONE PROVIDED

Erosion & Sediment Control Criteria

45. Has a construction sequence schedule for the planned management practices been prepared?

Yes

Post-Construction Criteria

Site Planning and Soil Restoration

46. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

Locating Development in Less Sensitive Areas

47. 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.

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).

Water Quality Criteria

49. Water Quality Sizing Criteria

Total WQv required (acre-feet)	Total RRv provided (acre-feet)	Minimum RRv (acre-feet)	Total WQv provided (acre-feet)	Sum of RRv and WQv provided
.052	.031	.009	.052	0.083

49.a. Part II.C.2.a.i.1. requires reduction of the total WQv by application of RR techniques and standard SMPs with RRv capacity. Otherwise, Part II.C.2.a.i.2. requires the specific site limitations that prevent the reduction of 100% of the WQv to be documented in the SWPPP. Use this space to summarize the justification and documentation in the SWPPP required by Part II.C.2.a.i.2.
Due to the topography of the site and the percentage of the site that are type C soils, it is not practical to provide 100% of the WQv in RRv. Over 60% is provided through RRv and the rest is provided through bioretention.

Water Quantity Criteria

51. Does one of the waiver conditions apply to the channel protection for this construction activity?
No

51.b.i. CPv Required (acre-feet)
.009

51.b.ii. CPv Provided (acre-feet)
.011

52. Does one of the waiver conditions apply to the Qp and Qf for this construction activity?
No

Overbank Flood Control Criteria (Qp)

52.b.i. Pre-Development (CFS)
86.4

52.b.ii. Post-Development (CFS)
68.0

Total Extreme Flood Control Criteria (Qf)

52.b.iii. Pre-Development (CFS)
195.9

52.b.iv. Post-Development (CFS)
169.4

Operation and Maintenance

53. Has a long-term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

53.a. Identify the entity responsible for the long-term Operation and Maintenance.
The Owner

Post-Construction SMP Identification

54. Post-Construction RR Techniques and Standard SMPs

RR Techniques and SMPs	Contributing Impervious Area (acres)	Total Contributing Area (acres)
Infiltration Bioretention (F-4)	0.34	

55. Alternative SMPs

Type of Alternative SMP	Manufacturer of the Alternative SMP	Name of the Alternative SMP	Contributing Impervious Area (acres)
NONE PROVIDED	*NONE PROVIDED*	*NONE PROVIDED*	*NONE PROVIDED*

Other Permits

56. Identify other permits, existing and new, that are required for this project/facility.
None

57. Is this NOI for a change in owner/operator per Part I.G.?
No

MS4 SWPPP Acceptance

59. Will the construction activities be within the municipal boundary(ies) of Traditional Land Use Control MS4 Operator(s) and discharge to the MS4(s)?
No

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the Owner/Operator Certification Form by clicking the link below.
Owner/Operator Certification Form

61. Upload Owner/Operator Certification Form

NONE PROVIDED

Comment

NONE PROVIDED

61.a. Has the Owner/Operator Certification Form from Appendix J been signed by the owner/operator, or a representative of the owner/operator in accordance with Part VII.J of GP-0-25-001 and uploaded to the eNOI?

No

All forms submitted with the eNOI must be signed in accordance with Part VII.J. per Part I.D.2.b. of GP-0-25-001.

Additional Project Information

62. Enter any additional pertinent project information in the text box below.

NONE PROVIDED

APPENDIX P: NOTICE OF TERMINATION

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:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

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

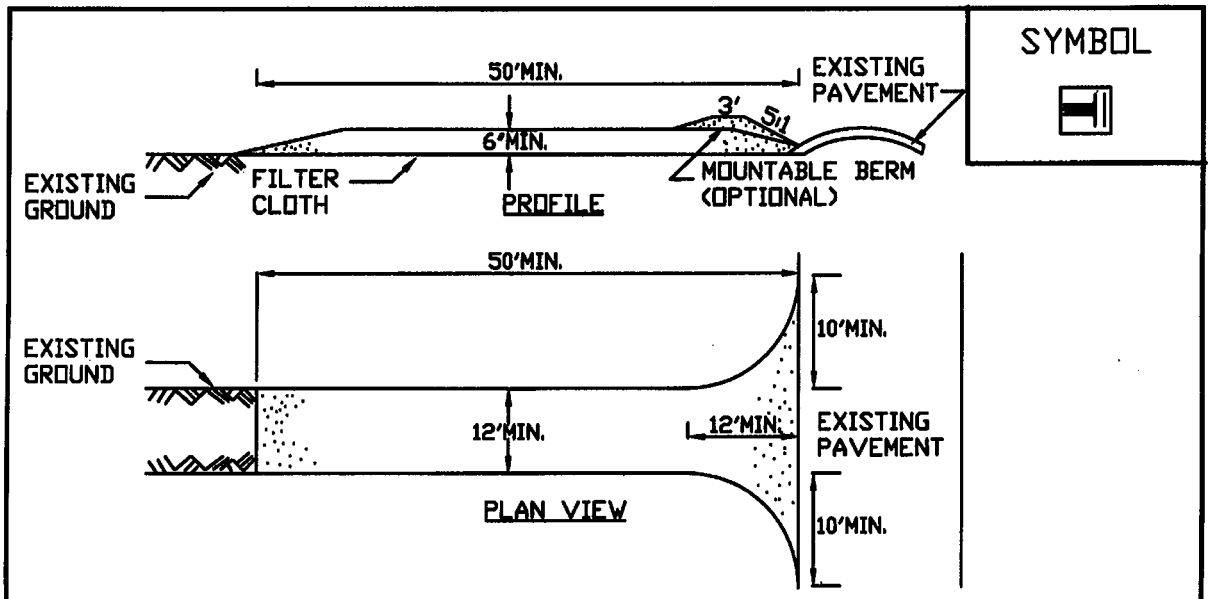
I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document 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 Q: EROSION CONTROL DETAILS

Figure 5A.35
Stabilized Construction Entrance



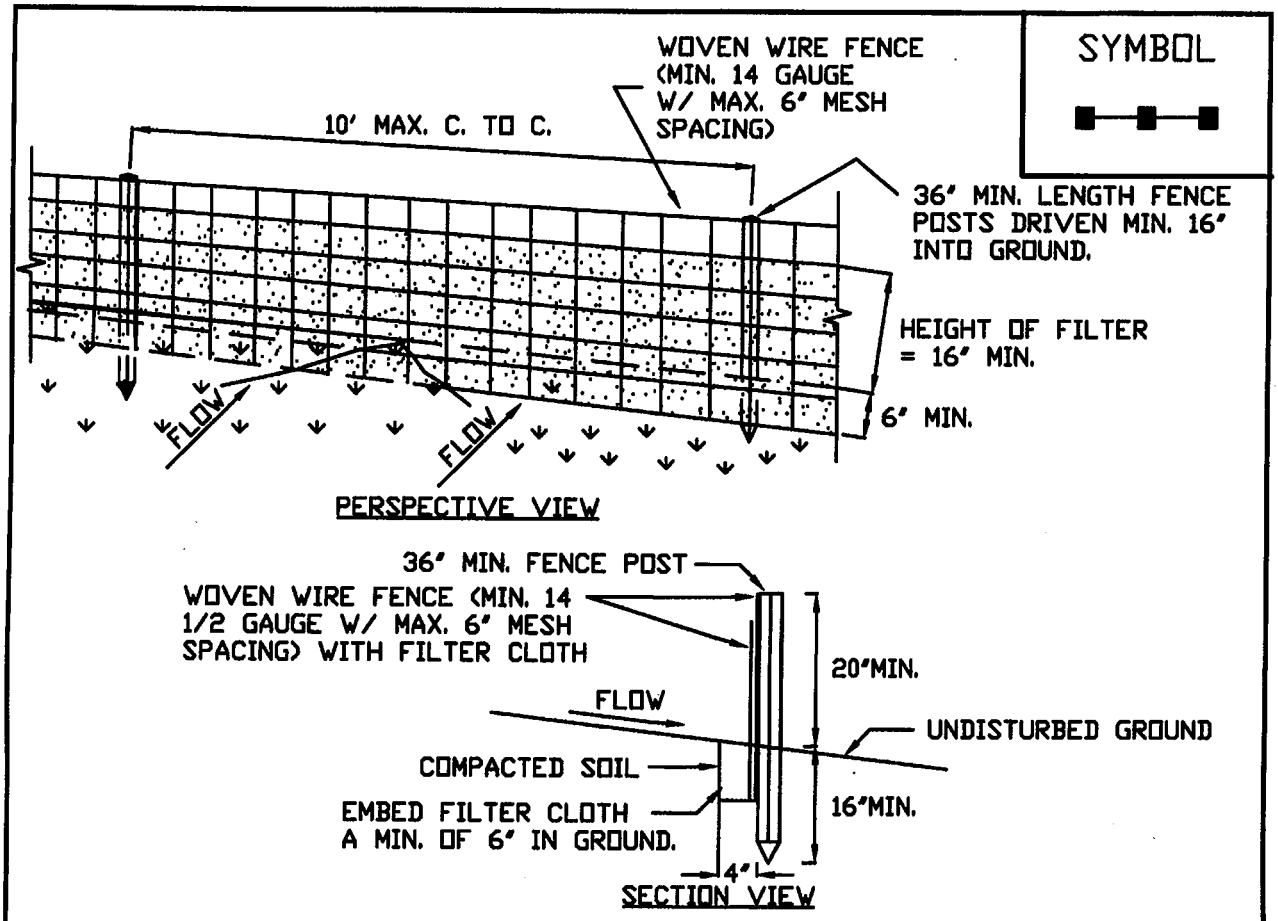
CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. 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 TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ENTRANCE

Figure 5A.8
Silt Fence

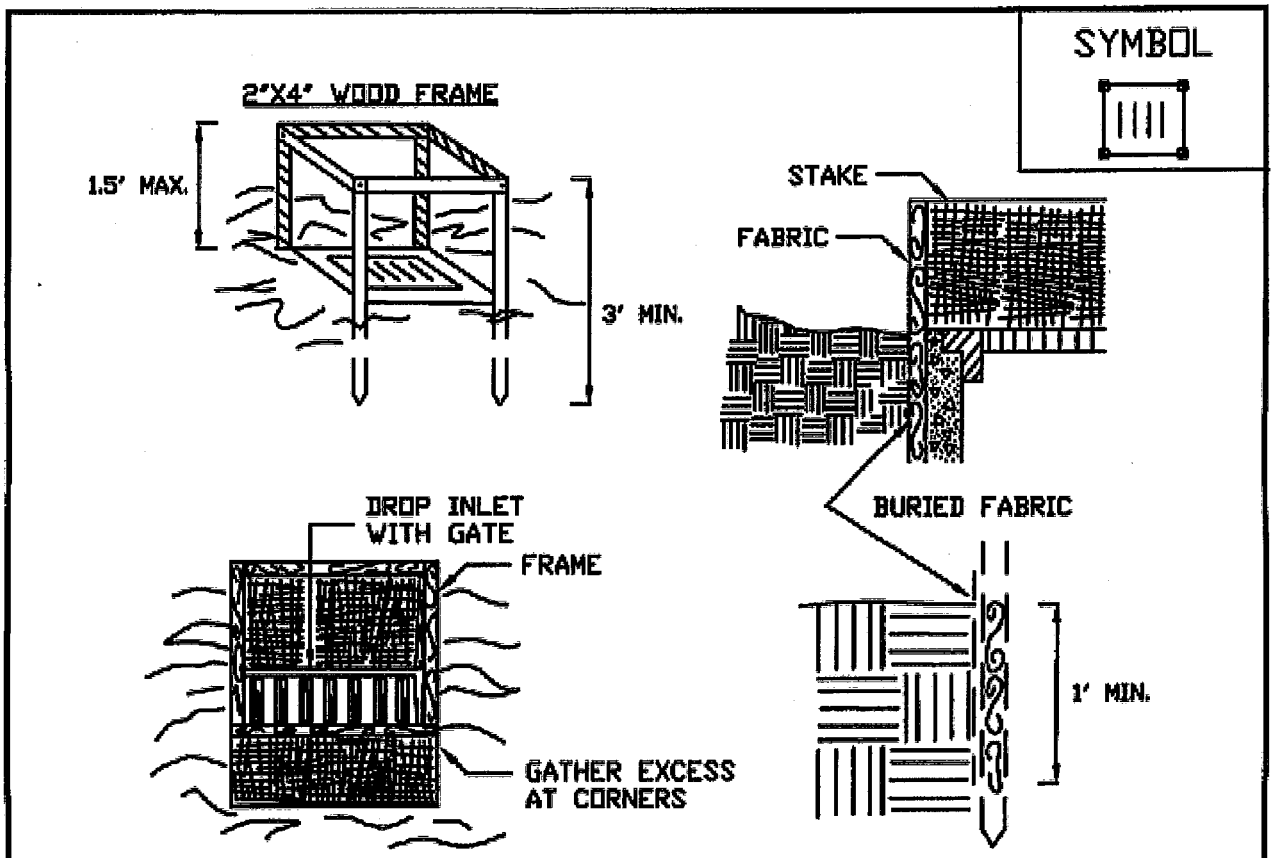


CONSTRUCTION SPECIFICATIONS

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 TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 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.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE

Figure 5A.12
Filter Fabric Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

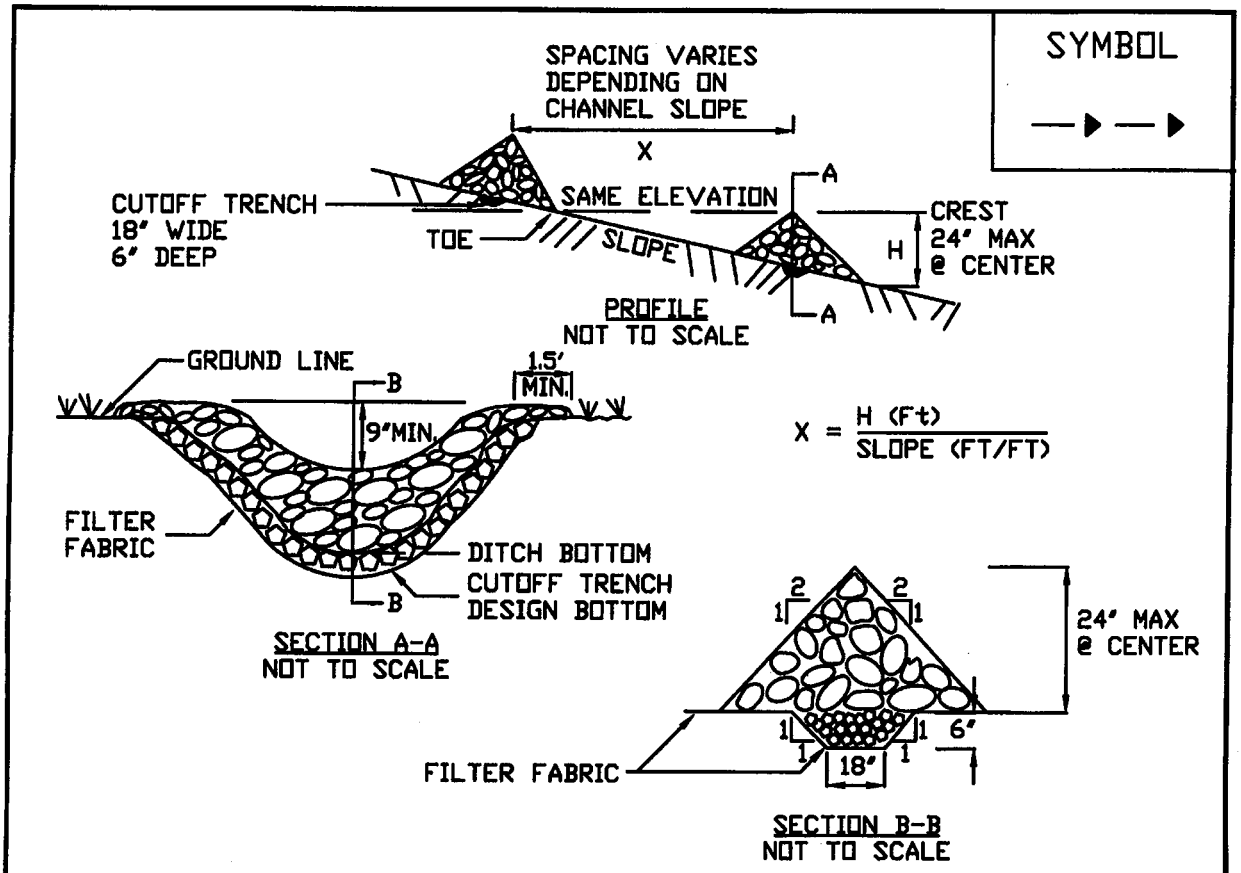
1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

FILTER FABRIC
DROP INLET
PROTECTION

Figure 5A.9
Check Dam



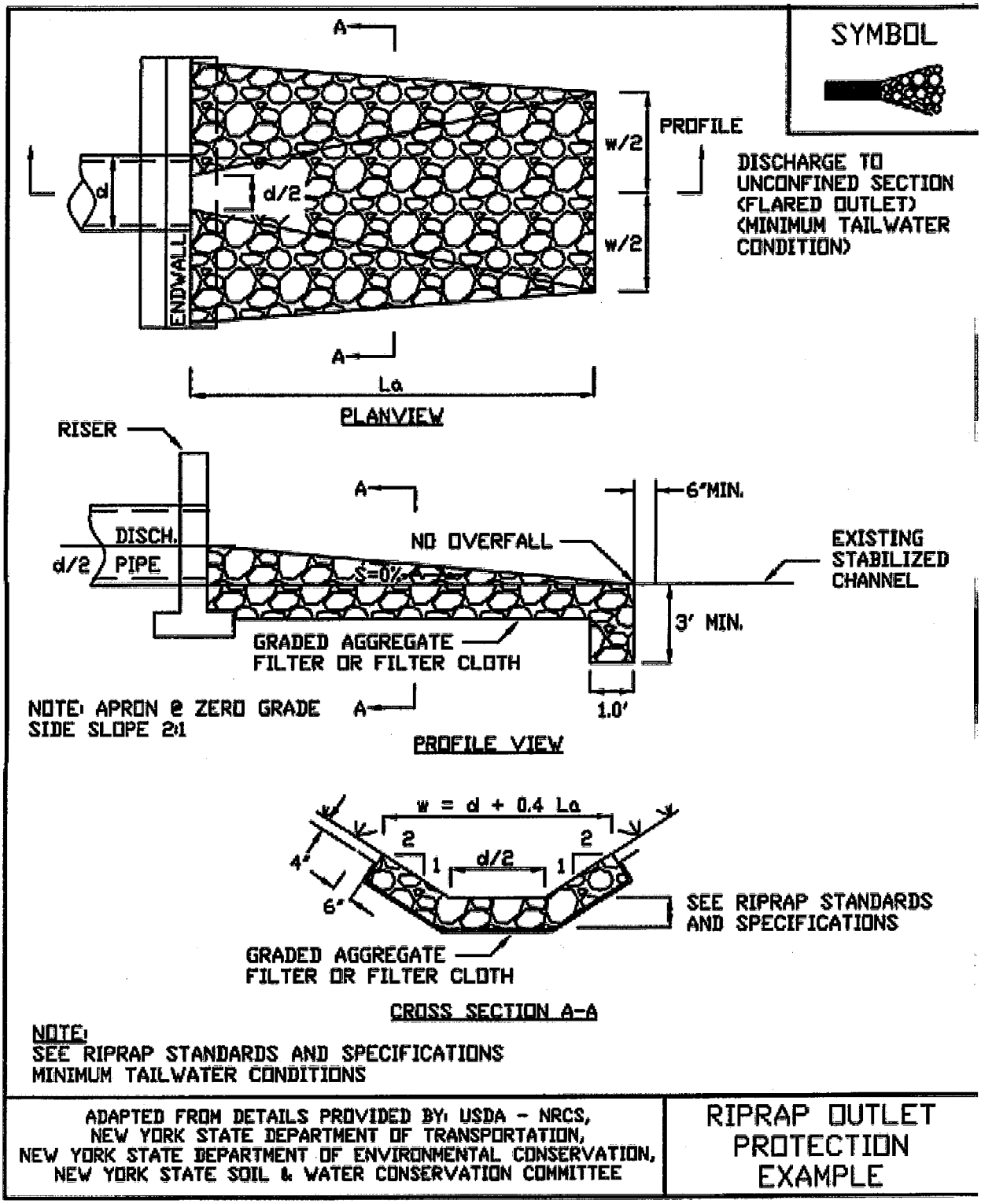
CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	CHECK DAM

Figure 5B.14
Riprap Outlet Protection Detail (1)



APPENDIX R: MAINTENANCE/CONSTRUCTION INSPECTION REPORTS

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

MAINTENANCE GUIDANCE

Stormwater Management Practices

March 31, 2017



FINAL

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2.7. Bioretention

Areas of Bioretention

Key areas to inspect for Bioretention include the following:

- BR 1. Drainage Area
- BR 2. Inlets
- BR 3. Bioretention Ponding Area
- BR 4. Vegetation
- BR 5. Outlets

Note: The category of Bioretention includes:

- Bioretention cells – areas of soil, mulch, and vegetation that treat runoff
- Dry swales – long, linear bioretention cells, sometimes with check dams along a mildly sloping swale
- Rain gardens – usually small-scale bioretention practices on residential or small commercial properties

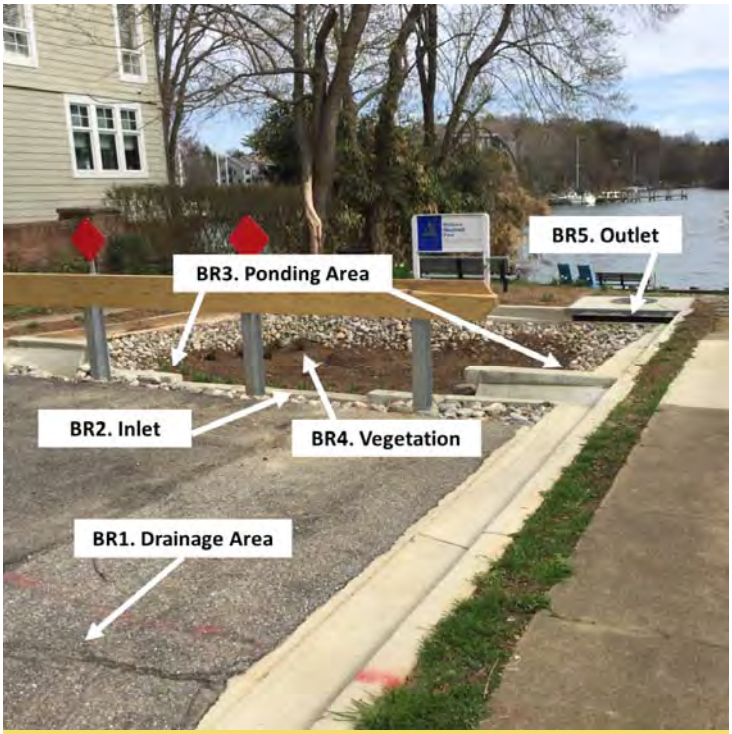


Figure 2.7.1. Key Areas for Level 1 Inspection of Bioretention

- Stormwater planters – usually in more urban settings, with soil and plants in a concrete box that receives roof runoff or perhaps other water from the site
- Tree pits – also a more urban practice where the bioretention is confined within some sort of box (e.g., concrete) and places along road curbs or other areas to treat runoff

For the purposes of this chapter, the term “Bioretention cell” will be used to generally describe these practices.

Bioretention Level 1 Inspection

The Level 1 Inspection focuses on the Drainage Area (BR1), Inlets (BR2), Bioretention Ponding Area (BR3), Vegetation (BR4), and Outlets (BR5). This inspection should be conducted on a regular basis, with an early spring inspection to ensure that the practice has survived the winter, particularly if there has been a significant amount of snow. An inspection during the growing season or in the early fall is also recommended to check on the health of vegetation.

BR 1. Drainage Area

Description: The drainage area sends runoff to and is uphill from the Bioretention cell. When it rains, water runs off and flows to the Bioretention cell and ponds within the cell temporarily (usually for no more than 48 hours). Sometimes, the runoff will contain dirt, grit, grass clippings, oil, or other substances that SHOULD NOT be directed to the Bioretention area.

Instruction: Look for areas that are uphill from the Bioretention cell. Consult **Table 2.7.1** below.

Table 2.7.1 BR Drainage Area

Problem (Check if Present)		Follow-Up Actions
	☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and mulch areas of bare soil to establish vegetation. ☐ Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
	☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Other:
	☐ Open containers of oil, grease, paint, or other substances	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

BR 2. Inlets

Description: The inlets to a Bioretention cell are where water flows into the cell. Depending on the design, water can flow in through:

- Curb cuts or openings in a parking lot or roadway
- Pipes or ditches that carry water into the Bioretention cell from the drainage area
- Flow directly over the land surface (known as “sheetflow”), sometimes across a strip of rock or stone



Figure 2.7.2 Bioretention Cell Inlets

CSN, 2013

Instruction: Stand in the Bioretention cell itself and look for all the places where water flows in. Often there will be multiple points of inflow to the practice. Consult **Table 2.7.2** below for possible problems.

Table 2.7.2 BR Inlets

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.	☐ Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. ☐ Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. ☐ Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. ☐ For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. ☐ Dispose of all material properly where it will not re-enter the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.
 ☐ Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.	☐ For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. ☐ In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.

BR 3. Bioretention Ponding Area

Description: The ponding area fills up with water during a rainstorm. If you picture the Bioretention cell as a bathtub, there is the *bottom* (usually flat surface), *side slopes* (areas that slope down to the bottom from the surrounding ground), and *berms or structures that control the depth to which water ponds.*

Instruction: Examine the entire Bioretention surface and side slopes. Consult the table below for possible problems.

Table 2.7.3 BR Ponding Area

Problem (Check if Present)	Follow-Up Actions
 ☐ Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick.	☐ Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. ☐ Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. ☐ Other:
 ☐ Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.	☐ Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell. ☐ If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. ☐ Remove trash, vegetative debris, and other undesirable materials. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface. ☐ Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation.

 ☐ There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas. ☐ Source: Stormwater Maintenance, LLC.	☐ Try filling the eroded areas with clean topsoil or sand, and cover with mulch. ☐ If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. ☐ If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. ☐ Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., “sinkhole”) due to some underground problem.
 ☐ The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that Bioretention surface is intended to be flat. Check during or immediately after a rainstorm.	☐ If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface. ☐ Check the surface with a string and bubble level to get the surface as flat as possible. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.
 ☐ Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.	☐ Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

BR 4. Vegetation

Description: The health of vegetation within the Bioretention cell is perhaps the most critical maintenance item for the property owner or responsible party. Many Bioretention cells become overgrown, and "desirable" vegetation becomes choked out by weeds and invasive plants. It is important to know what the Bioretention cell is supposed to look like and what plants seem to be thriving or doing poorly. Periodic maintenance of vegetation will prevent larger problems that are more difficult and costly to manage.

Instruction: Examine all Bioretention cell vegetation. Consult the table below for possible problems.

Table 2.7.4 BR Vegetation

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.	☐ If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling. ☐ If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water. ☐ Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly. ☐ If weeds or invasive plants have overtaken the whole Bioretention cell, bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above. ☐ Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.
 ☐ Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.	☐ The original plants are likely not suited for the actual conditions within the Bioretention cell. If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. ☐ Other: ☐ Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.

BR 5. Outlets

Description: Outlets are where water leaves the Bioretention cell when there is too much ponded water. There are various ways that outlets are configured. They can be a yard drain type of structure in the Bioretention cell itself or a rock weir where water flows during large storms. Many Bioretention practices have an underdrain, which is like a French drain, that helps the Bioretention cell drain properly after storms. The underdrain pipe may “daylight” (come to the ground surface) at some point downhill from the Bioretention cell.

Instruction: Examine outlets that release water out of the Bioretention cell. Consult the table below for possible problems.

Table 2.7.5 BR Outlets

Problem (Check if Present)	Follow-Up Actions
☐ Erosion at outlet	☐ Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.
 ☐ Outlet obstructed with mulch, sediment, debris, trash, etc.	☐ Remove the debris and dispose of it where it cannot re-enter the Bioretention cell. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.

2.8. Green Roof

Areas of the Green Roof

Key areas to inspect for green roofs include the following:

GR 1. Vegetation and Surface
GR 2. Overflows and Drains

Note: Green Roofs consist of green infrastructure practices applied on rooftops, wherein stormwater is filtered through a vegetated planting bed. Green Roofs are a unique practice in that they are often covered by a professional ongoing maintenance contract, and their design is highly variable depending on the specific product. This section highlights some key inspection items.



Figure 2.8.1. Key Areas for Level 1 Inspection of Green Roof

2.10. Ponds and Wetlands

Areas of Ponds and Wetlands

Key areas to inspect for ponds and wetlands include the following:

- PO 1. Drainage area
- PO 2. Inlet pipes and swales
- PO 3. Pond area and embankments
- PO 4. Pond outlet

Note: This category includes the following practices:

- *Wet ponds* – have a permanent pool of water and may be divided into various "cells"
- *Stormwater wetlands* – have a variety of depth zones ranging from deep pools to shallow wetlands and are characterized by wetland vegetation

It is recommended strongly to have as-built drawings and copies of previous inspections at hand, if available. Aerial photos may be needed to help direct the inspector to the pond or wetland location if it is obscured by vegetation.

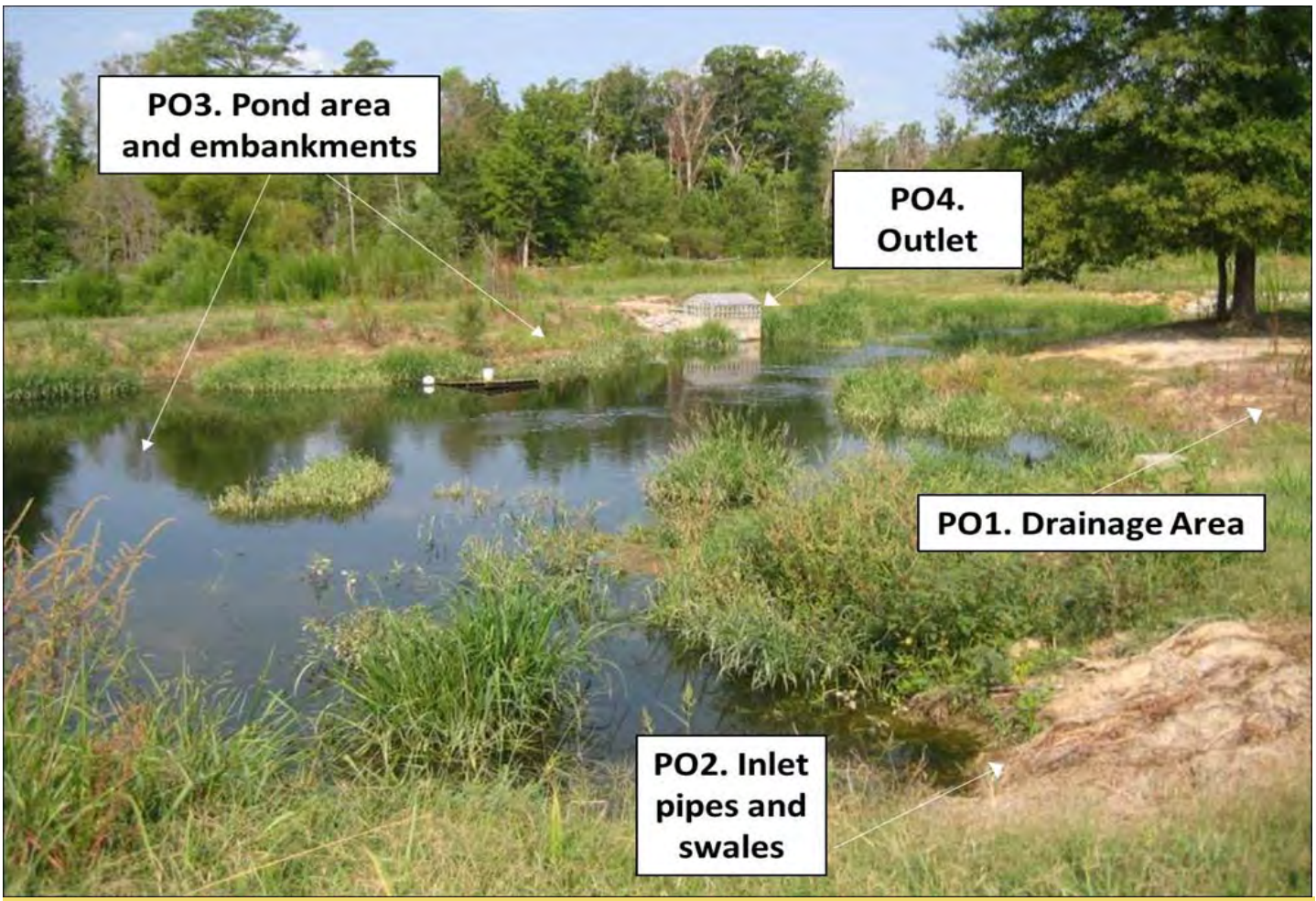


Figure 2.10.1. Key Areas for Level 1 Inspection of a Pond/Wetland

Pond and Wetland Level 1 Inspection

The Level 1 Inspection focuses on the drainage area (PW 1), inlet pipes or swales (PW 2), pond area and embankments (PW 3) and pond outlet structures and outfall (PW 4). This inspection should be conducted on a regular basis to ensure that a buildup of trash, vegetation, or sediment does not interfere with the pre-treatment, pond or wetland, and the outfall's normal flow or function. Pond embankments and dams should be regularly inspected for evidence of erosion, burrowing or tunneling animals, and large woody vegetation growing on the dam.

PW 1. Drainage Area

Description: The drainage area conveys runoff to and is uphill from the pond inlet. When it rains, water runs off through roof drains, yard drains, parking lots, roadways and underdrains to the ponds. Flow is through underground piping systems, overland via swales, or across the ground as sheetflow. Sometimes, the runoff will contain dirt, grit, grass clippings, leaves and woody debris that can collect in the drainage system. If left alone, blockages can occur and increase the chance of shallow flooding or standing water. Standing water in drainage systems foster mosquitos, pipe corrosion, and possible nuisance and odor conditions.

Instruction: Look for areas that are uphill from the pond. Consult **Table 2.10.1** below:

Table 2.10.1 PW Drainage Area

Problem (Check if Present)	Follow-Up Actions
☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and straw areas of bare soil to establish vegetation. ☐ Fill in eroded areas with soil, compact, seed and mulch with straw to establish vegetation. ☐ Other: ☐ Kick-Out to Level 2 Inspection: If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ If large areas of soil have been eroded or larger channels are forming, this may require rerouting of flow paths or use of an erosion-control seed mat or blanket to reestablish acceptable ground cover or anchor sod where it is practical.
 ☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Remove excessive vegetation or woody debris that can block drainage systems. ☐ Other:
 ☐ Open containers of oil, grease, paint, or other substances exposed to rain in the drainage area	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

PW 2. Pond Inlets

Description: Free, unobstructed flow from the drainage area to stormwater ponds is necessary to prevent shallow flooding and even structural damage from flooding. Pond inlets can consist of pipes, ditches, swales, or other means to convey stormwater to the pond or wetland.

Instruction: Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.). Consult **Table 2.10.2** below:

Table 2.10.2 Pond Inlets

Problem (Check if Present)		Follow-Up Actions
 	☐ Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.	☐ If the problem can be remedied with hand tools and done in a safe manner, remove vegetation, trash, woody debris, etc. from blocking inlet structures. ☐ Other: ☐ Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.
	☐ Inlets are broken, and, with pieces of pipe or concrete falling into the pond, there is erosion around the inlet, there is open space under the pipe, or there is erosion where the inlet meets the pond	☐ Kick-Out to Level 2 Inspection: These types of structural or erosion problems are more serious and will require a qualified contractor to repair.

PW 3. Pond Area and Embankments

Description: The pond area and embankment can consist of the following elements:

- Pre-treatment cell or small holding area where water first flows into the pond from the various inlets. These are commonly referred to as “forebays” and will be demarcated from the main pond area by small dams made of earth or rock. The purpose of forebays is to capture some of the sediment and pollutants before they reach the deep pool, making maintenance easier over time. Not all ponds will have forebays.
- The pond surface can be open water or a combination of open water and areas with wetland vegetation. Sometimes there is a shallow bench around the perimeter of a pond, known as an “aquatic bench.”
- The “side slopes” are areas around the perimeter of the pond where the surrounding land slopes down to the pond surface.
- Most ponds will have a “riser structure,” where the water exits a pond during storms. This can be a concrete or metal pipe that is open at the top, often with some type of trash rack. Some ponds also have an “emergency spillway,” which is an open, rock-lined channel that carries water from large storms safely across the embankment.
- The dam or embankment holds water in the pond and is constructed of compacted soil, such as clay. There is often a pipe through the embankment that carries water from the riser structure safely through the embankment to the downstream channel.

The pond’s pre-treatment areas or forebays should not be choked with vegetation or full of sediment. Removal of excessive vegetation and sediment and selective replanting are often annual maintenance activities.

Likewise, the pond’s deep pool should not to be choked with vegetation or filled with sediment. Vegetation and sediment bars can restrict flow and cause short circuiting that reduces capture of sediment. Pond volume is to be maintained at the original design capacity and free of sediment bars or debris piles. Sometimes ponds are over-maintained and have no vegetation. Algae and turbidity (muddy water) are common problems in many ponds.

Instruction: Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Table 2.10.3 PW Pond Area and Embankments

Problem (Check if Present)		Follow-Up Actions
	☐ The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	☐ If the problem can be remedied with hand tools and done in a safe manner, use a flat shovel or other equipment to remove small amounts of sediment. ☐ Remove trash and excessive vegetation from forebays if this can be done in a safe manner. ☐ Other:
		☐ Kick-Out to Level 2 Inspection: Large amounts of sediment or debris will have to be removed by a qualified contractor. ANY condition that poses a safety concern for working in standing water or soft sediments should be referred to a Level 2 Inspection or qualified contractor.

Table 2.10.3 PW Pond Area and Embankments

Problem (Check if Present)		Follow-Up Actions
	☐ The pond area itself has accumulated sediment, trash, debris, or excessive vegetation that is choking the flow of the water, OR the pond area is covered with algae or aquatic plants.	☐ Level 1 includes handling only small amounts of material that can be removed by hand, or with rakes or other hand tools. Do not attempt any repair that poses a safety issue. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Most cases will call for a Level 2 Inspection and/or a qualified contractor. ☐ You are not sure what type and amount of vegetation is supposed to be in the pond. ☐ The algae or aquatic plants should be identified so that proper control techniques can be applied.
	☐ The side slopes of the pond are unstable, eroding, and have areas of bare dirt.	☐ If there are only minor areas, try filling in small rills or gullies with topsoil, compacting, and seeding and mulching all bare dirt areas with an appropriate seed. Alternatively, try using herbaceous plugs to get vegetation established in tricky areas, such as steep slopes. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion and many bare dirt areas on steep side slopes will require a Level 2 Inspection and repair by a qualified contractor.
 	☐ The riser structure is clogged with trash, debris, sediment, vegetation, etc., OR is open, unlocked, or has a steep drop and poses a safety concern. The pond level may have dropped below its “normal” level.	☐ If you can safely access the riser on foot or with a small boat, clear minor amounts of debris and remove it from the pond area for safe disposal. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The riser cannot be accessed safely, the amount of debris is substantial, or the riser seems to be completely clogged and the water level has risen too high. ☐ There are safety issues with the riser and concern about access to pipes, drops, or any other life safety concern. ☐ The riser is leaning, broken, settling or slumping, corroded, eroded or any other structural problem.

Table 2.10.3 PW Pond Area and Embankments

Problem (Check if Present)		Follow-Up Actions
	☐ The dam/embankment is slumping, sinking, settling, eroding, or has medium or large trees growing on it.	☐ If there are small isolated areas, try to fix them by adding clean material (clay and topsoil) and seeding and mulching. ☐ Periodically mow embankments to enable inspection of the banks and to minimize establishment of woody vegetation. ☐ Remove any woody vegetation that has already established on embankments. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Most of these situations will require a Level 2 Inspection or evaluation and repair by a qualified contractor. Seepage through the dam or problems with the pipe through the dam can be a serious issue that should be addressed to avoid possible dam failure.
	☐ The emergency spillway or outfall (if it exists) has ☐ erosion, settlement, or loss of material. Rock-lined spillways have excessive debris or vegetation.	☐ Clear light debris and vegetation. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Displacement of rock lining, excessive vegetation and erosion/settlement may warrant review and decision by Level 2 Inspector to check against original plan. ☐ Any uncertainty about the integrity of the emergency spillway should be referred to a Level 2 Inspector. ☐ Erosion or settlement such that design has been compromised should be reviewed by an engineer.

PW 4. Pond Outlet

Description: The pond's outlet enables the ponded water to discharge to downstream drainage systems or stream channels. The outlet is often at the base of the dam/embankment on the downstream side. Inspection of this point can help prevent flooding of the pond and upstream drainage systems and prevent pond failure at a weak point of a pond's containment system.

Instruction: Examine the outlet of the pipe on the downstream side of the dam/embankment where it empties into a stream, channel, or drainage system. Consult the table below for possible problems.

Table 2.10.4 PW Pond Outlet

Problem (Check if Present)	Follow-Up Actions
 ☐ The pond outlet is clogged with sediment, trash, debris, vegetation, or is eroding, caving in, slumping, or falling apart.	☐ If there is a minor blockage, remove the debris or vegetation to allow free flow of water. ☐ Remove any accumulated trash at the outlet. ☐ Outlet: ☐ Kick-Out to Level 2 Inspection: ☐ If the area at the outlet cannot be easily accessed or if the blockage is substantial, a Level 2 Inspection is warranted. ☐ Erosion at and downstream of the outfall should be evaluated by a qualified professional. ☐ Any structural problems, such as broken pipes, structures falling into the stream, or holes or tunnels around the outfall pipe, should be evaluated by a Level 2 Inspector and will require repair by a qualified contractor. ☐ The pool of water at the outlet pipe is discolored, has an odor, or has excessive algae or vegetative growth.

2.11. Infiltration

Areas of Infiltration

Key areas to inspect for Infiltration include the following:

- IN 1. Drainage Area
- IN 2. Inlets
- IN 3. Infiltration Area
- IN 4. Outlets



Figure 2.11.1 Key Areas for Level 1 Inspection of Infiltration Practice

Note: The category of Infiltration includes:

- Infiltration Trench – Long, narrow infiltration practice, usually with small gravel at the surface and a reservoir of larger gravel or stone beneath
- Infiltration Basin – Larger practice, usually covered with grass and highly permeable soil beneath
- Dry Well – Small pit filled with stone or gravel, or precast concrete chamber surrounded by stone that receives and stores runoff to enable it to infiltrate into the underlying ground.

3.6. Tree Planting – Level 2 Inspections and Triggers for Level 3

A Level 2 Tree Planting inspection should be conducted periodically during the growing season by the Cooperative Extension or an arborist.

Table 3.6.1 Level 2 Inspection: TREE PLANTING	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Appearance of fungus or pest damage	
Condition 1: Fungus, discoloration, browning leaves or holes in leaves Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection. Condition 2: Burrowing insects, holes Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection.	• Any concerns about how to address infestation or disease

3.7. Bioretention – Level 2 Inspections and Triggers for Level 3

The most likely triggers for a Level 3 Inspection for Bioretention are:

- Standing water, clogged media
- Vegetation management
- Bioretention does not conform to original design plan in surface area or storage.
- Severe erosion of filter bed, inlets, or around outlets
- Significant sediment accumulation, indicating an uncontrolled source of sediment

Table 3.7.1 Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information *(CSN, 2013)*	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have bad soil media, try scraping off top 3 inches of media and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas. Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: • Clogged underdrain? • Filter fabric between soil media and underdrain stone? • Need to install underdrain if not present? • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Improper soil media?	• Soil media is clogged and problem is not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice.

Observed Condition: Vegetation is sparse or out of control	
Condition 1: Original design planting plan seems good but has not been maintained, so there are many invasives and/or dead plants Will require some horticultural experience to restore vegetation to intended condition by weeding, pruning, removing plants, and adding new plants. Condition 2: Original design planting plan is unknown or cannot be actualized A landscape architect or horticulturalist will be needed to redo the planting plan. Will likely require analysis of soil pH, moisture, organic content, sun/shade, and other conditions to make sure plants match conditions. Plan should include invasive plant management and maintenance plan to include mulching, watering, disease intervention, periodic thinning/pruning, etc.	• Vegetation deviates significantly from original planting plan; Bioretention has been neglected and suffered from deferred maintenance. • Owner/responsible party does not know how to maintain the practice.
Observed Condition: Bioretention does not conform to original design plan in surface area or storage	
Condition 1: Level 2 Inspection reveals that practice is too small based on design dimension, does not have adequate storage (e.g., ponding depth) based on the plan, and/or does not treat the drainage area runoff as indicated on the plan Small areas of deviation can be corrected by the property owner or responsible party, but it is likely that a Qualified Professional will have to revisit the design and attempt a redesign that meets original objectives or that can be resubmitted to the municipality for approval.	• More than a 25% departure from the approved plan in surface area, storage, or drainage area; sometimes less than this threshold at the discretion of the Level 2 inspector.
Observed Condition: Severe erosion of filter bed, inlets, or around outlets	
Condition 1: Erosion at inlets The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a more non-erosive lining and/or to extend the lining further down to where inlet slopes meet the Bioretention surface. If problem persists, analysis by a Qualified Professional is warranted. Condition 2: Erosion of Bioretention filter bed This is often caused by “preferential flow paths” through and along the Bioretention surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads). Condition 3: Erosion on side slopes Again, the issue is likely linked with unanticipated flow paths down the side slopes (probably overland flow that concentrates as it hits the edge of the slope). For small or isolated areas, try filling, compacting, and re-establishing healthy ground cover vegetation. If the problem is more widespread, further analysis is required to determine how to redirect the flow.	• Erosion (rills, gullies) is more than 12 inches deep at inlets or the filter bed or more than 3 inches deep on side slopes. • If the issue is not caused by moving water but some sort of subsurface defect. This may manifest as a sinkhole or linear depression and be associated with problems with the underdrain stone or pipe or underlying soil.
Observed Condition: Significant sediment accumulation, indicating an uncontrolled source of sediment	
Condition 1: Isolated areas of sediment accumulation, generally less than 3-inches deep Sediment source may be from a one-time or isolated event. Remove accumulated sediment and top 2 to 3 inches of Bioretention soil media; replace with clean material. Check drainage area for any ongoing sources of sediment. Condition 2: Majority of the surface is caked with “hard pan” (thin layer of clogging material) or accumulated sediment that is 3-inches deep or more This can be caused by an improper construction sequence (drainage area not fully stabilized prior to installation of Bioretention soil media) or another chronic source of sediment in the drainage area. Augering several holes down through the media can indicate how severe the problem is; often the damage is confined to the first several inches of soil media. Removing and replacing this top layer (or to the depth where sediment incursion is seen in auger holes) can be adequate, as long as the problem does not recur.	• More than 2 inches of accumulated sediment cover 25% or more of the Bioretention surface area. • “Hard pan” of thin, crusty layer covers majority of Bioretention surface area and seems to be impeding flow of water down through the soil media. • New sources of sediment seem to be accumulating with each significant rainfall event.

3.10. Ponds & Wetlands – Level 2 Inspections and Triggers for Level 3

The most likely triggers for a Level 3 Inspection for Ponds and Wetlands are:

- Severe erosion
- Excessive algae or aquatic plants
- Settlement and pipe corrosion
- Major sediment buildup

Table 3.10.1 Level Inspection: PONDS and WETLANDS

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
Observed Condition: Bare Soil or Erosion in the Drainage Area	
Condition 1: Extensive problem spots, but no channels or rills forming Reseed problem areas. If problem persists or grass does not take, consider hiring a landscape contractor. Condition 2: Problem is extensive, and rills/channels are beginning to form May be necessary to divert or redirect water that is causing the erosion problem. If it appears that simple regrading—such as installing a berm or leveling a low spot–will fix the problem, make repairs and ensure that the problem is repaired after the next storm.	• Large rills or gullies are forming in the drainage area. • An attempt to regrade the drainage area has been unsuccessful. • Fixing the problem would require major regrading (i.e., redirecting more than a 100-square-foot area. • It is not clear why the problem is occurring.
Observed Condition: Manholes or Inlet Pipe Buried or Covered with Vegetation	
Condition 1: Nearest manhole and inlet pipe not found Consult as-built drawings to get to closest suspected location and use metal detector to search for metal manhole cover. If unsuccessful, identify nearest drain inlets and approximate pipe direction to locate next manhole. Condition 2: Manhole located and inspected Never enter a manhole, except by following confined-space entry protocols. If outlet pipe is not visible or greater than 25% full of sediment/debris or trash, it will typically require a qualified contractor to flush, clean and clear blockages. Condition 3: Inlet pipe not found at pond Clear vegetation and brush that may be covering the inlet pipe. Buried inlet pipes may be found through use of a metal probe. Condition 4: Inlet pipe buried in sediment or blocked by vegetation Once located, the pipe path can be cleared of vegetation with brush hook or other brush tools. Light digging may clear sediment from the end of the pipe.	• To locate buried manholes and lost storm lines, it is sometimes necessary to hire a pipeline inspection contractor with televising equipment or ground-penetrating radar and enter at the closest upstream access point. • Locating a buried inlet pipe may require wading in the edge of the pond and using a metal probe and brush axe to find and expose the pipe. • If other than light digging is necessary to remove accumulated sediment, a contractor with heavy equipment may be required.

Table 3.10.1 Level Inspection: PONDS and WETLANDS	
Recommended Repairs and Required Skills	**Triggers for Level 3 Inspection**
Observed Condition: Pipe or Headwall Settlement, Erosion, Corrosion or Failure	
Condition 1: Pipe or headwall settlement or failure Severe sinkholes, settlement or corrosion should be kicked out to Level 3 Inspection. Condition 2: Flow not confined to pipe and visible outside pipe wall With flashlight, observe the inside of the pipe and note its condition. Take photographs. Look for sinkholes developing that indicate pipe failure beneath the surface. Kick out to Level 3 inspection.	• Where blockages are visible, a decision is needed on whether to clear them or leave in place. If a third of the pipe is full of sediment, it should be removed by a contractor with pipe-cleaning equipment. • Corrosion of inlet pipes that allows flow around the pipe exterior is a structural concern because it can lead to settlement, sinkholes and undermining pond embankment. Evidence of this type of failure may require specialized pipe-inspection equipment and investigation by an engineer.
Observed Condition: Pond Conditions	
Condition 1: Pond pre-treatment zone is full of sediment or not constructed as shown on as-built drawings. Condition 2: Excessive buildup of sediment or overgrowth If the pre-treatment area or pond pool is overgrown or filled with sediment so that the original design is compromised, corrective measures are required. If plants have died, then replanting is necessary. If none of the original design exists due to alteration or sediment, kick out to Level 3 inspection.	• It may require inspection by an engineer to determine next steps for clearing, replanting or reconstruction. • Erosion or settlement such that design has been compromised should be reviewed by an engineer. Recurring erosion may require redesign and/or regrading to direct flow away from eroding area. • If sediment has filled more than 50% of the pond's capacity, dredging is likely needed and should be evaluated by a qualified contractor. • Removal or control of excessive algae or aquatic plants can be assessed by a qualified pond maintenance company.

Stormwater/Wetland Pond Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
2. Subgrade Preparation		
Area beneath embankment stripped of all vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under “haunches” of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		
4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		
Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for “honeycomb” prior to backfilling; parge if necessary		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		
Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel constructed to design grades and elevations		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for "honeycomb" prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly place at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil amendments		
Excelsior mat or other stabilization, as per plan		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place Reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

Actions to be Taken:

Bioretention Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Facility area cleared		
If designed as exfilter, soil testing for permeability		
Facility location staked out		
2. Excavation		
Size and location		
Lateral slopes completely level		
If designed as exfilter, ensure that excavation does not compact susoils.		
Longitudinal slopes within design range		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
3. Structural Components		
Stone diaphragm installed correctly		
Outlets installed correctly		
Underdrain		
Pretreatment devices installed		
Soil bed composition and texture		
4. Vegetation		
Complies with planting specs		
Topsoil adequate in composition and placement		
Adequate erosion control measures in place		
5. Final Inspection		
Dimensions		
Proper stone diaphragm		
Proper outlet		
Soil/ filter bed permeability testing		
Effective stand of vegetation and stabilization		
Construction generated sediments removed		
Contributing watershed stabilized before flow is diverted to the practice		

Comments:

Actions to be Taken: