Stantec

Stantec Consulting Services Inc.
30 Park Drive, Topsham ME 04086-1737

August 7, 2023
File: 195602046

Attention: Chip Stephens, Code Enforcement Officer
Town of Readfield
8 Old Kents Hill Road
Readfield, ME 04355

VIA: HAND DELIVERY

Reference: Site Review Application – Readfield Main Street Solar Project

Dear Chip and Planning Board Members,

On behalf of Readfield Main Street Solar, LLC (Applicant), Stantec Consulting Services Inc. (Stantec) is filing a Site Review Application for construction of the Readfield Main Street Solar Project (Project). Readfield Main Street Solar, LLC, is managed by Norwich Technologies Inc. with offices in Brunswick, Maine. The proposed Project is an approximately 975 kilowatt alternating current solar facility on the parcel found at Tax Map 143, Lot 14 located on the south side of Main Street (Route 17).

The Applicant attended a pre-application meeting with the Code Enforcement Officer on April 1, 2022 to discuss the proposed Project. In accordance with the Land Use Ordinance for the Town of Readfield, the enclosed Site Review Application includes the following:

- Narrative – Submission requirements, review criteria, and solar ordinance requirements
- Attachment A – Land Use Permit Application Form and Planning Board Review Criteria Questionnaire
- Attachment B – Site Plans
- Attachment C – Tax Maps
- Attachment D – Title, Right, or Interest Documentation
- Attachment E – Stormwater Management Report
- Attachment F – Agency Correspondence
- Attachment G – Wetland and Watercourse Delineation and Vernal Pool Survey Report
- Attachment H – Financial Support Letter
- Attachment I – Sound Assessment
- Attachment J – NRCS Soil Resource Report
- Attachment K – Interconnection Agreement
- Attachment L – Equipment Specification Sheets
- Attachment M – Operations and Maintenance Plan
- Attachment N – Emergency Management Plan
- Attachment O – Decommissioning Plan
- Attachment P – Agent Authorization

This submittal includes 11 copies of the complete application package. A check in the amount of $2,500 made payable to the Town of Readfield is enclosed.

Reference: Site Review Application – Readfield Main Street Solar Project

We look forward to discussing this Project with the Planning Board during the meeting scheduled for August 22, 2023. Please let me know if you have any questions about the enclosed application materials.

Regards,

Stantec Consulting Services Inc.

Kara Moody
Senior Associate
Phone: 207-406-5505
kara.moody@stantec.com

Attachments: Site Review Application Package and Site Plans

c. Martha Staskus, Readfield Main Street Solar, LLC

Site Review Application

Readfield Main Street Solar Project

Readfield, ME 04355

Tax Map 143, Lot 14

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ATTACHMENT A: LAND USE PERMIT APPLICATION FORM AND PLANNING BOARD REVIEW CRITERIA QUESTIONNAIRE

ATTACHMENT B: SITE PLANS

ATTACHMENT C: TAX MAPS

ATTACHMENT D: TITLE, RIGHT, OR INTEREST DOCUMENTATION

ATTACHMENT E: STORMWATER MANAGEMENT REPORT

ATTACHMENT F: AGENCY CORRESPONDENCE

ATTACHMENT G: WETLAND AND WATERCOURSE DELIENATION AND VERNAL POOL SURVEY REPORT

ATTACHMENT H: FINANCIAL SUPPORT LETTER

ATTACHMENT I: SOUND ASSESSMENT

ATTACHMENT J: NRCS SOIL RESOURCE REPORT

ATTACHMENT K: INTERCONNECTION AGREEMENT

ATTACHMENT L: EQUIPMENT SPECIFICATION SHEETS

ATTACHMENT M: OPERATIONS AND MAINTENANCE PLAN

ATTACHMENT N: EMERGENCY MANAGEMENT PLAN

ATTACHMENT O: DECOMMISSIONING PLAN

ATTACHMENT P: AGENT AUTHORIZATION

PROJECT OVERVIEW

Readfield Main Street Solar, LLC (the Applicant), proposes to construct the Readfield Main Street Solar Project (Project), a distributed generation solar energy facility on the south side of Main Street (Route 17) in Readfield. Norwich Technologies Inc. (Norwich) manages the Applicant. The proposed solar array is located on Tax Map 143, Lot 14 within the Rural Zoning District. The Project parcel is approximately 71.93 acres primarily comprised open fields with some interspersed forested land. The Project is predominantly sited within an open field portion of the parcel.

The Project is a ground-mounted solar facility comprised of photovoltaic modules (solar panels) installed on a fixed-tilt racking system supported by driven posts or ground screws. The racking system is designed to support the bottom of the solar panels approximately 3 feet above grade to the top of the panels at a maximum of 10 feet above grade. The array will be arranged in multiple rows running generally east-west with sufficient distance between the rows to minimize shading. The solar array will have an installed capacity of up to 975 kilowatts alternating current (kWac).

Other Project features will include two equipment pads to support the Project equipment, a temporary staging area, a gravel driveway off Main Street, and a medium voltage electrical collector line that will connect the solar array to the electrical grid at a point of interconnection (POI) with the utility distribution line on Main Street. The electrical collector line will be installed underground within the array footprint, with an overhead electrical line along the Project driveway to connect to the POI. Perimeter fencing with an access gate will be installed around the Project in compliance with the National Electrical Code (NEC). The gate will be secured with a Knox Box lock (or similar locking mechanism) to provide for public safety and allow emergency services access. The total fenced Project area will include approximately 9.59 acres; the total Project limits including the access road and vegetation clearing to prevent shading of the panels will include approximately 17.51 acres; and the total permanent impervious area associated with the Project will be approximately 0.25 acre. Following Project construction, the area in and around the array will be maintained as a meadow.

Based upon the Town of Readfield Solar Ordinance, the Project is considered a large-scale solar energy system. The Land Use Permit Application form and Planning Board Review Criteria Questionnaire are provided in Attachment A, and the Project Site Plans are provided in Attachment B.

SITE REVIEW SUBMISSION REQUIREMENTS (SECTION F)

a. *Copy of the portion of applicable tax map showing subject property and abutting properties.*

Applicable tax maps showing the Project parcel and abutting properties are provided in Attachment C.

b. *Names and addresses of all property abutters of the proposed development.*

Table 1. Property Abutters

Tax Map & Lot	Name	Mailing Address
Map 143, Lot 13	Dennis Jackson	PO Box 378, Manchester, ME 04351
Map 143, Lots 1 & 2	Porcupine Trails, LLC	PO Box 188, Manchester, ME 04351
Map 143, Lot 15	Brittany Frailey & Timothy & Regian Frailey	10 Field Road, Fayette, ME 04349
Map 143, Lot 16	John & Shirley Giacullo	21 Sylvester Lane, Readfield, ME 04355
Map 143, Lots 16-1 & 17	Matthew John Kelly	71 Googin Street, Lewiston, ME 04240
Map 137, Lot 7	Genie & Terry Gannett	PO Box 188, Manchester, ME 04351
Map 145, Lot 1	Small Woodlands Owners	8 Mulliken Court, PO Box 836, Augusta, ME

Tax Map & Lot	Name	Mailing Address
	Association of Maine	04332
Map 144, Lot 1	Dale Rice	198 Carlton Pond Road, Winthrop, ME 04364
Map 142, Lot 5	Augusta Water District	Attn: Water Division, 12 Williams Street, Augusta, ME 04339

c. *Exact directions to the property from the Town Office, using a map if necessary.*

From the Town Office, turn left onto Main Street (Routes 41 and 17). Continue on Route 17 for approximately 5 miles. The Project parcel is located on the right, approximately 0.5 mile beyond the intersection with Gorden Road (Route 135).

d. *Map showing boundaries of all contiguous property under the control of the owner or applicant, regardless of whether all or part is being developed at this time.*

There are no contiguous properties under the control of the owner or applicant. A boundary survey showing contiguous properties is included with the Site Plans in Attachment B.

e. *The tax map and lot number of the parcel or parcels.*

The Project is located on Tax Map 143, Lot 14.

f. *A copy of the deed to the property or other documentation to demonstrate right, title, or interest in the property on the part of the applicant.*

Sunny Acres, LLC, the land holding entity for Norwich, has signed a Purchase and Sale Agreement with the current landowner of the Project parcel. The Applicant has entered into a lease option agreement with Sunny Acres, LLC (see the referenced agreements in Attachment D).

g. *The name, registration number, and seal of the land surveyor, architect, engineer, and/or similar professional who prepared any plan.*

The name, registration number, and seal of the land surveyor and the civil engineer are included on the Site Plans in Attachment B.

h. *Map showing the north bearing and lot dimensions of all property lines of the property to be developed and the source of this information.*

A boundary survey plan is included with the Site Plans in Attachment B.

i. *Site plan(s) illustrating the following:*

   1. *The location and size of any existing and proposed sewer and water mains, culverts, and drains that will serve the development whether on or off the property along with the direction of existing and proposed surface water drainage across the site.*

   There are no existing or proposed sewer or water mains, culverts, or drains that will serve the Project. The direction of existing and proposed surface water drainage across the Project area is shown on sheets C-3.0 and C-3.1 of the Site Plans in Attachment B.

   2. *The location, names, and present and proposed widths of existing and proposed roads, driveways, streets, parking and loading areas, walkways and rights-of-way within or adjacent to the proposed development.*

The existing and proposed driveway for the Project site and the temporary staging area to be used for parking and loading are shown on the Site Plans in Attachment B.

3. *The location and dimensions of all existing and proposed buildings and structures on the site.*

Not applicable. There are no existing buildings on the Project parcel and no buildings are proposed as part of the Project.

4. *The location of intersecting roads or driveways within 200 feet of the site.*

Intersecting roads and driveways within 200 feet of the Project site are shown on the Site Plans in Attachment B.

5. *The location of existing and proposed open drainage courses, wetlands, vernal pools, waterbodies, streams, floodplains, stands of trees, vegetative cover type, and other important natural features, with a description of such features to be retained.*

Existing wetlands, streams, stands of trees, and vegetative cover type are shown on the Site Plans in Attachment B. The Project will avoid wetlands and streams; therefore, these features will be retained. The solar array is predominantly sited within an open field portion of the parcel. A limited amount of tree clearing will be required along the western side of the array to prevent shading of solar panels. Tree clearing will also be required to install the temporary staging area. There are no existing or proposed open drainage courses and there are no existing vernal pools, floodplains, or other important natural features on the Project parcel.

6. *The location and dimensions of any existing and proposed easements.*

Not applicable. There are no existing or proposed easements.

7. *The location of all existing and proposed provisions for water supply and wastewater disposal systems, including a design copy or letter of soils suitability for any proposed new or replacement wastewater disposal systems.*

Not applicable. The Project does not include a water supply or a wastewater disposal system.

8. *The location and dimensions of all existing and proposed signs.*

A sign will be installed at the Project entrance off Main Street as shown on the Site Plans in Attachment B (or alternatively, on the fence gate at the perimeter of the array). The sign will be approximately 2 feet by 2 feet and will identify the owner/operator and include a 24-hour emergency contact phone number.

9. *For any project which shall result in a change to exterior lighting, the location, height, and type of existing and proposed exterior lighting, and for commercial, industrial, and institutional projects, the foot-candle intensities of proposed lighting projecting on abutting properties.*

Not applicable. The Project does not include exterior lighting.

10. *The proposed landscaping and buffers/screening.*

Not applicable. The Project does not include landscaping or proposed screening.

11. *The location and amount of any earth moving.*

Not applicable. The Project is not expected to require substantial grading.

12. *A copy of all existing and proposed covenants or deed restrictions associated with the subject property.*

Not applicable. There are no existing or proposed covenants or deed restrictions associated with the Project parcel.

j. *A copy of any applicable federal, state, or town applications or permits which have been issued.*

There are no federal, state, or town permits that have been issued for the Project at this time. State regulations applicable to the Project include Maine's Stormwater Management Law (38 M.R.S.A. § 420-D) and Maine's Solar Decommissioning Law (35-A M.R.S. §§ 3491-3496). In accordance with these regulations, the Applicant will submit a Stormwater Permit by Rule (PBR) application and a solar decommissioning permit application to the Maine Department of Environmental Protection (MDEP). Additionally, a Driveway/Entrance Permit application will be filed with the Maine Department of Transportation (MDOT) for the Project entrance off Main Street.

k. *A narrative describing how the proposal meets all of the Planning Board's Review Criteria.*

Review Criteria as described in Section 3.G of the Land Use Ordinance are addressed in the Review Criteria section below.

l. *Evidence of receipt of application fee, payable to the Town of Readfield.*

A check in the amount of $2,500, made payable to the Town of Readfield, has been provided with this application package to cover the application fee for a large-scale solar energy system.

m. *A schedule of construction, including anticipated beginning and completion dates.*

Pending receipt of all local and state approvals and the Central Maine Power Company (CMP) interconnection schedule, construction of the Project is projected to begin in the fourth quarter of 2023 with the goal of Project completion set for the first quarter of 2024. The sequence of Project construction will generally adhere to the timeline detailed in Table 2, although adjustments may be necessary to accommodate seasonality, weather conditions, and the interconnecting utility.

Table 2. Estimated Construction Activity Timeline

Project Phase	Timeframe
Preliminary layout and staking of improved and new driveway segment and solar array/staging area	November 2023
Install erosion control; grubbing (as needed)	November 2023
Underground electrical work; racking posts and modules installation	December 2023 – January 2024
Substantial completion and commissioning	February 2024
Begin commercial operations	March 2024

n. *A stormwater drainage and erosion control plan in compliance with Article 8, Sections 10 and 11.*

The stormwater drainage and erosion control plan for the Project are included with the Site Plans in Attachment B. Additionally, the Stormwater Management Report for the Project is provided in Attachment E.

o. A description of the traffic movement to be generated by the development including types, peak hour and average daily vehicle trips, travel routes, and duration of traffic movement both during and following construction. A full traffic impact study shall be required under the conditions set forth in Article 8, Section 18.H, and shall include the components described therein.

Traffic during Project construction will include delivery and installation of Project materials and equipment and is anticipated to be approximately 25 to 30 vehicles per day at the peak of individual Project phases (see Table 2 above). The estimated peak hours of traffic during Project construction are between 7:00 am to 8:00 am and 5:00 pm to 6:00 pm. Forestry equipment needed for clearing at the commencement of site preparation may include delivery of a feller buncher and comparable equipment. Standard tractor trailers will be used to deliver the racking steel, solar panels, and electrical equipment at the commencement of Project installation.

Warning signs and flaggers will be used as appropriate during Project installation to provide temporary traffic controls for safe movement of traffic into and out of the Project site. Vegetation at the site entrance will be maintained to provide adequate visibility for vehicles entering and exiting the site. During operations, the Project will be accessed less than once per month unless additional maintenance is required.

p. An assessment of the solid or hazardous wastes to be generated by the proposed activity and a plan for its handling and disposal, along with evidence of disposal arrangements.

Solid waste during construction will consist of construction debris, packaging materials, and associated construction wastes that will be delivered to a landfill with adequate capacity to accept the Project's wastes (e.g., Crossroads Landfill in Norridgewock) by a licensed non-hazardous waste transporter. During operation, no solid waste is anticipated to be generated by the Project, and there will be no on-site waste collection or storage facilities.

The Project will not generate hazardous wastes during construction or operation and will not require disposal or storage of hazardous wastes. In the event of a hazardous spill, the MDEP would be notified. The material would be characterized, and the waste would be transported and disposed of at a licensed hazardous waste disposal facility in compliance with applicable laws and regulations.

q. The Planning Board may require existing and proposed topography of the site to be mapped at 10-foot contour intervals, or such other intervals as the Planning Board may determine necessary for review.

A topographic survey plan of the Project site mapped at 2-foot contour intervals is included with the Site Plans in Attachment B.

r. A copy of any required dimensional calculations applicable to the standards being reviewed, for example, square footage of structures, percent of lot coverage, etc.

Per the requirements detailed in the Readfield Solar Ordinance (Section 7), solar energy systems shall not exceed 20% lot coverage. The total fenced area of the Project is 9.59 acres, and the Project parcel is approximately 71.93 acres, resulting in approximately 13.3% lot coverage.

s. Elevation drawings for new commercial, industrial, and institutional buildings.

Not applicable. The Project does not include any buildings.

t. Any additional information relevant to the project, for example, photographs, Cobbosee Watershed District recommendations, etc.

Photo 1. View from the north end of the solar array field looking south to where the solar array will be located.

Photo 2. View of existing farm road access between open fields.

Photo 3. View from south end of the northern field with Main Street (Route 17) in the background.

REVIEW CRITERIA (SECTION G)

1. AESTHETIC, CULTURAL, AND NATURAL VALUES

The Project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, archaeological sites, significant wildlife habitat identified or defined by the Maine Department of Inland Fisheries and Wildlife (MDIFW) or the Town of Readfield, or rare plant and animal species, critical habitat, significant or irreplaceable natural areas, or resources identified by the Department of Conservation, or any public rights for physical or visual access to the shoreline.

The Applicant consulted with the Maine Historic Preservation Commission (MHPC) to request information on significant cultural or historic resources associated with the proposed Project area. The MHPC concluded that there are no National Register listed or known eligible properties on or adjacent to the Project site, and the Project parcels are not considered sensitive for archaeological resources. Correspondence received from MHPC is provided in Attachment F.

There are no known unique natural features within the Project area. A wetland and watercourse delineation was conducted for the Project to identify wetlands, watercourses, and vernal pools within the Project area. Five wetlands and one stream were identified on the Project parcel during the delineation, and no vernal pools were identified. The Wetland and Watercourse Delineation and Vernal Pool Survey Report is provided in Attachment G. The Project will not impact wetlands, the stream, or the area within 75 feet of the stream.

The Applicant consulted with the MDIFW regarding known locations of endangered, threatened, and special concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns in the vicinity of the Project. According to MDIFW, there are no mapped Essential or Significant Wildlife Habitats or inland fisheries habitats that will be affected by the Project. Based on historical evidence, MDIFW believes that endangered, threatened, and special concern species of bats may occur within the Project area during fall/spring migration, summer breeding season, and/or overwintering. Based on the lack of known hibernacula or maternity roost trees in the vicinity of the Project area, along with the absence of other bat overwintering habitat (e.g., talus slopes, exposed rock faces) and limited amount of tree clearing proposed, impacts to bats are not expected as a result of the Project. Necessary tree clearing will adhere to the protection guidelines for bats within the MDIFW Endangered Species Rules.[1] Correspondence received from MDIFW is included in Attachment F.

The Applicant consulted with the Maine Natural Areas Program (MNAP) to request information on the presence of rare or unique botanical features documented in the vicinity of the proposed Project. Such rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. According to MNAP's Biological and Conservation Data System files, there are no rare botanical features documented within the Project area. Correspondence received from MNAP is provided in Attachment F.

2. CONFORMITY WITH LOCAL ORDINANCES AND PLANS

The Project is in conformance with applicable local ordinances and the Readfield Comprehensive Plan.

3. EROSION

The Project will not cause soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results. An erosion and sedimentation control plan has been prepared for the Project (see Site Plans in Attachment B), and the Project contractor will implement BMPs as required by the *Maine Erosion and Sediment Control Best Management Practices (BMPs), Manual for Designers and Engineers*[2] (BMP Manual). The erosion and sedimentation control plan complies with Maine's Erosion and Sediment Control Law (38 M.R.S.A. § 420-C) and is based upon sound conservation practices, including as applicable, those outlined in the BMP Manual. Details of erosion and sedimentation control during Project construction are located in the Site Plans included as Attachment B. Erosion control measures will be installed prior to initiating Project construction and will remain in place and be maintained until the site is permanently stabilized. All erosion control and stabilization measures will comply with the BMP Manual.

4. FINANCIAL BURDEN ON THE TOWN

The Project will not cause financial burden on the Town for provisions of public services and facilities. The Project will not require a public water supply or sewage disposal. The Project may require water during construction for dust control purposes. If water is needed for dust control, the contractor will truck water to the Project site. The Project will not require a water supply for operations. During Project construction, temporary toilet facilities will be used, and service of the facilities will be provided by a licensed wastewater transporter. Sewage disposal will not be required during Project operations.

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[1] MDIFW Endangered Species Rule, Chapter 8.06. Available online at: <http://www.maine.gov/sos/cec/rules/09/137/137c008.docx>. Accessed July 11, 2023.

[2] Maine Department of Environmental Protection's *Maine Erosion and Sediment Control Best Management Practices (BMPs), Manual for Designers and Engineers*, dated October 2016 is available at https://www.maine.gov/dep/land/erosion/escbmps/.

5. FINANCIAL AND TECHNICAL CAPACITY

Financial Capacity

Norwich has financed and installed over $75 million worth of renewable energy systems across New England. Working with their financial partners, Norwich Solar is building more than 15 solar projects this year and managing project costs of over $20 million. Drawing upon project specific financing and the support of a stable line of credit with Mascoma Bank, Norwich Solar is more than capable of developing and installing projects of this size. Norwich Solar maintains a $4 million line of credit with its principal banking institution, Mascoma Bank. With multiple offices across the region, Mascoma Bank services customers throughout Maine, New Hampshire, and Vermont. A reference letter from Mascoma Bank is provided in Attachment H.

Technical Capacity

Norwich is the managing member of Readfield Main Street Solar, LLC, (the Applicant). Founded in 2011, with the mission to continue advancing the integration and deployment of affordable solar power for regional organizations and communities, Norwich Solar has installed over 30 megawatts (MW) with another 63 plus MWs under development across Vermont, New Hampshire, and Maine. Norwich Solar is consistently recognized in national publications as a leading solar developer and was named one of the Top 50 Places to Work in Vermont in 2021 and 2022 by the Vermont Chamber of Commerce.

Norwich Solar works with utility companies servicing Maine, New Hampshire, and Vermont to facilitate the advancement of grid safety and stability with real time automation control, and professionally engineered system design, giving the utility finite control of the power systems at all scales, while improving efficiency. Norwich Solar's deployment of distributed generation solar systems across the region reduces reliance on fossil fuels in favor of local and renewable energy resources.

As a vertically integrated company, Norwich Technologies Inc. provides its clients with turnkey installations, 24/7/365 monitoring and system control, and long-term operations and maintenance services. Runtime Solar, the operation and maintenance division grown from within Norwich's expertise, provides asset management and optimization services to community and commercial installations across northern New England. Runtime Solar will also service and operate this Project.

The Norwich Solar team places priority on local job creation and retention, increased energy independence, and reduced pollution while following socially responsible business practices. Construction, engineering, management, and finance professionals, along with many local contractors have generated company growth of almost 30% in the last year, and Norwich Solar was awarded one of the Top Solar Contractors in the United States despite the COVID-19 challenges. Norwich Solar's commitment to northern New England communities is put into tangible practice by its support of local organizations. As active leaders and members of the Maine Renewable Energy Association, the Vermont Energy and Climate Action Network, Renewable Energy Vermont and Vermont Businesses for Social Responsibility, and the New Hampshire Clean Tech Council and Clean Energy NH, and Certified B-Corporation, Norwich Solar's employees' socially responsible participation has been recognized as one of Vermont's best places to work.

Norwich Solar professionals cover sales, development, permitting, engineering, finance, administration, operations and maintenance, and installation. The management team is led by:

Jim Merriam – Chief Executive Officer

- 25+ Years of experience in the renewable energy industry.
- Electrical Engineering, University of Vermont.
- Previously VP Operations at SunCommon, Director of Efficiency Vermont, and COO at groSolar.

Joel Stettenheim – Co-Founder & President
- JD Stanford Law School, PhD Physics, Dartmouth College.
- PI on Norwich Solar's $2.4M DoE SunShot grants.

Troy McBride – Co-Founder & Chief Technical Officer
- PhD, Thayer School of Engineering at Dartmouth College.
- Previously tenured engineering professor.

Spencer Newman – Chief Financial Officer
- MBA, Kellogg School of Management, Northwestern University.
- Strategic and financial specialist.
- 25+ years financial experience.

Martha Staskus – Chief Development Officer
- 25+ years extensive project management and development expertise in regional renewable energy projects including responsibility for over 25 MW of Vermont group net metered solar projects and over 150 MW of New England utility-scale wind projects.
- Environmental Sciences, University of Vermont.
- 2019 Renewable Energy Vermont's Renewable Energy Champion Awardee.
- Board Director of Renewable Energy Vermont.

Charlie Van Winkle – VP Operations
- MBA, Management & Finance, Harvard University.
- Previously COO at Northern Reliability working on energy storage and microgrid reliability.
- Extensive project management and development expertise in renewable energy projects.

Dan Kinney – General Manager Runtime Solar
- Environmental Education, Unity College.
- 2017 Renewable Energy Vermont's Jim Grundy Award for bringing renewable energy to the community for 20 years.
- 2011 Cofounded Catamount Solar after 8 years as a groSolar field supervisor.

In addition to Norwich's internal expertise, the Project development team includes the following:

- Stantec (www.stantec.com) – permitting support and natural resource assessments
- Krebs & Lansing Consulting Engineers, Inc. (krebsandlansing.com) – civil engineering and stormwater design
- Horizons Engineering (www.horizonsengineering.com) – land survey
- RLC Engineering (www.rlc-eng.com) – electrical engineering

6. FLOOD AREAS

The Project is not located within a floodplain as designated by the Federal Emergency Management Agency Flood Insurance Rate Maps.

7. WETLANDS

The Project will not result in wetland impacts.

8. GROUNDWATER

The Project will not adversely impact either the quality or quantity of groundwater. No new groundwater extraction is anticipated as part of the Project; therefore, the Project will not affect the quantity of groundwater. Maine Geological Survey Significant Sand and Gravel Aquifer Maps[3] show the nearest mapped significant sand and gravel aquifer complex is approximately 1.8 miles west of the Project. Mapped aquifers do not intersect any of the Project site. The potential sources of groundwater contamination during construction will be fuel and hydraulic and lubricating oils used in the operation of vehicles and construction equipment. If a spill occurs, it would be small and of short duration. Spills that are properly cleaned up would not pose a risk to groundwater quality. Procedures for handling these materials and preventing spills will be in accordance with all applicable state and federal regulations.

The multiple methods, plans, and procedures to prevent groundwater degradation during construction of the proposed Project are incorporated in the Project erosion control requirements and the Site Plans (Attachment B). These procedures establish a set of minimum requirements for spill prevention and response during construction and have proven successful for preventing spills and for addressing spills if they occur. The procedures incorporate measures developed and fine-tuned from experience during other solar array construction projects, including input from other review agencies. All personnel working on the Project will follow these procedures. Construction and operation of the Project are not expected to adversely affect groundwater resources based on implementation of the Project's erosion control measures.

9. MUNICIPAL SOLID WASTE DISPOSAL

The Project will not use municipal services for solid waste disposal.

10. WATER SUPPLY

The Project will not be served by public water. The Project may require water during construction for dust control purposes. If water is needed for dust control, the contractor will truck water to the Project site. The Project will not require a water supply for Project operations. Additionally, the Project is not expected to require a water supply for fire suppression, as it is not typical to practice fire suppression by means of water inundation within a solar array.

11. ADJACENT LAND USES

The Project will not have a detrimental effect on adjacent land uses or other properties that might be affected by waste, noise, glare, fumes, smoke, dust, odors, or other effects.

<u>Waste</u>

Solid waste during construction will consist of construction debris, packaging materials, and associated construction wastes that will be delivered to a landfill with adequate capacity to accept the Project's wastes (e.g., Crossroads Landfill in Norridgewock) by a licensed non-hazardous waste transporter. During operation, no solid waste is anticipated to be generated by the Project, and there will be no on-site waste collection or storage facilities.

The Project will not generate hazardous wastes during construction or operation and will not require disposal or storage of hazardous wastes. In the event of a hazardous spill, the MDEP would be notified. The material would be characterized, and the waste would be transported and disposed of at a licensed hazardous waste disposal facility in compliance with applicable laws and regulations.

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[3] Maine Geological Survey, Online Significant Sand and Gravel Aquifers Maps. Available at: https://www.maine.gov/dacf/mgs/pubs/digital/aquifers.htm.

Noise

The anticipated sound level of the Project is based on two components: inverters (100-125 kilowatts) and transformers (up to 1,000 kilovolt-amperes). It is important to note that these Project components only generate noise when the sun is up and that sound levels are proportional to electric load. Based on the equipment specifications, noise levels at inverter locations are expected to be 65 A-weighted decibels (dBA) at a distance of 3.3 feet, 29.3 dBA at a distance of 200 feet, and 19.8 dBA at a distance of 600 feet. Noise levels at the 1,000-kilovolt-amperes transformer are expected to be 64 dBA at 3.3 feet, 28.3 dBA at 200 feet, and 18.8 dBA at 600 feet. The sound assessment conducted for the Project is based on the distance of the nearest property line in relation to inverters and transformers and demonstrates the combined sound level impact is anticipated to be approximately 32.8 dBA (see Attachment I). For comparison, the sound level of a quiet rural area is approximately 30 dBA and a library is approximately 40 dBA. The Project is incompliance with the most restrictive sound level limits set by MDEP for abutting parcels containing a residence, which are 55 dBA during daytime hours (7:00 am to 7:00 pm) and 45 dBA during nighttime hours (7:00 pm to 7:00 am).

Glare

The Project has been sited to avoid concentrated glare onto adjacent properties. The array will be set back 200 feet from the nearest property line and approximately 720 feet from the nearest structure. In addition, a buffer of existing forested vegetation will surround the array, as shown on Sheet C-1.0 of the Site Plans in Attachment B. Based on the setback distance and the screening provided by existing forested vegetation surrounding the array, the Project is not expected to be visible from neighboring properties.

Fumes and Odors

The Project will not generate any odors during operations. Only limited, short-term fumes or odors may be generated during construction by exhaust from equipment.

Smoke

The Project will not generate smoke.

Dust

Construction activities associated with Project installation may result in temporary dust generated by construction equipment. Dust that may be generated during construction is anticipated to be similar to that produced from similar scale construction projects. Treatment options may include calcium chloride, water, or other approved dust mitigating agents and will only occur when necessary.

12. POLLUTION

The Project will not result in undue water or air pollution. Adherence to the Project's erosion and sedimentation control plan provided in Attachment B will minimize potential impacts to surface water quality. No floodplains occur within the Project area. The Project area is comprised of relatively flat land suitable for development. Elevations within the Project area range from approximately 400 to 490 feet above sea level. The U.S. Department of Agriculture's Natural Resource Conservation Service web soils survey data was used to map the existing soil condition within the Project area (see Attachment J). Soil types within the Project area are rocky and sandy loams, which are suitable for construction of the solar array, racking, and associated driveway and equipment. Soils and subsoils will not need to support waste disposal.

Local regulations applicable to the Project are described in the Readfield Land Use Ordinance (specifically Section 3, Site Review) and the Readfield Solar Ordinance. This Site Review Application is being submitted in accordance with these regulations. A building permit application will be submitted prior to starting Project construction. The Applicant believes the proposed Project is in conformance with Readfield ordinances, as well as the Readfield Comprehensive Plan.

State regulations applicable to the Project include Maine's Stormwater Management Law (38 M.R.S.A. § 420-D) and Maine's Solar Decommissioning Law (35-A M.R.S. §§ 3491-3496). In accordance with these regulations, the Applicant will submit a Stormwater PBR application and a solar decommissioning permit application to the MDEP.

13. WATERBODIES

The Project will not have an undue impact on waterbodies, including lakes, ponds, and streams. One stream was identified on the Project parcel during the wetland and watercourse delineation. The Project will avoid this stream and the area within 75 feet of the stream.

14. WASTEWATER DISPOSAL

The Project will not require permanent wastewater disposal. During Project construction, temporary toilet facilities will be used, and service of the facilities will be provided by a licensed wastewater transporter. Wastewater disposal will not be required during Project operations.

15. STORMWATER

Stormwater permitting for the Project will be accomplished under the MDEP's Stormwater Management Law (Chapter 500). Projects creating less than 1 acre of new impervious surfaces qualify for a Stormwater PBR. The MDEP does not consider solar panels as impervious surfaces. The proposed Project will create approximately 0.25 acre of impervious surfaces and, therefore, qualifies for a Stormwater PBR. Following Project construction, the area under and around the solar array will be maintained as a meadow. This meadow will function as a vegetated buffer providing stormwater treatment. As such, ground cover within the array area will be mowed no more than twice per year. The Project will comply with Maine Stormwater Best Management Practices Manual.[4] The Stormwater Management Report for the Project is provided in Attachment E.

16. SUFFICIENT WATER

Not applicable. The Project will not require a water supply.

17. TRAFFIC

The Project will not cause highway or road congestion or unsafe conditions with respect to the use of highways or roads. Traffic during Project construction will include delivery and installation of Project materials and equipment and is anticipated to be approximately 25 to 30 vehicles per day at the peak of individual Project phases (see Table 2 above). Warning signs and flaggers will be used as appropriate during Project construction to provide temporary traffic controls for safe movement of traffic into and out of the Project site. Vegetation at the site entrance will be maintained to provide adequate visibility for vehicles entering and exiting the site. During operations, the Project will be accessed less than once per month unless additional maintenance is required. A Driveway/Entrance Permit application will be filed with the MDOT for the Project entrance off Main Street.

[4] https://www.maine.gov/dep/land/stormwater/stormwaterbmps/

18. LEGAL ACCESS

The Applicant has legal and reasonable means of access for the Project (see title, right, or interest documentation in Attachment D). A driveway will be improved off Main Street to provide access to the Project.

19. IMPACT ON ADJOINING MUNICIPALITY

Not applicable. The Project does not cross Town boundaries.

20. LIFE AND FIRE SAFETY

A perimeter fence for public safety will surround the Project to prevent the public from accessing the site. A gate in the fence will be installed and secured with a Knox Box or similar locking mechanism to allow the Town First Responders to enter the site in the event of an emergency. The Project is not expected to require fire protection services, as it is not typical to practice fire suppression by means of water inundation within a solar array.

21. VIOLATIONS

The Project is not located on property currently in violation of any requirements of the Readfield Land Use Ordinance.

22. COMPLIANCE WITH TIMBER HARVESTING STANDARDS

Not applicable. The Project is not a subdivision.

23. ROAD CONSTRUCTION

Not applicable. The Project does not include road construction.

SOLAR ORDINANCE REQUIREMENTS

SPECIFIC APPLICATION REQUIREMENTS (SECTION 6)

1) *A description of the owner of the SES, the operator if different, and detail of qualifications and track record to run the facility.*

The Applicant is managed by Norwich, and Norwich is the Project owner. Runtime Solar, a division of Norwich, will operate and maintain the Project. The qualifications of Norwich and Runtime Solar are described under the Review Criteria section above (Financial and Technical Capacity).

2) *If the operator will be leasing the land, a copy of the agreement (minus financial compensation) clearly outlining the relationship inclusive of the rights and responsibilities of the operator, landowner, and any other responsible party with regard to the SES and the life of the agreement.*

Sunny Acres, LLC, the land holding entity for Norwich, has signed a Purchase and Sale Agreement with the current landowner of the Project parcel. The Applicant has entered into a lease option agreement with Sunny Acres, LLC (see the referenced agreements in Attachment D).

3) *A description of how and to whom the energy will be sold.*

The solar array is under contract to participate in Maine's Net Energy Billing (NEB) program. Off-takers will receive monetary or energy credits applied to their utility bills at a discounted rate. The off-takers for the NEB credits are expected to be an assortment of small to medium-sized Maine businesses.

4) *A copy of the agreement and schematic details of the connection arrangement with the transmission system (most likely Central Maine Power), clearly indicating which party is responsible for various requirements and how they will be operated and maintained.*

A copy of the Interconnection Agreement between the Applicant and CMP is provided in Attachment K.

5) *The layout, design and installation shall conform to applicable industry standards, such as those of the American National Standards (ANSI), Underwriters Laboratories (UL), the American Society for Testing and Materials (ASTM), Institute of Electrical and Electronics Engineers (IEEE), Solar Rating and Certification Corporation (SRCC), Electrical Testing Laboratory (ETL), Florida Solar Energy Center (FSEC), or other similar certifying organizations, and shall comply with local ordinances, and with all other applicable fire and life safety requirements. The manufacturer specifications for the key components of the system shall be submitted as part of the application.*

The Project layout, design, and installation will comply with applicable industry standards, such as those described above, as well as other safety requirements and local ordinances. Based upon availability in the marketplace at the time of installation, the anticipated manufacturers of key Project components will be RBI Solar, CPS inverters, and Tallmax solar panels. Specification sheets, including manufacturer and model, of anticipated Project components are provided in Attachment L.

6) *A description of the panels to be installed, including make and model, and associated major system components.*

Major Project components will include a post supported racking system to which fixed-tilt solar panels will be attached. The panels will be electrically connected with string inverters to a combiner panel, an alternating current disconnect, and pad mounted transformer before interconnecting with the local CMP distribution system. Specification sheets, including manufacturer and model, of anticipated Project components are provided in Attachment L.

7) *A construction plan and timeline, identifying known contractors, site control, and anticipated on-line date.*

The anticipated construction timeline is provided in Table 2 above.

The Applicant has extensive experience constructing solar energy facilities in the Northeast, with numerous projects currently in construction and operation. The Applicant is committed to constructing facilities that minimize environmental impacts and comply with regulatory requirements and approval conditions.

Construction sequencing will proceed with initial site preparation work which includes delineating the construction limit of disturbance (LOD) area, installing erosion control measures and natural resource protections, clearing remaining vegetation within the LOD, and establishing the temporary staging area for equipment deliveries and parking. Temporary erosion and sedimentation control best management practices (BMPs) will be installed per regulatory requirements. The erosion and sedimentation control plan is described in the Site Plans in Attachment B. The Project site will be cleared and grubbed as necessary, and earthwork to trench the underground electric collection system and install the equipment pads will commence. Trenching and installation of the underground conduit which electrically connects the solar array rows will proceed, followed by panel support posts and racking. Attaching the panels to the racking support system will begin as racking installation progresses. Once panels are installed, they will be connected electrically to each other and the electric collector system. Simultaneously, coordination with

CMP will be occurring in preparation of interconnecting the array to the CMP distribution system. Final testing and commissioning will occur in accordance with NEC and CMP.

Construction contractors will be determined after receipt of all necessary Project permits. The Applicant's selected contractors will be experienced in Maine solar and civil construction. The contractors will be certified in Erosion and Sediment Control by the MDEP and will implement BMPs as required by the BMP Manual.

8) *An operations and maintenance plan, including site control and the projected operating life of the system. Such a plan shall include measures for maintaining safe access to the installation, stormwater controls, as well as general procedures for operational maintenance of the installation. Additionally, such plans shall include efforts to promote beneficial flora and fauna (e.g., honeybees, butterflies, etc.) as well as a commitment to not using pest-control substances (e.g., pesticides, herbicides, fungicides, and or insecticides).*

The Operations and Maintenance Plan for the Project is provided in Attachment M.

9) *An emergency management plan for all anticipated hazards.*

The Emergency Management Plan for the Project is provided in Attachment N.

10) *A stormwater management plan, certified by a licensed Maine engineer, that demonstrates stormwater from the SES will infiltrate into the ground beneath the SES at a rate equal to that of the infiltration rate prior to the placement of the system.*

The Project's Stormwater Management Report, certified by a Maine-licensed professional engineer, is provided in Attachment E. The Stormwater Management Report demonstrates that stormwater from the Project will infiltrate into the ground beneath the solar array at a rate equal to the pre-construction infiltration rate.

11) *A background noise measurement for the site location as performed by a qualified professional.*

The anticipated sound level of the Project is based on two components: inverters (100-125 kilowatts) and transformers (up to 1,000 kilovolt-amperes). It is important to note that these Project components only generate noise when the sun is up and that sound levels are proportional to electric load. Based on the equipment specifications, noise levels at inverter locations are expected to be 65 dBA at a distance of 3.3 feet, 29.3 dBA at a distance of 200 feet, and 19.8 dBA at a distance of 600 feet. Noise levels at the 1,000-kilovolt-amperes transformer are expected to be 64 dBA at 3.3 feet, 28.3 dBA at 200 feet, and 18.8 dBA at 600 feet. The sound assessment conducted for the Project is based on the distance of the nearest property line in relation to inverters and transformers and demonstrates the combined sound level impact is anticipated to be approximately 32.8 dBA (see Attachment I). For comparison, the sound level of a quiet rural area is approximately 30 dBA and a library is approximately 40 dBA. The Project is incompliance with the most restrictive sound level limits set by MDEP for abutting parcels containing a residence, which are 55 dBA during daytime hours (7:00 am to 7:00 pm) and 45 dBA during nighttime hours (7:00 pm to 7:00 am). Based on the results of the sound assessment, the Applicant requests a waiver from the requirement to provide a background noise measurement for the Project site.

12) *Proof of financial capacity to construct and operate the proposed facility.*

Norwich has financed and installed over $75 million worth of renewable energy systems across New England. Working with their financial partners, Norwich Solar is building more than 15 solar projects this year and managing project costs of over $20 million. Drawing upon project specific financing and the support of a stable line of credit with Mascoma Bank, Norwich Solar is more than capable of developing and installing projects of this size. Norwich Solar maintains a $4 million line of credit with its principal banking institution, Mascoma Bank. With multiple offices across the region, Mascoma Bank services customers throughout Maine, New Hampshire, and Vermont. A reference letter from Mascoma Bank is provided in Attachment H.

13) A decommissioning plan.

The Decommissioning Plan for the Project is provided in Attachment O.

STANDARD FOR APPROVAL (SECTION 7)

1. Lots

The Project does not exceed 20% lot coverage. The total fenced area of the Project is 9.59 acres, and the Project parcel is approximately 71.93 acres, resulting in approximately 13.3% lot coverage.

2. Legal Responsibilities

The Applicant, Readfield Main Street Solar LLC, is member-managed by Norwich and is authorized to construct, use, and maintain the Project, including through decommissioning. Sunny Acres, LLC, the land holding entity also member-managed by Norwich, has signed a Purchase and Sale Agreement with the current landowner of the Project parcel. The Applicant has entered into a lease option agreement with Sunny Acres, LLC (see the referenced agreements in Attachment D). The lease period will be 25 years with up to two five-year extensions. The Project will be constructed and maintained in compliance with relevant federal, state, and local laws, regulations, and ordinances.

Norwich is the Project owner, and Runtime Solar (a division of Norwich) will operate and maintain the Project. Additional details regarding operations and maintenance are provided in the Operations and Maintenance Plan in Attachment M.

3. Deed Registration

The Applicant understands that the Project shall be incorporated into the description of the real property in the lot/property deed and recorded with the Kennebec County Registry of Deeds as a condition of Planning Board approval.

4. Setback

The solar array will be set back a minimum of 200 feet from all lot lines as shown on the Site Plans in Attachment B. The panel racking system is designed to support the bottom of the solar panels approximately 3 feet above grade to the top of the panels at a maximum of 10 feet above grade.

5. Prohibited Locations

The Project will not be placed within any legal easement or right-of-way, within any stormwater conveyance system, or in any other manner so as to alter or impede stormwater runoff from collecting in a constructed stormwater conveyance system.

6. Utility Notification

A copy of the Interconnection Agreement between the Applicant and CMP is provided in Attachment K.

7. Fence

Perimeter fencing with an access gate will be installed around the Project in compliance with the NEC. Fencing will be approximately 8 feet tall and will consist of a fixed knot agricultural style fence. The fence will have an approximately 6-inch gap between the bottom of the fence and the ground to allow for smaller wildlife passage. Barbed wire fencing will not be used.

8. Signage

A sign will be installed at the Project entrance off Main Street (or alternatively, on the fence gate at the perimeter of the array). The sign will identify the owner/operator and will include a 24-hour emergency contact phone number. A clearly visible warning sign will be placed at the base of pad-mounted transformers and on the perimeter fencing to inform of potential voltage hazards.

9. Screening

Existing forested vegetation will provide screening from roads and adjacent properties. The array will be set back more than 1,000 feet from Main Street, 200 feet from the nearest property line, and approximately 720 feet from the nearest structure. The array will be surrounded by existing forested vegetation that will screen the Project. Specifically, an approximately 435-foot forested buffer will remain on the north side of the array to provide screening of the Project from Main Street, and an approximately 500-foot-wide forested buffer will remain between the array and the nearest structure to provide a visual screen.

10. Glare

The Project has been sited to avoid concentrated glare onto nearby structures and roadways. The array will be set back more than 1,000 feet from Main Street and approximately 720 feet from the nearest structure. In addition, a buffer of existing forested vegetation will surround the array, as shown on Sheet C-1.0 of the Site Plans in Attachment B. Based on the setback distances and the screening provided by existing forested vegetation surrounding the array, the Project is not expected to be visible from neighboring properties or roadways. Furthermore, solar panels are designed to absorb solar energy and convert it to electricity. As such, solar panels are manufactured with anti-reflective materials to capture and retain as much of the solar spectrum as possible. Typical solar panels reflect only about 2% of incoming sunlight, which is less than bare soil and vegetation.[5] Therefore, the Project is not expected to produce glare onto nearby properties or roadways.

11. Noise

Noise associated with the Project is described under the Review Criteria section above (Adjacent Land Uses). A sound assessment was conducted for the Project based on the distance of the nearest property line in relation to inverters and transformers. The sound assessment demonstrates the combined sound level impact is anticipated to be approximately 32.8 dBA (see Attachment I). For comparison, the sound level of a quiet rural area is approximately 30 dBA and a library is approximately 40 dBA. Conservatively assuming the background noise of the Project site is equivalent to the 30 dBA sound level of a quiet rural area, the Project will not be more than 10 decibels greater than the existing background levels. Therefore, the Applicant requests a waiver from the requirement to provide a background noise measurement for the Project site.

[5] Massachusetts Department of Energy Resources, Massachusetts Department of Environmental Protection, and Massachusetts Clean Energy Center. 2015. Questions & Answers: Ground-Mounted Solar Photovoltaic Systems. Available at: https://www.mass.gov/files/documents/2016/08/rn/solar-pv-guide.pdf.

12. Lighting

The Project does not include lighting.

13. Impervious Assessment

Stormwater permitting for the Project will be accomplished under the MDEP's Stormwater Management Law (Chapter 500). Projects creating less than 1 acre of new impervious surfaces qualify for a Stormwater PBR. The MDEP does not consider solar panels as impervious surfaces. The proposed Project will create approximately 0.25 acre of impervious surfaces and, therefore, qualifies for a Stormwater PBR. Following Project construction, the area under and around the solar array will be maintained as a meadow. This meadow will function as a vegetated buffer providing stormwater treatment. As such, ground cover within the array area will be mowed no more than twice per year. The Project will comply with Maine Stormwater Best Management Practices Manual.[6] The Stormwater Management Report for the Project is provided in Attachment E.

14. Utility Connections

The electrical collection system will be installed underground to the extent possible. A segment of aboveground collector line will be installed adjacent to the proposed driveway, running from the AC combiner to the POI on Main Street. The electrical transformers for utility interconnections will be installed aboveground.

15. Emergency Services

Prior to Project operations, the owner/operator will provide a copy of the Project summary, final electrical schematic and site plan to the Fire Chief. Perimeter fencing with an access gate will be installed around the Project, and the gate will be secured with a Knox Box lock (or similar locking mechanism agreed upon by the Fire Chief). All means of shutting down the Project will be clearly marked. The Emergency Management Plan for the Project, which provides owner/operator contact information, is provided in Attachment N.

16. Maintenance Conditions

Once operational, the system owner/operator will properly maintain the Project in good condition to keep the Project free from hazards. Site access will be maintained to a level acceptable to the Fire Chief for emergency response. The owner/operator will be responsible for the cost of maintaining the Project driveway, including regular plowing of snow to maintain access.

17. Satisfaction with All Aspects of Capacity and Plans Submitted

The Applicant has the capacity to finance, safely operate, and decommission the Project. The Applicant's financial and technical capacity are described under the Review Criteria section above.

18. Removal

If/when any portion of the Project is removed, any earth disturbance will be graded and re-seeded unless the disturbed area is authorized for another developed use.

[6] https://www.maine.gov/dep/land/stormwater/stormwaterbmps/

19. Alternatives Assessment

The Project meets the standards of the Readfield Solar Ordinance and Land Use Ordinance, as well as the goals and objectives of the Readfield Comprehensive Plan; therefore, an alternatives assessment is not included.

20. Preservation of Town's Character

The Project is consistent with the character of the community with regards to visual consistency with local neighborhood areas, maintenance of scenic views, maintenance of open space land and farms, the Readfield Comprehensive Plan, and associated town planning documents. The array will be set back more than 1,000 feet from Main Street and approximately 720 feet from the nearest structure. In addition, a buffer of existing forested vegetation will surround the array, as shown on Sheet C-1.0 of the Site Plans in Attachment B. Based on the setback distances and the screening provided by existing forested vegetation surrounding the array, the Project is not expected to be visible from neighboring properties or roadways. The array will not impact scenic views. The solar array is predominantly sited within an open field portion of the parcel, thereby maintaining existing open space, and resulting in a limited amount of tree clearing for the Project.

ATTACHMENT A: LAND USE PERMIT APPLICATION FORM AND PLANNING BOARD REVIEW CRITERIA QUESTIONNAIRE

Permit Fee ________
Date Paid ________
Receipt # ________

Town of Readfield
Readfield, Maine 04355
(207) 685-4939

Map 143 Lot 14

Planning Board
Land Use Permit Application

The undersigned applies for approval of the Readfield Planning Board as follows:

1. Applicant / Owner:
   Name Readfield Main Street Solar, LLC
   Address 14 Maine Street, Suite 305C-1
   Brunswick, ME 04011
   Phone# (W) 802-359-7416
   (H) ____________

   Agent (if any):
   Name Stantec c/o Kara Moody
   Address 30 Park Drive
   Topsham, ME 04086
   Phone# (W) 207-406-5505
   (H) ____________

Email for applicant/agent permitting@norwichsolar.com; kara.moody@stantec.com

Note: Property owner must provide written authorization if he/she wishes to be represented by an agent. Such authorization may be provided either by signing this application, or by providing authorization by means of a separately signed statement included with the application.

2. Physical location of property: Main Street

3. Please describe what you are proposing to do:
Readfield Main Street Solar, LLC proposes to construct and operate the Readfield Main Street Solar Project, a distributed generation solar energy facility on the south side of Main Street in Readfield. The Project is a ground-mounted solar facility with an installed capacity of up to 975 kilowatts alternating current. Based on the Town of Readfield Solar Ordinance, the Project is considered a large-scale solar energy system. Additional details are provided in the attached narrative.

4.. What land use district, e.g., rural residential, is the property located (as defined in Article 7 of the Land Use Ordinance (LUO) and depicted on the Land Use Map)?
Rural, Rural Residential, Resource Protection

5. What is the existing use of the property (see Table 1/Table of Uses, Article 7, of the LUO)?
Agriculture

6. What is the proposed use of the property as best described from Table 1/Table of Uses in Article 7?
Essential Services

7. Lot Width 769' Lot Depth 4,100' Lot Area in Acres (1 acre = 43,560 sq. ft.) 71.93 acres

8. If a structure is proposed to be built, or expanded, list the following:

Type of Structure(s)	Length	Width	Height

Non-Conforming Structures

Questions to answer **if** you are seeking a permit to expand, relocate, reconstruct or replace a **non-conforming** structure **or** are seeking a permit to build a new, enlarged or replacement foundation beneath an existing non-conforming structure. (See Article 11 of the Land Use Ordinance for definition of "**non-conforming**.")

A. For reconstruction, relocation or expansion of a non-conforming structure in a shoreland zone, please list the total **floor area** for all portions of the structure(s) located between **25 to 75 feet** from the normal highwater line of the water body, tributary stream, or upland edge of a wetland: ____________________. (Please attach a worksheet showing how you calculated the total **floor area**. The term "**floor area**" is defined in Article 11 of the Land Use Ordinance)

B. For reconstruction, relocation or expansion of a non-conforming structure in a shoreland zone, please list the total **floor area** for all portions of the structure(s) located between **75 to 100 feet** from the normal high-water line of the water body: ____________________. (Please attach a worksheet showing how you calculated the total **floor area**. The term "**floor area**" is defined in Article 11 of the Land Use Ordinance)

C. If you plan to put in a new, enlarged or replacement foundation below a non-conforming structure OR if you are seeking to relocate, reconstruct or replace a non-conforming structure, please describe whether the foundation or structure can be located further from the water to meet, or come closer to meeting set-backs, and if not, explain why it cannot be moved further back.

____

____

____.

D. For structures in the Shoreland Residential, Resource Protection or Stream Protection zones, please show how the proposed development does not result in exceeding the 20% lot coverage maximum. See Article 11 of the Land Use Ordinance for definition of "**lot coverage**."

____

____

____

I certify that the foregoing, and the attached materials including responses to review criteria, are true, correct and accurate to the best of my knowledge.

Signature of Applicant / Owner ____________________ Date 8/7/2023

Signature of Agent (if any): ____________________ Date 8/7/2023

Applicant: Town of Readfield

Planning Board Review Criteria
Questionnaire

1. State how the proposed activity will not have an undue adverse affect on:
   a) the scenic or natural beauty of the area, **See Attached Sheets**

   b) any historical sites that may be located on the property,

   c) any significant wildlife habitat,

   d) any public rights for physical or visual access to any shoreline,

   e) any rare and irreplaceable natural areas,

2. a) What other Town, State or Federal permits will be required for this project?

   b) Do you intend to apply for these permits?

   c) Are you committed to conducting this activity and subsequent use of the property in conformance with all applicable Town, State and Federal laws, rules, regulations and ordinances?

3. State how the proposed activity will:
   a) prevent stormwater from giving rise to soil erosion both during and after the development,

   (In this regard you may reference the appropriate erosion control or stormwater management books available at the Town Office)

   b) reasonably conserve the land's capacity to hold water,

4. State what impact the proposed activity will have upon the Town's public services and facilities. This may include, but not be limited to the amount and type of anticipated traffic, requirements for emergency services, effects relating to public education, etc.

5. a) What financial resources (including mortgage commitments) do you have to assure the completion and implementation of this project in compliance with the Land Use Ordinance?

b) What technical support will be used in connection with any design, development or use of the project?

6. a) Is any portion of the subject property located within, or affected by any flood areas as depicted on the Federal Emergency Management Agency Flood Insurance Rate Map? (These Flood Maps are available for your reference at the Town Office).

    i) If the answer to question (a) is yes, do you intend to include any portion of your development within the boundaries of the flood plain, including any structures or buildings, wells, wastewater disposal systems, or any storage or placement of property stockpiling of materials? _____________

    ii) If the answer to question (i) is yes, how do you intend to develop this project (including it's subsequent use) to comply with the Floodplain Ordinance of the Town of Readfield? ______________________________

7. a) Does your proposed development or use include any alteration of or impact to any wetland? If the answer to this question is yes, describe how you intend to minimize this impact?

    b) Are you aware that any wetland alteration requires additional permitting on the State or Federal level and will you be applying for those?

8. What part of your development or use will rely on or could impact groundwater?

9. a) State the nature of solid waste your proposal will generate both during development and the subsequent use of the property.
    b) Will this solid waste be taken to the Town Recycling Station? If so, how will the Town be compensated for handling such waste?
    c) If the solid waste is not to be taken to the Town Recycling Station, how do you plan to dispose of it?

10. Do you intend to connect to any public water supply?
11. a) What impact, if any, could the proposed activity have on adjacent properties and their uses. State whether any noise, glare, fumes smoke, dust, odors, or other affects will be generated.

    b) Describe the anticipated extent of these impacts and how you intend to buffer or reduce them to a level acceptable to adjacent properties.

12. a) What is the approximate percentage of slope of the land?
    b) What is the nature of the soils?
    c) What is the nature and extent of the existing vegetation on the site of development or use?

13. a) What is the nearest waterbody (lake, pond, stream, or brook)?
    b) What is the least distance between the waterbody and the project site?
    c) What part of your project could impact one of these waterbodies?
    d) How do you intend to minimize this impact?

14. How do you intend to provide for the adequate disposal of sewage and wastewater in order to comply with the requirements of the State Plumbing Code?

15. Describe or illustrate on a separate paper how you intend to control and manage any additional stormwater resulting from this project or use. You may reference the publication, "Stormwater Management for Maine, Best Management Practices" published by the Department of Environmental Protection (1995) and which is available for reference at the Town Office.

    NOTE: If the project results in 20,000 sq. ft. or more of impervious area in the Maranacook Lake watershed or more than one (1) acre in the other lake watersheds, or more than five (5) acres of disturbed area in either watershed, a Stormwater Management permit from the Department of Environmental Protection will be required.

16. What will your water requirements be for this use and what will be your water source?

17. What types and amount of additional traffic do you expect as a result of this use?

18. What are your plans for permanent access to the site of the proposed use?

19. Does your proposed development or use cross the Readfield town line?
    If so, into which town?
    How will you avoid causing unreasonable traffic congestion or unsafe conditions as related to the use of that town's public ways?

20. What is the estimated depth-to-frontage ratio of the lots you propose to create or develop?

21. Has a representative of the Readfield Fire Department reviewed your proposal?

22. Are there currently any enforceable land use violations associated with this property?

23. If your project involves the construction of a road has the road design been approved by the Road Committee?

Required Submittals

(Per Article 6, Section 3.I.2)

_x_ 1. Copy of the portion of applicable tax map showing subject property, abutting properties and boundaries of all contiguous property under the control of the owner or applicant, regardless of whether all or part is being developed at this time.

_x_ 2. Names and mailing addresses of all property owners abutting the proposed development. (Abutters are the owners of any parcels with one or more common boundaries or points, as well as property owners of any parcel located directly across any road, railroad or stream along the road, railroad or stream from the parcel involved in the application. Also included is any Qualified Conservation Holder of an easement in any of these parcels).

_x_ 3. Exact direction to the property from the Town Office, using a map if necessary.

_x_ 4. The Assessor's tax map and lot numbers of the parcels.

_x_ 5. A copy of the deed to the property or other documentation to demonstrate right, title or interest in the property on the part of the applicant.

_x_ 6. The name, registration number and seal of the land surveyor, architect, engineer and/or similar professional who prepared any plan.

_x_ 7. Map showing the north bearing and lot dimensions of all property lines of the property to be developed and the source of this information.

_x_ 8. Site plan(s) illustrating the following: (Note: If the site plan is not drawn to scale, then specific distances identifying the relative locations of the following features must be shown on the plan).

a) The location and size of any existing and proposed sewer and water mains, culverts and drains that will serve the development whether on or off the property along with the direction of existing and proposed surface water drainage across the site.

b) The location, names, and present and proposed widths of existing and proposed roads, driveways, streets, parking and loading areas, walkways and rights-of-way within or adjacent to the proposed development.

c) The location and dimensions of all existing and proposed buildings and structures on the site, including underground storage tanks.

d) The location of intersecting roads or driveways within 200 hundred feet of the site.

e) The location of existing and proposed open drainage courses, wetlands, water bodies, floodplains, stands of trees, and other important natural features, with a description of such features to be retained.

f) The location and dimensions of any existing and proposed easements.

g) The location and dimensions of all existing and proposed provisions for water supply and wastewater disposal systems, including a design copy or letter of soils suitability for any proposed new or replacement wastewater disposal systems.

h) The location and dimensions of all existing and proposed signs.

i) For any project which shall result in a change to exterior lighting, the location, height, and type of existing and proposed exterior lighting and, for commercial, industrial and institutional projects, the foot-candle intensities of proposed lighting projecting on abutting properties.

j) The proposed landscaping and buffering.

k) The location and amount of any earth-moving.

l) A copy of all existing or proposed covenants or deed restrictions associated with the subject property.

N/A 9. A copy of any applicable Federal, State or Town applications or permits which have been issued.

x 10. A narrative describing how the proposal meets all of the Planning Board's Review Criteria.

x 11. Evidence of receipt of application fee paid to the Town of Readfield.

x 12. A schedule of construction, including anticipated beginning and completion dates.

x 13. A stormwater drainage and erosion and control plan in compliance with Article 8, Sections 10 and 11.

x 14. A description of the traffic movement to be generated by the development including types, peak hour and average daily vehicle trips, travel routes, and duration of traffic movement both during and following construction. A full traffic impact study shall be required under the conditions set forth in Article 8, Section 18.H, and shall include the components described therein.

x 15. An assessment of the solid or hazardous wastes to be generated by the proposed activity and a plan for its handling and disposal, along with evidence of disposal arrangements.

x 16. A copy of any required dimensional calculations applicable to the standards being reviewed, for example, square footage of structures, percent of lot coverage, etc.

N/A 17. Elevation drawings for new commercial, industrial, and institutional buildings.

x 18. Any additional information relevant to the project, for example, photographs, Cobbossee Watershed District recommendations, etc.

--(end of application)--

Planning Board Fees

Value of Project	Fee
Up to $100,000	$100
$100,001 to $500,000	$150
$500,001 to $1,000,000	$250
$1,000,001 and over	$500

"Value of Project" is considered the fair market value of all labor and materials associated with the project requiring site review. The above fee schedule does not include other fees that may be required as part of this project, for example, building and plumbing permit fees.

Subdivision Review

Minor subdivisions	$175
Major subdivisions	$175 plus $50 per lot

Legitimate non-profit organizations will be assessed one-half of the regular fees

Planning Board Review
Criteria Questionnaire

1. State how the proposed activity will not have an undue adverse affect on:
   a) the scenic or natural beauty of the area,

   The Project will not have an undue adverse effect on the scenic or natural beauty of the area. The array will be surrounded by vegetation and will be set back more than 1,000 feet from Main Street and approximately 720 feet from the nearest structure (see Sheet C-1.0 of the Site Plans in Attachment B). Based on the setback distances and the screening provided by existing forested vegetation surrounding the array, the Project is not expected to be visible from Main Street.

   b) any historical sites that may be located on the property,

   The Project will not have an undue adverse effect on historical sites. The Applicant consulted with the Maine Historic Preservation Commission (MHPC) to request information on significant cultural or historic resources associated with the proposed Project area. The MHPC concluded that there are no National Register listed or known eligible properties on or adjacent to the Project site, and the Project parcels are not considered sensitive for archaeological resources.

   c) any significant wildlife habitat,

   The Project will not have an undue adverse effect on significant wildlife habitats. The Applicant consulted with the MDIFW regarding known locations of endangered, threatened, and special concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns in the vicinity of the Project. According to MDIFW, there are no mapped Essential or Significant Wildlife Habitats or inland fisheries habitats that will be affected by the Project.

   d) any public rights for physical or visual access to any shoreline,

   The Project will not have an undue adverse effect on public rights for physical or visual access to the shoreline. The Project is not located near any shoreline.

   e) any rare and irreplaceable natural areas,

   The Project will not have an undue adverse effect on rare or irreplaceable natural areas on the property. The Applicant consulted with the Maine Natural Areas Program (MNAP) to request information on the presence of rare or unique botanical features documented near the proposed Project. Such rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. According to MNAP's files, there are no rare botanical features documented within the Project area.

2. a) What other Town, State or Federal permits will be required for this project?

   A Stormwater Permit by Rule and a solar decommissioning permit will be required from the Maine Department of Environmental Protection. A Driveway/Entrance Permit will be required from the Maine Department of Transportation.

   b) Do you intend to apply for these permits?

   Yes. Permit applications are anticipated to be filed in late summer/early fall 2023.

   c) Are you committed to conducting this activity and subsequent use of the property in conformance with all applicable Town, State and Federal laws, rules, regulations and ordinances?

   Yes. The Project will be constructed and operated in conformance with all applicable town, state, and federal laws, rules, regulations, and ordinances.

3. State how the proposed activity will:
   a) prevent stormwater from giving rise to soil erosion both during and after the development,

   (In this regard you may reference the appropriate erosion control or stormwater management books available at the Town Office)

   An erosion and sedimentation control plan has been prepared for the Project (see Site Plans in Attachment B), and the Project contractor will implement BMPs as required by the *Maine Erosion and Sediment Control Best Management Practices (BMPs), Manual for Designers and Engineers.* The erosion and sedimentation control plan complies with Maine's Erosion and Sediment Control Law (38 M.R.S.A. § 420-C) and is based upon sound conservation practices, including as applicable. Erosion control measures will be installed prior to initiating Project construction and will remain in place and be maintained until the site is permanently stabilized.

   b) reasonably conserve the land's capacity to hold water,

   The Project's Stormwater Management Report, certified by a Maine-licensed professional engineer, is provided in Attachment E. The Stormwater Management Report demonstrates that stormwater from the Project will infiltrate into the ground beneath the solar array at a rate equal to the pre-construction infiltration rate. Following Project construction, the area under and around the solar array will be maintained as a meadow. This meadow will function as a vegetated buffer providing stormwater treatment. The Project will comply with the Maine Stormwater Best Management Practices Manual.

4. State what impact the proposed activity will have upon the Town's public services and facilities. This may include, but not be limited to the amount and type of

anticipated traffic, requirements for emergency services, effects relating to public education, etc.

The Project will not impact the Town's public services or facilities. Traffic during Project construction will include delivery and installation of Project materials and equipment and is anticipated to be approximately 25 to 30 vehicles per day at the peak of individual Project phases. During operations, the Project will be accessed less than once per month unless additional maintenance is required. The Project is not expected to require fire protection services, as it is not typical to practice fire suppression by means of water inundation within a solar array.

5. a) What financial resources (including mortgage commitments) do you have to assure the completion and implementation of this project in compliance with the Land Use Ordinance?

Norwich Technologies (manager of the Applicant) maintains a $4 million line of credit with its principal banking institution, Mascoma Bank. With multiple offices across the region, Mascoma Bank services customers throughout Maine, New Hampshire, and Vermont. A reference letter from Mascoma Bank is provided in Attachment H.

b) What technical support will be used in connection with any design, development or use of the project?

In addition to Norwich's internal expertise, the Project development team includes the following:

- Stantec (www.stantec.com) – permitting support and natural resource assessments
- Krebs & Lansing Consulting Engineers, Inc. (krebsandlansing.com) – civil engineering and stormwater design
- Horizons Engineering (www.horizonsengineering.com) – land survey
- RLC Engineering (www.rlc-eng.com) – electrical engineering

6. a) Is any portion of the subject property located within, or affected by any flood areas as depicted on the Federal Emergency Management Agency Flood Insurance Rate Map? (These Flood Maps are available for your reference at the Town Office).

No.

i) If the answer to question (a) is yes, do you intend to include any portion of your development within the boundaries of the flood plain, including any structures or buildings, wells, wastewater disposal systems, or any storage or placement of property stockpiling of materials? ____

ii) If the answer to question (i) is yes, how do you intend to develop this project (including it's subsequent use) to comply with the Floodplain Ordinance of the Town of Readfield? ________________

7. a) Does your proposed development or use include any alteration of or impact to any wetland? If the answer to this question is yes, describe how you intend to minimize this impact?

   No.

   b) Are you aware that any wetland alteration requires additional permitting on the State or Federal level and will you be applying for those?

   Yes, the Applicant is aware that wetland alteration requires state and/or federal permitting. These permit applications are not applicable because the Project will not impact wetlands.

8. What part of your development or use will rely on or could impact groundwater?

   The Project will not adversely impact either the quality or quantity of groundwater. No new groundwater extraction is anticipated as part of the Project. For additional details, see the Review Criteria section (Groundwater) of the application narrative (page 9).

9. a) State the nature of solid waste your proposal will generate both during development and the subsequent use of the property.

   Solid waste during construction will consist of construction debris, packaging materials, and associated construction wastes. During operation, no solid waste will be generated by the Project.

   b) Will this solid waste be taken to the Town Recycling Station? No.
   If so, how will the Town be compensated for handling such waste?

   c) If the solid waste is not to be taken to the Town Recycling Station, how do you plan to dispose of it?

   Solid waste during construction will be delivered to a landfill with adequate capacity to accept the Project's wastes (e.g., Crossroads Landfill in Norridgewock) by a licensed non-hazardous waste transporter.

10. Do you intend to connect to any public water supply?

    No.

11. a) What impact, if any, could the proposed activity have on adjacent properties and their uses. State whether any noise, glare, fumes smoke, dust, odors, or other affects will be generated.

    The Project will not have a detrimental effect on adjacent land uses or other properties that might be affected by noise, glare, fumes, smoke, dust, odors, or other effects. For additional details, see the Review Criteria section (Adjacent Land Uses) of the application narrative (pages 10-11).

b) Describe the anticipated extent of these impacts and how you intend to buffer or reduce them to a level acceptable to adjacent properties.

The anticipated extent of these impacts is described in the Review Criteria section (Adjacent Land Uses) of the application narrative (pages 10-11). The careful siting of the solar array within the property, the existing on-site vegetation, and the distance from adjacent properties all contribute to minimizing the impact to adjacent properties and is acceptable as proposed, therefore not necessitating additional buffer mitigation.

12. a) What is the approximate percentage of slope of the land?

The slope of the land within the solar array area is approximately 10%.

b) What is the nature of the soils?

Soil types within the Project area are rocky and sandy loams, which are suitable for construction of the solar array, racking, and associated driveway and equipment.

c) What is the nature and extent of the existing vegetation on the site of development or use?

The Project parcel is primarily comprised open fields with some interspersed forested land.

13. a) What is the nearest waterbody (lake, pond, stream, or brook)?

There is an unnamed stream on the Project parcel that was identified during the wetland and watercourse delineation.

b) What is the least distance between the waterbody and the project site?

The unnamed stream is approximately 190 feet from the Project driveway and approximately 445 feet from the solar array.

c) What part of your project could impact one of these waterbodies?

The Project will not impact a waterbody.

d) How do you intend to minimize this impact?

Not applicable. The Project will not impact a waterbody.

14. How do you intend to provide for the adequate disposal of sewage and wastewater in order to comply with the requirements of the State Plumbing Code?

    The Project will not require permanent sewage and wastewater disposal. During Project construction, temporary toilet facilities will be used, and service of the facilities will be provided by a licensed wastewater transporter. Sewage and wastewater disposal will not be required during Project operations.

15. Describe or illustrate on a separate paper how you intend to control and manage any additional stormwater resulting from this project or use. You may reference the publication, "Stormwater Management for Maine, Best Management Practices" published by the Department of Environmental Protection (1995) and which is available for reference at the Town Office.

    NOTE: If the project results in 20,000 sq. ft. or more of impervious area in the Maranacook Lake watershed or more than one (1) acre in the other lake watersheds, or more than five (5) acres of disturbed area in either watershed, a Stormwater Management permit from the Department of Environmental Protection will be required.

    Stormwater permitting for the Project will be accomplished under the MDEP's Stormwater Management Law (Chapter 500). Projects creating less than 1 acre of new impervious surfaces qualify for a Stormwater Permit by Rule (PBR). The MDEP does not consider solar panels as impervious surfaces. The proposed Project will create approximately 0.25 acre of impervious surfaces and, therefore, qualifies for a Stormwater PBR. Following Project construction, the area under and around the solar array will be maintained as a meadow. This meadow will function as a vegetated buffer providing stormwater treatment. As such, ground cover within the array area will be mowed no more than twice per year. The Project will comply with Maine Stormwater Best Management Practices Manual. The Stormwater Management Report for the Project is provided in Attachment E.

16. What will your water requirements be for this use and what will be your water source?

    The Project may require water during construction for dust control purposes. If water is needed for dust control, the contractor will truck water to the Project site. The Project will not require a water supply for Project operations.

17. What types and amount of additional traffic do you expect as a result of this use?

    Traffic during Project construction will include delivery and installation of Project materials and equipment and is anticipated to be approximately 25 to 30 vehicles per day at the peak of individual Project phases. During operations, the Project will be accessed less than once per month unless additional maintenance is required.

18. What are your plans for permanent access to the site of the proposed use?

Permanent access to the Project site will include upgrading the existing driveway entrance off Main Street.

19. Does your proposed development or use cross the Readfield town line? No.
If so, into which town?

How will you avoid causing unreasonable traffic congestion or unsafe conditions as related to the use of that town's public ways?

Warning signs and flaggers will be used as appropriate during Project construction to provide temporary traffic controls for safe movement of traffic into and out of the Project site.

20. What is the estimated depth-to-frontage ratio of the lots you propose to create or develop?

The depth-to-frontage ratio of the Project parcel is approximately 4,150 feet (depth) to approximately 670 feet (frontage).

21. Has a representative of the Readfield Fire Department reviewed your proposal?

The Project site plan and the Emergency Management Plan have been provided to the Readfield Fire Chief for review.

22. Are there currently any enforceable land use violations associated with this property?

No.

23. If your project involves the construction of a road has the road design been approved by the Road Committee?

The Project does not involve the construction of road. The existing driveway off Main Street will be improved to provide access to the Project. A Driveway/Entrance permit will be obtained from the Maine Department of Transportation prior to commencement of the driveway improvements.

ATTACHMENT B: SITE PLANS

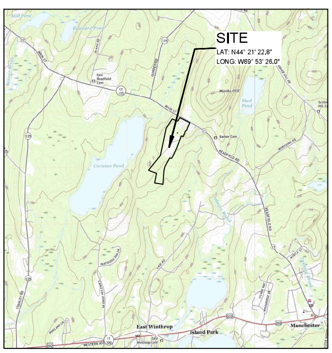
READFIELD MAIN STREET SOLAR, LLC

CIVIL SITE PLANS

PROPOSED PHOTOVOLTAIC POWER GENERATION FACILITY

MAIN STREET

READFIELD, MAINE



READFIELD, ME

LOCATION MAP
SCALE: 1" = 1/2 Mile

SHEET INDEX
1 of 1 BOUNDARY, TOPOGRAPHIC, AND EXISTING CONDITIONS PLAN
C-1.0 SITE PLAN
C-2.0 STANDARD DETAILS
C-2.1 ESC DETAILS
C-2.2 ESC DETAILS
C-3.0 PRE-DEVELOPMENT STORMWATER
C-3.1 POST-DEVELOPMENT STORMWATER

READFIELD MAIN STREET SOLAR, LLC
Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

horizons Engineering
NEWPORT VT • LITTLETON NH • NEW LONDON NH
POMFRET VT • KENNEBUNK ME • CONWAY NH

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Stantec
30 Park Drive
Topsham, Maine 04086

Electrical:
Norwich Solar
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER

07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

INDEX SHEET
READFIELD MAIN
STREET SOLAR, LLC

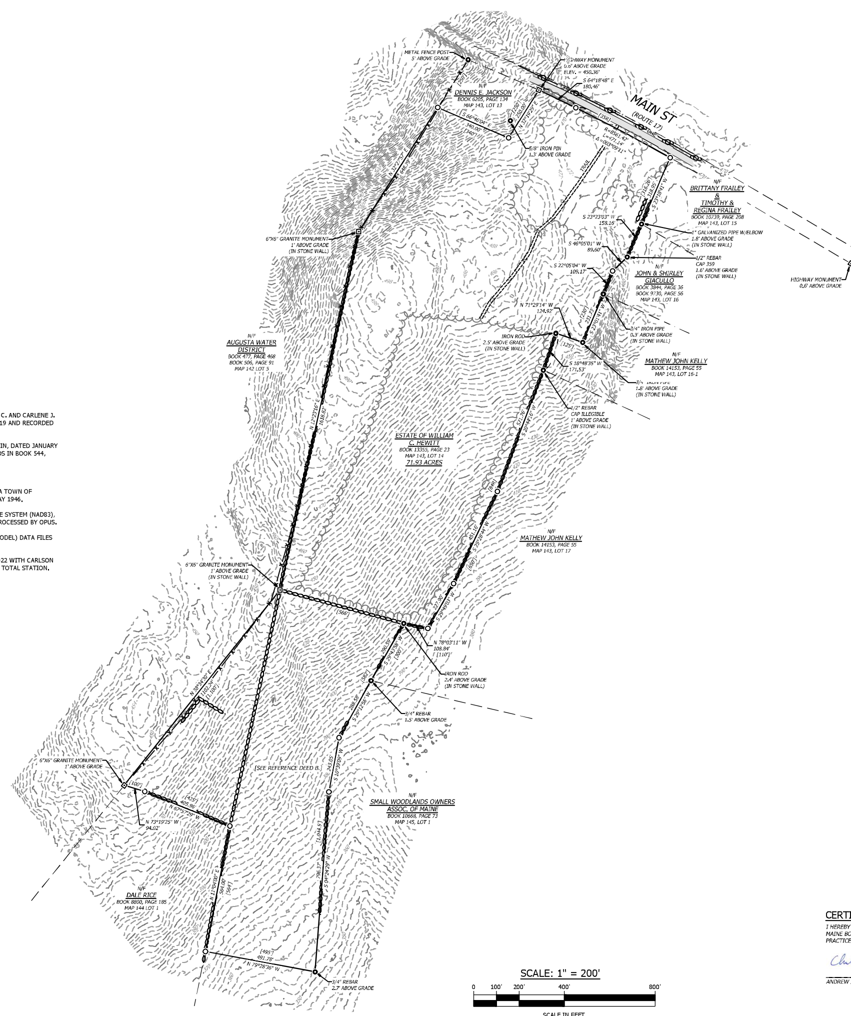
DATE of Issue: 07/31/23

Drawn by: LJM
Checked by: IAJ

Project No.: 22124
Scale: N/A

Drawing No.:
Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg



GENERAL NOTES

1. OWNER OF RECORD:

   ESTATE OF WILLIAM C. HEWETT
   490 GORDON ROAD
   READFIELD, MAINE

2. REFERENCE DEED:

   A. DEED OF TRUSTEE FROM COLIN C. HEWETT (TRUSTEE) UNDER WILLIAM C. AND CARLENE J. HEWETT FAMILY TRUST TO WILLIAM C. HEWETT, DATED AUGUST 28, 2019 AND RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS BOOK 13355 PAGE 23.

   B. WARRANTY DEED FROM AUGUSTA WATER DISTRICT TO CHARLES O. ELVIN, DATED JANUARY 11, 1910 AND RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS IN BOOK 544, PAGE 253.

3. REFERENCE PLAN:

   A. MAINE STATE HIGHWAY COMMISSION MAP, STATE AID HIGHWAY No. 1-A TOWN OF READFIELD, PROJECT NUMBER S-53-(1), SHEET NUMBERS 4-5, DATED MAY 1946.

4. THE BEARINGS SHOWN HEREON REFER TO THE MAINE WEST COORDINATE SYSTEM (NAD83), VERTICAL DATUM IS NAVD88 TAKEN FROM STATIC GPS OBSERVATIONS PROCESSED BY OPUS.

5. TOPOGRAPHY SHOWN HEREON IS BASED ON DEM (DIGITAL ELEVATION MODEL) DATA FILES MADE AVAILABLE TO THE PUBLIC BY THE STATE OF MAINE.

6. THIS PLAN IS BASED ON A FIELD SURVEY COMPLETED ON JANUARY 20, 2022 WITH CARLSON BRX7 SURVEY GRADE GPS RECEIVERS AND A LEICA 1200 SERIES ROBOTIC TOTAL STATION.

LEGEND

- IRON PIPE OR ROD FOUND (DIMENSIONS LABELED ON PLAN)
- STONE MONUMENT FOUND
- CALCULATED CORNER
- UTILITY POLE
- SURVEYED PARCEL LINE
- ABUTTING PARCEL LINE
- STONE WALL
- OHE — OVERHEAD ELECTRIC
- TREE LINE
- PAVEMENT
- WIRE FENCE
- TRAIL
- [E'LY 26 RODS 16 FEET] DENOTES RECORD DIMENSION

CERTIFICATION:

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY CONFORMS WITH THE MAINE BOARD OF LAND SURVEYORS RULES, CHAPTER 90: STANDARDS OF PRACTICE.

9/14/22

ANDREW J. NADEAU, PLS 2326 — *DATE*

horizons Engineering
Civil and Structural Engineering
Land Surveying and Environmental Consulting
MAINE • NEW HAMPSHIRE • VERMONT
www.horizonsengineering.com

NORWICH SOLAR TECHNOLOGIES, INC.
MAIN STREET/ME ROUTE 17

READFIELD, KENNEBEC COUNTY - MAINE

BOUNDARY, TOPOGRAPHIC & EXISTING CONDITIONS SURVEY

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

STATE OF MAINE — ANDREW J. NADEAU 2326 — PROFESSIONAL LAND SURVEYOR

DATE: 9/14/2022	PROJECT #: S-21314
SURV'D BY: JDN/DG	DRAWN BY: JDN/RMF
CHECK'D BY: AJN	ARCHIVE #: H-___

SHEET 1 OF 1

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

SOIL INFORMATION

HrB Lyman-Tunbridge
Complex, 0 to 8 percent slopes, rocky

Lyman
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: D

Tunbridge
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: C

HrC Lyman-Tunbridge
Complex, 8 to 15 percent slopes, rocky

Lyman
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: D

Tunbridge
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: C

PcC Paxton
Very stony fine sandy loam, 8 to 15 percent slopes

Paxton
Depth to restrictive feature: 18 to 40 inches to densic material
Depth to water table:About 18 to 26 inches
Hydrologic Soil Group: C/D

PdC2 Paxton-Charlton
Fine sandy loams, 8 to 15 percent slopes

Paxton
Depth to restrictive feature: 18 to 40 inches to densic material
Depth to water table:About 18 to 26 inches
Hydrologic Soil Group: C/D

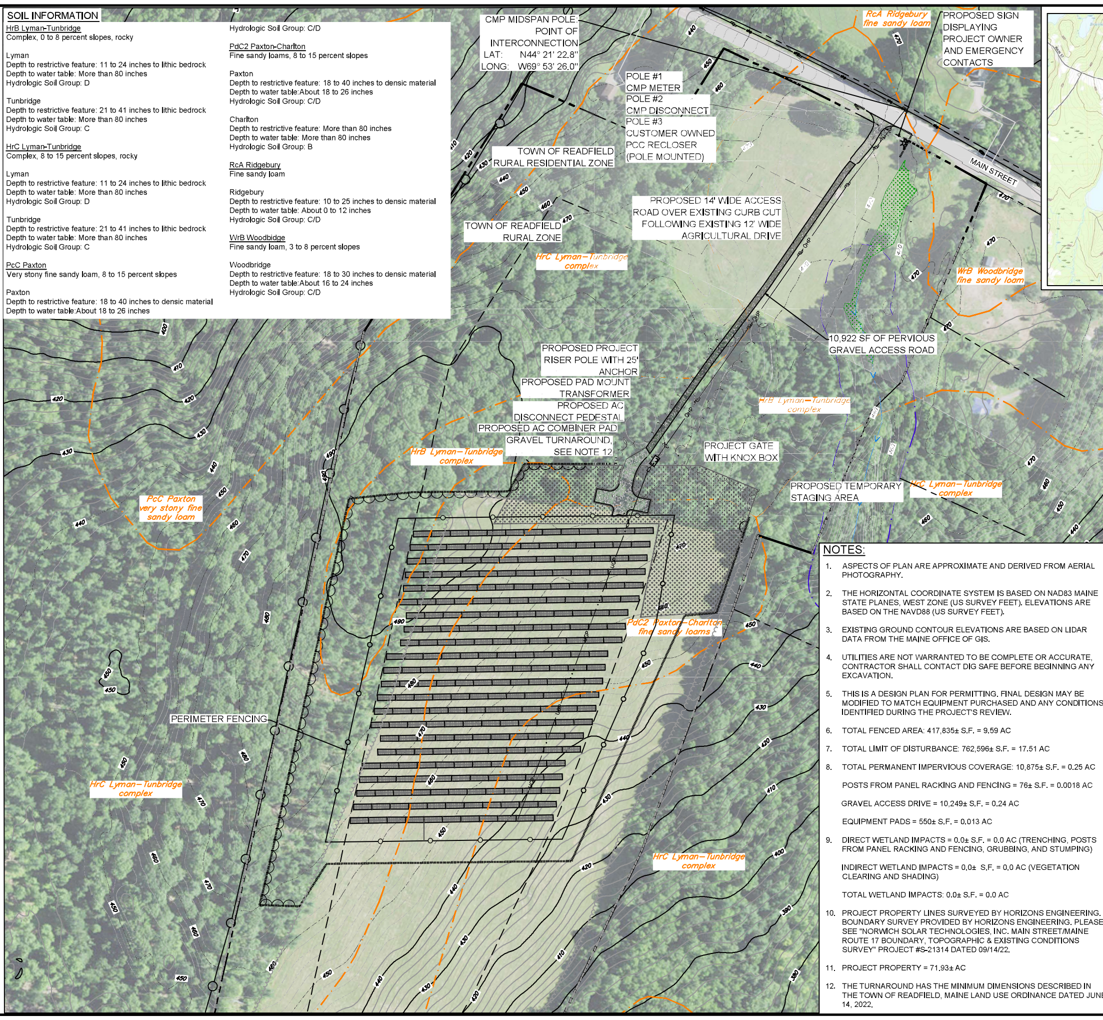
Charlton
Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Hydrologic Soil Group: B

RcA Ridgebury
Fine sandy loam

Ridgebury
Depth to restrictive feature: 10 to 25 inches to densic material
Depth to water table: About 0 to 12 inches
Hydrologic Soil Group: C/D

WrB Woodbidge
Fine sandy loam, 3 to 8 percent slopes

Woodbridge
Depth to restrictive feature: 18 to 30 inches to densic material
Depth to water table:About 16 to 24 inches
Hydrologic Soil Group: C/D



NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON LIDAR DATA FROM THE MAINE OFFICE OF GIS.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE, CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS A DESIGN PLAN FOR PERMITTING. FINAL DESIGN MAY BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND ANY CONDITIONS IDENTIFIED DURING THE PROJECT'S REVIEW.
6. TOTAL FENCED AREA: 417,835± S.F. = 9.59 AC
7. TOTAL LIMIT OF DISTURBANCE: 762,596± S.F. = 17.51 AC
8. TOTAL PERMANENT IMPERVIOUS COVERAGE: 10,875± S.F. = 0.25 AC

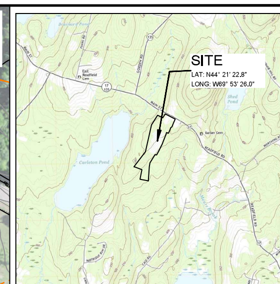
   POSTS FROM PANEL RACKING AND FENCING = 76± S.F. = 0.0018 AC

   GRAVEL ACCESS DRIVE = 10,249± S.F. = 0.24 AC

   EQUIPMENT PADS = 550± S.F. = 0.013 AC
9. DIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (TRENCHING, POSTS FROM PANEL RACKING AND FENCING, GRUBBING, AND STUMPING)

   INDIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (VEGETATION CLEARING AND SHADING)

   TOTAL WETLAND IMPACTS: 0.0± S.F. = 0.0 AC
10. PROJECT PROPERTY LINES SURVEYED BY HORIZONS ENGINEERING. BOUNDARY SURVEY PROVIDED BY HORIZONS ENGINEERING. PLEASE SEE "NORWICH SOLAR TECHNOLOGIES, INC. MAIN STREET/MAINE ROUTE 17 BOUNDARY, TOPOGRAPHIC & EXISTING CONDITIONS SURVEY" PROJECT #S-21314 DATED 09/14/22.
11. PROJECT PROPERTY = 71.93± AC
12. THE TURNAROUND HAS THE MINIMUM DIMENSIONS DESCRIBED IN THE TOWN OF READFIELD, MAINE LAND USE ORDINANCE DATED JUNE 14, 2022.



LOCATION MAP
SCALE: 1" = 1/2 Mile

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- ABUTTING PROPERTY LINES, HORIZONS ENGINEERING, INC.
- SURVEYED PROPERTY LINE, HORIZONS ENGINEERING, INC.
- 200' PROPERTY LINE SETBACKS TO SOLAR PANELS
- EXISTING GRADE CONTOUR LINES (2 FOOT INTERVALS)
- EXISTING GRADE CONTOUR LINES (10 FOOT INTERVALS)
- EXISTING OVERHEAD POWER
- PROPOSED PERIMETER FENCE
- PROPOSED UNDERGROUND POWER
- PROPOSED OVERHEAD POWER
- PROPOSED POWER POLE ANCHOR
- PROPOSED EQUIPMENT PAD
- PROPOSED SOLAR PANELS
- DELINEATED WETLAND
- WETLAND IMPACT AREA
- MAPPED SOIL BOUNDARY (NRCS)
- EXISTING TREELINE
- PROPOSED TREELINE
- PROJECT LIMIT OF DISTURBANCE WITH PERIMETER CONTROLS, SEE SHEET C-2.2
- STREAM
- 75' STREAM BUFFER
- EXISTING DRIVE
- PROPOSED IMPERVIOUS GRAVEL ACCESS, SEE SHEET C-2.0
- PROPOSED PERVIOUS GRAVEL ACCESS, SEE SHEET C-2.0
- PROPOSED TEMPORARY STAGING AREA
- EXISTING FENCE
- EXISTING TRAIL
- EXISTING STONEWALL

"APPROVED BY TOWN OF READFIELD PLANNING BOARD"

NAME:	DATE:
1.	
2.	
3.	
4.	
5.	
6.	
7.	

NORWICH SOLAR
Brunswick, Maine

Stantec

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
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horizons Engineering
NEWPORT VT • LITTLETON NH • NEW LONDON NH
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ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Stantec
30 Park Drive
Topsham, Maine 04086

Electrical:
Norwich Solar
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072

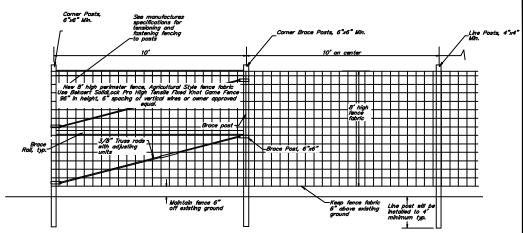
0' 150' 300' 450'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 150')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:
SITE PLAN
READFIELD MAIN STREET SOLAR, LLC

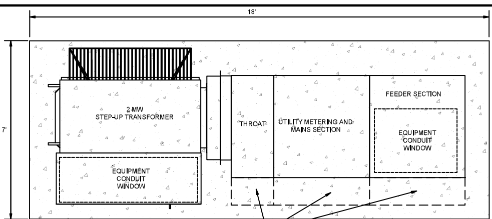
DATE of Issue: 07/31/23
Drawn by: LJM — Checked by: IAJ
Project No.: 22124 — Scale: 1" = 150'
Drawing No.: C-1.0 — Rev No.:



Note:
-Agricultural style fence requires strong corner brace post assemblies, see Bekaert for additional specifications
-Additional bracing may be required on longer fence runs. Contractor to add additional bracing when contractor observes corner post deflection during fence tensioning/fastening.
-Fabric to be fastened with manufacturer approved corrosion resistant staples
-Fabric to be Bekaert SolidLock Pro High Tensile Fixed Knot Game Fence. Height: 96", Vertical Spacing of Wires: 6" or owner approved equal

TYPICAL AGRICULTURAL FENCE

N.T.S.

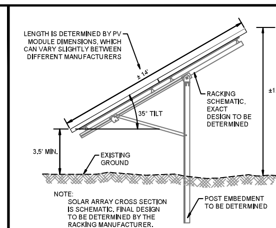


NOTES

1. SLAB LAYOUT TO BE REVIEWED AND CERTIFIED BY ELECTRICAL ENGINEER PRIOR TO INSTALLATION.
2. CONTRACTOR TO VERIFY LOCATIONS OF REBAR IN SLAB AND REDUCE CONFLICTS WITH DRILL LOCATIONS FOR EQUIPMENT SUPPORTS.
3. NO CONCRETE WINDOWS ARE PROPOSED FOR THIS SLAB. CONDUIT WILL BE INSTALLED PRIOR TO POURING CONCRETE. STUB CONDUIT UP THROUGH THE PREPARED SLAB IN THE EQUIPMENT WINDOW LOCATIONS SHOWN AND POUR CONCRETE AROUND STUBBED CONDUIT.

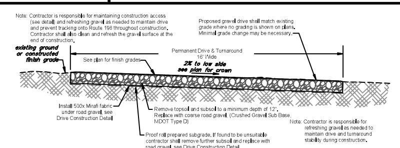
CONCRETE SLAB LAYOUT

N.T.S.



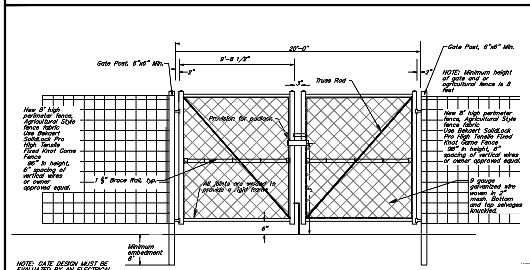
TYPICAL SOLAR ARRAY CROSS SECTION (RENDERING)

N.T.S.



PERMANENT ACCESS DRIVE CROSS SECTION

N.T.S.



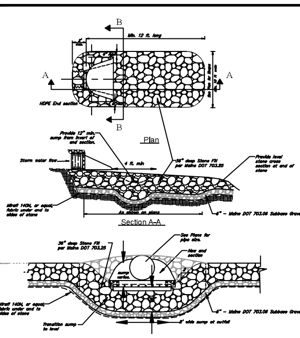
NOTE: GATE DESIGN MUST BE EVALUATED BY AN ELECTRICAL ENGINEER FOR COMPLIANCE WITH ELECTRIC CODE.

Contractor to supply shop drawing of swing gate. Movable portion of gate will be evaluated for durability, reliability, ease of operation by Owner.

PERMANENT SWING GATE

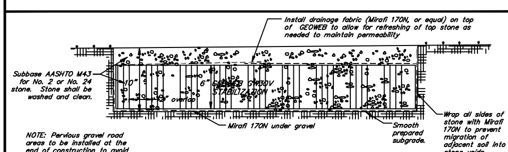
N.T.S.

Provide Knox Box for emergency access, coordinate location and type with fire department.



Typical Rip Rap Outfall and Energy Dissipation Pad Detail

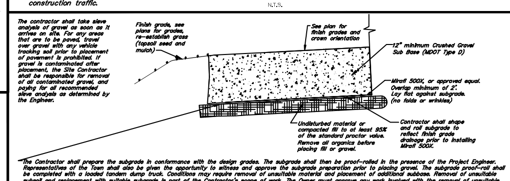
N.T.S.



NOTE: Pervious gravel road areas to be installed at the end of construction to avoid contamination by construction traffic.

PERVIOUS GRAVEL ROAD DETAIL

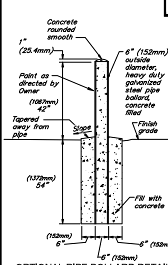
N.T.S.



DRIVE CONSTRUCTION DETAIL N.T.S.

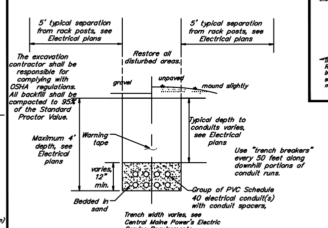
CONSTRUCTION NOTES

1. The methods and materials of construction shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by Engineer. All work shall be done in a workmanlike manner and completed in the time specified by Owner.
2. The Contractor shall be responsible for all work and materials shown and required to make the job complete. These drawings do not show every fitting or appurtenance. Materials shall be as specified on the drawings. Manufacturer's product specifications shall be submitted for all materials to the Engineer for approval prior to installation.
3. The location and size of existing underground utilities is not warranted to be exact or complete. The Contractor shall field locate all utilities and shall contact the affected utility company, the Engineer and the Town prior to making any hook ups. The Contractor shall be solely responsible for all existing utilities and their uninterrupted services. All off-site backfill, sheeting and shoring, dewatering, clearing and grubbing, erosion control, dust control, traffic control, grading, and all incidentals shall be included as part of the required work.
4. The Contractor shall verify all temporary bench marks before use.
5. The workmen and public shall be protected by the Contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flagmen. All barricades left in position overnight are to be properly lighted. Kerosene pots are not acceptable. When work narrows the usable pavement, flagmen shall be employed to aid the flow of traffic so that there will be no undue delays. The Contractor shall be held responsible for the safety of all workmen and the general public and all damages to property occurring from or upon the work occasioned by negligence or otherwise growing out of a failure on the part of the Contractor to protect persons or property from hazards of open trenches, materials, or equipment at any time of the day or night within the working area. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652.
6. The Contractor shall verify all utility intersections and contact Engineer and Owner with conflicts.
7. The Contractor shall call, Dig Safe or other approved equal underground utility identifier prior to any excavation.
8. The Contractor shall coordinate with final electrical, structural and landscaping plans.



OPTIONAL PIPE BOLLARD DETAIL

N.T.S.



TYPICAL CONDUIT TRENCH

CONDUIT TRENCHING NOTES

1. The methods and materials of construction shall conform to the latest standards of Central Maine Power's Handbook of Requirements and the State of Maine. All work shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by the Owners Representative.
2. The excavation contractor shall dig the conduit trenching and assist the Electrician in placing the conduit. The conduits shall be placed with conduit spacers when more than two conduits are placed in a trench. All conduit and spacers shall be provided by the Electrical Contractor.
3. The excavation contractor shall allow sufficient time for the conduit to be inspected prior to backfilling. If any conduit is backfilled without inspection it will be the excavation contractor's responsibility to uncover the conduit for inspection and backfill the trench without charge.
4. The workers and public shall be protected by the excavation contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flaggers. All barricades left in position overnight are to be properly lighted. When work narrows the usable pavement, flaggers shall be employed to aid the flow of traffic so that there will be no undue delays. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652.
5. The excavation contractor is responsible for compacting all trench backfill to 95% of the Standard Proctor Value.
6. The excavation contractor is responsible for all conduit excavation and backfill necessary to complete the project.

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

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Environmental:
Stantec 30 Park Drive Topsham, Maine 04086
Electrical:
Norwich Solar 14 Maine Street, Suite 305C-1, Box 49 Brunswick, Maine 04011
Surveying:
Horizons Engineering, Inc. 1040 Portland Road Saco, Maine 04072

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER

07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
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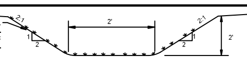
DRAWING TITLE:

STANDARD DETAILS
READFIELD MAIN
STREET SOLAR, LLC

DATE of Issue: 07/31/23
Drawn by: LJM Checked by: IAJ
Project No.: 22124 Scale: N/A
Drawing No.: C-2.0 Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg



NOTES

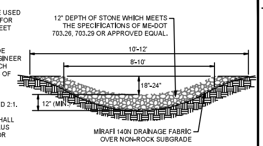
1. TYPICAL GRASS SWALE. SEE PLAN VIEW FOR LOCATIONS.
2. TYPICAL SIDE SLOPES TO BE 2:1.
3. DURING CONSTRUCTION TEMPORARILY SEEDED AND HEAVILY MULCHED. EROSION CONTROL BLANKET MAY BE NECESSARY IN STEEPER SLOPES, INSTALL BLANKET IF EROSION PERSISTS AND/OR GRASS IS HAVING DIFFICULTY GERMINATING. POST CONSTRUCTION CONTRACTOR SHALL RE-GRADE ANY EROSION, REMOVE BUILD UP SEDIMENTS, PERMANENT SEED AND HEAVILY RE-MULCH.
4. CROSS-SECTION SHALL BE EXCAVATED TO NEAT LINES AND GRADES. OVER-EXCAVATED AREAS SHALL BE BACKFILLED WITH MOIST SOIL COMPACTED TO DENSITY OF SURROUNDING MATERIAL.
5. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF IN APPROVED UPLAND AREA (PER ON SITE PLAN COORDINATOR) SUCH THAT IT DOES NOT INTERFERE WITH FUNCTION.

GRASS SWALE CROSS SECTION

N.T.S.

NOTES

1. STONE-LINED SWALES TO BE USED ON SLOPES >5%. DESIGNED FOR VELOCITIES LESS THAN 10 FEET PER SECOND.
2. USE RIP RAP STONE. PROVIDE QUARRY GRADATION TO ENGINEER FOR APPROVAL. STONE WHICH MEETS THE SPECIFICATIONS OF ME-DOT 703.26, 703.29 OR APPROVED EQUAL.
3. SIDE SLOPES NOT TO EXCEED 2:1.
4. STONE LINING THICKNESS SHALL BE 1.5 X MAX. STONE SIZE PLUS THE THICKNESS OF FILTER OR BEDDING.
5. ALL DISTURBED AREAS SHALL BE STABILIZED AND OTHERWISE PROTECTED AGAINST SOIL EROSION.

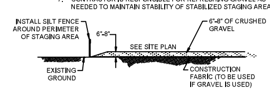


STONE SWALE CROSS SECTION

N.T.S.

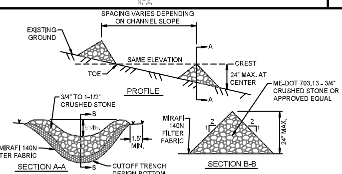
NOTES

1. SILT FENCING TO BE INSTALLED BEFORE CONSTRUCTION OF STAGING AREA IS INSTALLED.
2. INSTALL AND MAINTAIN SURFACE OF STAGING AREA WITH CONSTRUCTION FABRIC OVER EXISTING GROUND. COVER WITH 6"-8" OF CRUSHED GRAVEL, SEE DETAIL. MAINTAIN DEPTH OF GRAVEL THROUGHOUT PROJECT CONSTRUCTION.
3. INSTALL AND MAINTAIN STABILIZED CONSTRUCTION ENTRANCE, SEE DETAIL. INSTALL WOODEN GATE AT ENTRANCE OF OF STAGING AREA.
4. ALL ABUTTERS TO STAGING AREA WILL BE NOTIFIED OF THE PROJECT. DUE TO LIKELY CONSTRUCTION NOISE, ACTIVITIES AT STAGING AREA AND CONSTRUCTION SITE SHALL ABIDE BY LOCAL NOISE ORDINANCES.
5. STAGING AREA IS LIKELY TO BE USED FOR PARKING DURING CONSTRUCTION, STAGING OF CONSTRUCTION MATERIALS, BASE OF PROJECT OPERATIONS AND MISCELLANEOUS PROJECT ACTIVITIES.
6. CLOSE TO PROJECT CONSTRUCTION COMPLETION, STAGING AREA WILL BE REMOVED. GRAVEL AND CONSTRUCTION FABRIC SHALL BE REMOVED AND PROPERLY DISPOSED OF. RESTORE THE PORTION OF EXISTING MEADOW COVERED BY STAGING AREA BY SEEDING, MULCHING, AERATING, ETC AS NECESSARY TO RESTORE AREA TO ITS NATURAL PRECONSTRUCTION STATE.
7. CONTRACTOR IS RESPONSIBLE FOR REFRESHING GRAVEL AS NEEDED TO MAINTAIN STABILITY OF STABILIZED STAGING AREA.



TYPICAL STABILIZED STAGING AREA SURFACE

N.T.S.

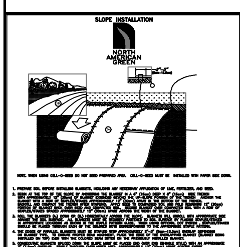


NOTES

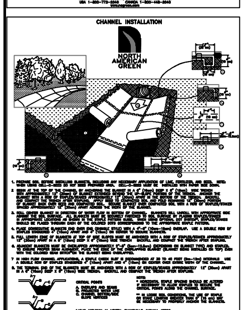
1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET 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 STONES.

STONE CHECK DAM

N.T.S.



NOTE: BLANKET SHALL BE USED ON SLOPES 3:1 OR STEEPER



EROSION CONTROL BLANKET

NORTH AMERICAN GREEN S75BN

MATERIAL SPECIFICATIONS:

- EROSION CONTROL BLANKET SHALL BE A MACHINE-PRODUCED MAT OF 100% AGRICULTURAL STRAW.
- THE BLANKET SHALL BE OF CONSISTENT THICKNESS WITH THE STRAW EVENLY DISTRIBUTED OVER THE ENTIRE AREA OF THE MAT. THE BLANKET SHALL BE COVERED ON THE TOP SIDE WITH 100% BIODEGRADABLE WOVEN NATURAL ORGANIC FIBER NETTING HAVING AN APPROXIMATE 1/2" X 1" MESH AND BE SEWN TOGETHER WITH BIODEGRADABLE THREAD.
- STRAW EROSION CONTROL BLANKET SHALL BE S75BN AS MANUFACTURED BY NORTH AMERICAN GREEN, INC. (812-867-6632) OR EQUIVALENT. EROSION CONTROL BLANKET SHALL HAVE THE FOLLOWING PROPERTIES:

MATERIAL CONTENT:

- STRAW: 100% (0.50 lbs/sq.yd.)(0.27 kg/m^2)
- NETTING: ONE SIDE ONLY, LENO WOVEN 100% BIODEGRADABLE NATURAL ORGANIC FIBER (APPROX. WEIGHT 9.3 lbs./100 sq. ft.)
- THREAD: BIODEGRADABLE

PHYSICAL SPECIFICATIONS (ROLL):

- WIDTH: 6.67 feet (2.03 m)
- LENGTH: 108 feet (32.92 m)
- WEIGHT: 46.4 lbs. ± 10% (21.05 kg)
- AREA: 80 sq. yd. (50 m^2)

WINTER EROSION CONTROL PROCEDURES

(FOR ANY EARTH WORK PERFORMED BETWEEN NOVEMBER 1ST AND APRIL 15TH)

WINTER EROSION CONTROL NARRATIVE:
OBJECTIVE - ANY SITE WORK PERFORMED LATER THAN NOVEMBER 1ST WILL RESULT IN EXPOSED SOIL THROUGH THE WINTER. THIS PRESENTS A POTENTIAL FOR EROSION THROUGH THE WINTER. THE WINTER EROSION CONTROL MEASURES ARE INTENDED TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION ZONE DURING THAWS AND RAINSTORMS IN THE SPRING AND DURING MID-WINTER THAWS.

WINTER EROSION CONTROL SEQUENCE:
THE CONTRACTOR SHALL BE SURE ALL EROSION CONTROL MEASURES REQUIRED FOR WINTER CONSTRUCTION ARE INSTALLED BY NOVEMBER 1ST AND PRIOR TO GROUND FREEZING. IF A PERMITTED AREA CAN BE LEFT UNDISTURBED UNTIL THE SPRING THE CONTRACTOR SHALL MAKE EVERY EFFORT TO LIMIT DISTURBANCE OF THESE AREAS.

THE CONTRACTOR SHALL STABILIZE ANY PORTION OF THE SITE THAT IS BEING WORKED AND DISTURBED PRIOR TO BEGINNING CONSTRUCTION AT ANOTHER AREA OF THE SITE. AT NO TIME DURING WINTER CONSTRUCTION SHALL THERE BE MORE THAN 1 ACRE OF EXPOSED SOIL OR WHAT CAN BE STABILIZED IN ONE DAY ON SITE.

ANTICIPATED WINTER CONSTRUCTION ACTIVITIES WILL INCLUDE ALL ASPECTS OF THE PROJECT PROPOSED DURING SUMMER CONSTRUCTION. THIS IS A CONTINUATION OF WORK WHICH WAS NOT COMPLETED DURING THE SUMMER. MAJOR GRADING IS EXPECTED TO BE COMPLETE BEFORE NOVEMBER 1ST.

LIMITS OF DISTURBANCE - LOD WILL BE MOVED AND/OR REPLACED TO REFLECT THE BOUNDARY OF WINTER WORK. CONTRACTOR WILL MAINTAIN A MINIMUM 25' BUFFER FROM PERIMETER CONTROLS TO ALLOW FOR SNOW CLEARING AND MAINTENANCE.

SNOW STORAGE ON SITE - CONTRACTOR WILL CREATE A SNOW MANAGEMENT PLAN. PLAN WILL IDENTIFY LOCATIONS FOR ADEQUATE SNOW STORAGE AND CONTROL SNOW MELT. SNOW STORAGE WILL BE DOWN GRADIENT OF ALL DISTURBED AREAS AND WILL NOT PROHIBIT THE FUNCTION OF ALL PERMANENT STORMWATER TREATMENT STRUCTURES. CONTRACTOR SHALL KEEP ALL DRAINAGE STRUCTURES OPEN AND FREE OF SNOW AND ICE DAMS. CONTRACTOR SHALL NOT STORE SNOW IN ONE CENTRAL LOCATION WHICH WOULD CREATE A CENTRALIZED POINT IN A MELTING SITUATION, ATTEMPT TO SPREAD SNOW PILES.

INSTALL SILT FENCE - SILT FENCE SHALL BE INSTALLED ON THE DOWNHILL SIDE OF THE WINTER CONSTRUCTION AREAS AND SOIL STOCKPILE AREAS, AS SHOWN ON THE PLAN, BY NOVEMBER 1ST. IF THE GROUND IS UNFROZEN, THE SILT FENCE SHALL BE DUG IN AS NORMAL. IF THE GROUND IS FROZEN CONTACT THE ENGINEER FOR ALTERNATE OPTIONS. STONE BERM, FILTREXX SILT SOXX, STRAW WATTLES, HAY BALES,ETC. ALL MAY BE USED TO KEY IN SILT FENCE AND STRENGTHEN THE BMP.

STABILIZED CONSTRUCTION ENTRANCE - THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL STABILIZED CONSTRUCTION ENTRANCES TO PREVENT SEDIMENT TRACKING OFF SITE. CONTRACTOR SHALL ENLARGE THE WIDTH OF ACCESS TO PROVIDE ADDITIONAL ROOM FOR SNOW STOCKPILING, IF NEEDED. ADDITIONAL STONE SHALL BE ADDED OR THE LENGTH SHALL BE INCREASED, IF ICE AND SNOW LIMITS CONSTRUCTION ENTRANCE'S ABILITY TO HOLD SEDIMENTS ON SITE.

WINTER STABILIZATION – ALL DISTURBED AREAS NOT INVOLVED IN WINTER CONSTRUCTION SHALL BE AT LEAST TEMPORARILY STABILIZED BY NOVEMBER 1ST. AFTER, ALL AREAS DISTURBED DURING WINTER CONSTRUCTION SHALL BE STABILIZED DAILY TO PREVENT EXPOSURE FROM RAIN EVENTS AND ACCUMULATION OF SNOWFALL (SEE EXCEPTIONS BELOW). STABILIZATION RATES IN THE WINTER WILL BE DOUBLED THE RATES LISTED IN THE MULCHING SCHEDULE. CONTRACTOR SHALL ADD ADDITIONAL STONE, AS NECESSARY, TO PROVIDE STABILIZATION THROUGH WINTER CONSTRUCTION ON ALL AREAS WHERE CONSTRUCTION TRAFFIC IS ANTICIPATED.

EXCEPTIONS:

- HYDROSEEDING AFTER NOVEMBER 1ST AND BEFORE APRIL 15TH MUST BE STABILIZED WITH STRAW MULCH OR EROSION CONTROL MATTING.
- SNOW AND/OR ICE MUST BE REMOVED TO, AT MOST, ONE INCH PRIOR TO APPLYING MULCH OR EROSION CONTROL STABILIZATION MATTING.
- IF NO PRECIPITATION, WITHIN 24 HOURS, IS FORECASTED AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
- DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES, REQUIRE STABILIZATION AT THE END OF EACH WORK WEEK.

MAINTENANCE - ALL DISTURBED AREAS SHALL BE MONITORED BY THE CONTRACTOR AND THE INSPECTOR IN ACCORDANCE WITH THE PERMIT. THE CONTRACTOR AND INSPECTOR SHALL EVALUATE THE SITE AFTER A THAW OR RAINSTORM. THE CONTRACTOR OR INSPECTOR SHALL NOTIFY THE ENGINEER IF ANY EROSION CONTROL MEASURES APPEAR TO BE INADEQUATE. THE CONTRACTOR OR INSPECTOR SHALL IMMEDIATELY (WITHIN THE SAME BUSINESS DAY) IMPLEMENT ANY FURTHER EROSION CONTROL MEASURES SPECIFIED BY THE ENGINEER. THE CONTRACTOR OR INSPECTOR SHALL ADD MULCH, AS NECESSARY, THROUGHOUT THE WINTER AFTER THAWS OR RAINSTORMS. THE MULCH DEPTHS SHALL BE DOUBLED. THE MULCH AND SILT FENCE SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER (90% STABILIZATION) IS ESTABLISHED IN THE SPRING. THE SITE SHALL BE REMULCHED AND RESEEDED, IN THE SPRING, AS REQUIRED TO ESTABLISH A VIGOROUS PERMANENT GROUND COVER.

INSPECTION - THE EROSION AND SEDIMENT INSPECTOR SHALL BE RESPONSIBLE FOR, AT A MINIMUM, DAILY WRITTEN INSPECTIONS WHILE THE SITE IS DISTURBED OR WEEKLY IF EVERYTHING IS STABILIZED BUT CONSTRUCTION IS ON-GOING. IF, DURING WINTER CONSTRUCTION, EARTH DISTURBANCE ACTIVITIES TEMPORARILY CEASE AND THE SITE HAS BEEN FULLY STABILIZED, INSPECTION AND MONITORING REQUIREMENTS FOR THE INSPECTOR MAY BE REDUCED TO ONCE PER MONTH MINIMUM. ALL INSPECTION SHEETS SHALL BE KEPT ON SITE AND BE AVAILABLE UPON REQUEST.

HOUSEKEEPING PROCEDURES

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

   SEE APPENDIX D FOR LICENSE BY RULE STANDARDS FOR INFILTRATION OF STORMWATER.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST- CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE “MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.”

6. AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON- STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
   a. DISCHARGES FROM FIREFIGHTING ACTIVITY
   b. FIRE HYDRANT FLUSHINGS
   c. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED)
   d. DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3)
   e. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS
   f. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED
   g. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE
   h. UNCONTAMINATED GROUNDWATER OR SPRING WATER
   i. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED
   j. UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5))
   k. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS
   l. LANDSCAPE IRRIGATION.
7. UNAUTHORIZED NON-STORMWATER DISCHARGES . THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   a. WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS
   b. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE
   c. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING
   d. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE
8. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

READFIELD MAIN STREET SOLAR, LLC

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NORWICH SOLAR
Brunswick, Maine

Stantec

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horizons Engineering
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POMFRET VT • KENNEBUNK ME • CONWAY NH

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
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Environmental:
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Saco, Maine 04072

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER

07/31/2023

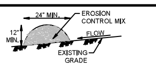
REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

ESC DETAILS
READFIELD MAIN
STREET SOLAR, LLC

DATE of Issue: 07/31/23
Drawn by: LJM | Checked by: IAJ
Project No.: 22124 | Scale: N/A
Drawing No.: C-2.1 | Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg



COMPOSITION:

EROSION CONTROL MIX BERM SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH *THE MAINE EROSION CONTROL AND BEST MANAGEMENT PRACTICES (BMPS) MANUAL*, SEDIMENT CONTROL BMP, B-1 SEDIMENT BARRIERS. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED WOOD AND BARK CHIPS AND/OR ACCEPTABLE MANUFACTURED PRODUCTS. GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE. ALL MATERIALS USED TO MANUFACTURE THE EROSION CONTROL MIX SHALL BE NATIVE MAINE MATERIALS.

NOTES

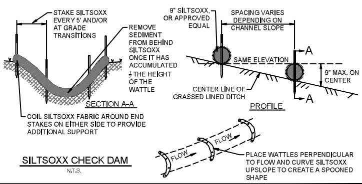
1. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED AS NEEDED SUCH THAT THE BARRIER LIES NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. ON SLOPES < 5% OR AT THE BOTTOM OF STEEPER SLOPES (<2:1) UP TO 20' LONG, THE BARRIER MUST BE A MINIMUM OF 12" HIGH, AS MEASURED ON THE UPHILL SIDE OF THE BARRIER, AND A MINIMUM OF 2 FT. WIDE. ON LONGER OR STEEPER SLOPES, THE BARRIER SHALL BE WIDER TO ACCOMMODATE ADDITIONAL FLOW.
4. EROSION CONTROL MIX MAY BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED AND SCHEDULED ON THE DESIGN PLANS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW STORMWATER END SECTIONS AT OUTFALLS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES (UP TO 2:1 WITH ON SITE PLAN COORDINATOR APPROVAL) THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM. EROSION CONTROL MIX MAY NOT BE USED IN WETLAND AREAS. EROSION CONTROL MIX MAY BE USED UPHILL OF PLANNED EARTH DISTURBANCE.

TYPICAL EROSION CONTROL MIX BERM

N.T.S.

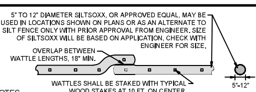
NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, AND REMOVAL OF SILTSOXX IN ALL LOCATIONS SHOWN ON THE PLANS. SILTSOXX MAY BE LEFT IN PLACE IF THE CONTRACTOR SEEDS AND MULCHES WATTLE FOR GROWTH POST CONSTRUCTION.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ADDITIONAL SILTSOXX WILL BE ADDED WHEN SEDIMENT REACHES HALF OF PRODUCT HEIGHT.
3. WHEN INSTALLING LENGTHS OF SILTSOXX, LENGTHS WILL OVERLAP BY MINIMUM 2' WHEN TRANSITIONING TO A NEW LENGTH OF WATTLE.
4. CONTRACTOR SHALL REFER TO ALL MANUFACTURES SPECIFICATIONS AND DETAILS.
5. SILTSOXX CAN ONLY BE USED IN A GRASS LINED SWALE, MAY NOT BE USED IN STONE LINED SWALES.
6. SILTSOXX CHECK DAM CAN ONLY BE USED IN CHANNELS WITH SLOPES LESS THAN 5%.
5. SILTSOXX IS A SPECIFIC MANUFACTURER, OTHER MANUFACTURERS WITH EQUAL PRODUCTS MAY BE USED IF APPROVED BY ENGINEER.



SILTSOXX CHECK DAM

N.T.S.

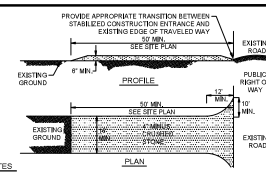


NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, AND REMOVAL OF SILTSOXX IN ALL LOCATIONS SHOWN ON THE PLANS. SILTSOXX MAY BE LEFT IN PLACE IF THE CONTRACTOR SEEDS AND MULCHES OVER SILTSOXX FOR GROWTH POST CONSTRUCTION.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ADDITIONAL WATTLES WILL BE ADDED WHEN SEDIMENT REACHES HALF OF PRODUCT HEIGHT.
3. WHEN INSTALLING LENGTHS OF SILTSOXX, LENGTHS WILL OVERLAP BY MINIMUM 18" WHEN TRANSITIONING TO A NEW LENGTH OF SILTSOXX.
4. CONTRACTOR SHALL REFER TO ALL MANUFACTURES SPECIFICATIONS AND DETAILS.
5. SILTSOXX IS A SPECIFIC MANUFACTURER, OTHER MANUFACTURERS WITH EQUAL PRODUCTS MAY BE USED IF APPROVED BY ENGINEER.
6. SILTSOXX CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER.

TYPICAL SILTSOXX SEDIMENT CONTROL

N.T.S.



NOTES

1. CONTRACTOR SHALL STABILIZE CONSTRUCTION ENTRANCE AS REQUIRED TO PREVENT TRACKING OF SEDIMENT OFF-SITE.
2. CONTRACTOR TO USE MIRAFI 500X UNDER STONE FOR TEMPORARY CONSTRUCTION ROADS.
3. CRUSHED STONE SHALL BE ADDED OR REPLACED WHEN 80% OF THE VOIDS ARE FILLED WITH SEDIMENT.
4. STONE SIZE SHALL BE 2-3" ROCK.
5. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES IS ALLOWED.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

CONSTRUCTION EROSION AND SEDIMENT CONTROL INSPECTOR

1. THE CONTRACTOR SHALL DESIGNATE AN EROSION AND SEDIMENT CONTROL INSPECTOR THROUGHOUT THE ENTIRETY OF CONSTRUCTION. THE INSPECTOR OR HIS/HER DESIGNEE SHALL BE ON-SITE ON A DAILY BASIS DURING ACTIVE CONSTRUCTION.
2. THE INSPECTOR SHALL BE KNOWLEDGEABLE IN PRINCIPLES AND PRACTICES OF EROSION PREVENTION AND STORMWATER CONTROL. IMPLEMENTATION AND POSSESS SKILLS TO ASSESS CONDITIONS AT THE CONSTRUCTION SITE THAT COULD IMPACT STORMWATER QUALITY. TO ASSESS EFFECTIVENESS OF CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs) SELECTED TO CONTROL QUALITY OF STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY.
3. THE INSPECTOR SHALL BE RESPONSIBLE FOR ON-SITE IMPLEMENTATION OF THIS EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTIONS, MONITORING AND REPORTING.
4. INSPECTIONS SHALL BE PERFORMED AT MINIMUM ONCE A WEEK BUT ALSO PRIOR TO AND 24 HOURS AFTER A WET WEATHER EVENT. A "WET WEATHER EVENT" IS DEFINED AS 0.5 INCHES OR GREATER IN A 24 HOUR PERIOD.
5. THE SCOPE OF CONSTRUCTION INSPECTIONS SHALL INCLUDE BUT ARE NOT LIMITED TO ALL THE EROSION AND SEDIMENT CONTROL MEASURES ON SITE. DOCUMENTATION OF THE OVERALL DISTURBANCE FOR THE PROJECT SITE. REVIEW OF ALL STOCKPILE AREAS AND VEHICLE EGRESSES FROM THE PROJECT SITE.
6. CONSTRUCTION INSPECTION AND CORRECTIVE ACTION DOCUMENTATION RECORDS SHALL BE MAINTAINED FOR A MINIMUM OF 3 YEARS. THIS DOCUMENTATION SHALL BE MAINTAINED BY THE CONTRACTOR UNLESS OTHERWISE AUTHORIZED BY THE OWNER. CORRECTIVE ACTIONS SHOULD BE STARTED SAME DAY COMPLETED WITHIN 7 DAYS OR BEFORE THE NEXT STORM EVENT, WHICHEVER IS FIRST.
7. THE INSPECTOR SHALL HAVE AUTHORITY TO STOP AND/OR MODIFY CONSTRUCTION ACTIVITIES AS NECESSARY TO COMPLY WITH THESE PLANS AND TERMS AND CONDITIONS OF THE PERMIT.
8. THE INSPECTORS CONTACT INFORMATION SHALL BE PROVIDED TO MAINE DEP (IF DESIRED), PROJECT ENGINEER AND PROJECT OWNER PRIOR TO START OF CONSTRUCTION.

CONSTRUCTION LIMITS FOR EROSION AND SEDIMENT CONTROL

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PERFORMED IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMPs" DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST REVISION. CONTRACTOR SHALL HAVE A COPY OF THE LATEST REVISION ON SITE AT ALL TIMES.
2. CONTRACTOR SHALL LIMIT EXCAVATION AND EARTHWORK TO NO MORE THAN 10 ACRES NON-CONTIGUOUS OR 10 ACRES PER PROJECT SUBCATCHMENT THROUGHOUT THE CONSTRUCTION SITE AT ONE TIME. TEMPORARY STABILIZE ALL AREAS OF COMPLETED EXCAVATION AND EARTHWORK PRIOR TO MOVING ONTO A NEW AREA.
3. EXPOSED OR OPEN AREA FREE OF VEGETATION FROM CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
4. CONTRACTOR SHALL MINIMIZE THE AMOUNT OF TIME AN AREA UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT EXPOSED OR FREE OF VEGETATION. AREAS WHICH ARE INITIALLY DISTURBED BUT FURTHER CONSTRUCT IS PLANNED MUST BE TEMPORARILY STABILIZED WITHIN 7 DAYS, IF THE AREAS ARE BEING LEFT FOR AN EXTENDED PERIOD OF TIME. AREAS WHICH ARE CONSIDERED FINISHED SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF THE FINISH WORK. IF WORK IS WITHIN 75 FEET OF A WETLAND OR WATERBODY, THE ABOVE MENTIONED TIMEFRAME IS REDUCED TO 2 DAYS IN BOTH THE PERMANENT AND TEMPORARY CONDITIONS.
5. ALL EROSION AND SEDIMENT CONTROL BMPs SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE. CONTRACTOR SHALL MAINTAIN THE BMPS THROUGHOUT CONSTRUCTION. REFER TO INDIVIDUAL DETAILS FOR EACH BMP.
6. REPAIR AND/OR REPLACE ANY EROSION AND SEDIMENT CONTROL BMPs WHICH HAVE BEEN DAMAGED OR NEED MAINTENANCE. ONCE A PROBLEM HAS BEEN IDENTIFIED BY THE INSPECTOR OR OTHERS, THE REPAIR SHALL BE UNDERWAY WITHIN THE END OF THE NEXT WORKING DAY AND COMPLETED WITHIN 7 DAYS OR BEFORE THE NEXT STORM EVENT.
7. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EROSION AND SEDIMENT CONTROL BMPs WITHIN 30 DAYS OF PERMANENT STABILIZATION. PERMANENT STABILIZATION IS DEFINED AS 90% GRASS CATCH IN VEGETATED AREAS.

GRADING, SEEDING AND MULCHING

1. NO SLOPES, PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN 1.5:1. SLOPE STABILITY BASED UPON UNSATURATED SOIL CONDITIONS. IF DURING CONSTRUCTION SATURATED SOILS ARE ENCOUNTERED CONTRACTOR , CONTACT THE ENGINEER.
2. ALL AREA DISTURBED AND ALL AREAS WITHIN THE CLEARING LIMITS SHALL BE GRADED AND COVERED WITH A MINIMUM OF 4" OF LOAM TOPSOIL AND SMOOTHED.
3. MULCH ALL AREAS WHICH ARE DISTURBED FROM CONSTRUCTION PER THE TABLE BELOW. IF MULCH IS USED AS TEMPORARY STABILIZATION, REFRESH MULCHING AS NEEDED TO MAINTAIN STABILIZATION.
4. SEEDING SHOULD BE PERFORMED THROUGHOUT CONSTRUCTION AS A PERMANENT AND TEMPORARY STABILIZATION MEASURE. SEE SEED SPECIFICATIONS BELOW, TEMPORARY SEED CAN BE USES FOR BOTH TEMPORARY STABILIZATION OR IN COLDER MONTHS.

SEEDING SPECIFICATIONS

PERMANENT SEED MIX SHALL BE USED AS EARLY AS PRACTICABLE BETWEEN 4/15 AND 8/15 AND SHALL MEET THE FOLLOWING CRITERIA:

SEED	% WEIGHT
RED FESCUE	50%
SHEEP FESCUE	25%
RED TOP	5%
WHITE CLOVER	10%
ANNUAL RYE	10%

TEMPORARY SEED MIX SHALL BE USED BETWEEN 8/15 AND 04/15 AND SHALL MEET THE FOLLOWING CRITERIA:

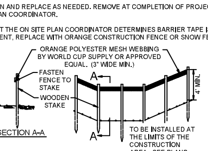
SEED	% WEIGHT	%GERMINATION
WINTER RYE	80% MIN.	85% MIN.
RED FESCUE (CREEPING)	4% MIN.	80% MIN.
PERENNIAL RYE GRASS	3% MIN.	90% MIN.
RED CLOVER	3% MIN.	90% MIN.
OTHER CROP GRASS	0.5% MAX.	
NOXIOUS WEED SEED	0.5% MAX.	
INERT MATTER	1% MAX.	

POLLINATOR SEED MIX SHALL CONTAIN SOME OF THE SPECIES OF SEED OR APPROVED EQUAL:

EASTERN (RED) COLUMBINE	VIRGINIA MOUNTAIN MINT	FOXGLOVE BEARDTONGUE
BLUE FALSE INDIGO	EARLY GOLDENROD	INDIAN BLANKET
HORSEFLYWEED	SMOOTH ASTER	BEE BALM
TALL WHITE BEARD TONGUE	NEW ENGLAND ASTER	CARDINAL FLOWER
OHIO SPIDERWORT	HEATH ASTER	GOLDEN ALEXANDERS
COMMON MILKWEED	GRAY GOLDEN ROD	SUNDIAL LUPINE
BUTTERFLY MILKWEED	LITTLE BLUESTEM	
PARTRIDGE PEA	BLACK EYED SUSAN	
WILD BERGAMOT	COREOPSIS	

NOTES

1. ACCEPTABLE EPSC MEASURE DETAILS ARE PROVIDED BELOW.
2. AT A MINIMUM, EPSC MEASURES MEET ME DEP STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL OR PREVIOUSLY APPROVED INTERCHANGEABLE PRACTICES.
3. LIMITS OF DISTURBANCE (OR "CONSTRUCTION DEMARCATION") SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
4. BARRIER TAPE/ROPE: FOR USE WHERE PROPOSED DISTURBANCE BORDERS NON-WOODED, VEGETATED AREAS MORE THAN 100 FT FROM THE NEAREST WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC.). BARRIER TAPE IS HIGH VISIBILITY FIBERGLASS TAPE, MINIMUM 3" IN WIDTH COMMONLY USED IN SKI AREAS FOR DEMARCATING CLOSED AREAS. BARRIER TAPE AND ROPE SHOULD BE ATTACHED TO STAKES, AT A MINIMUM HEIGHT OF 4 FT FROM THE GROUND.
5. MINIMUM 1 TO 2 ROWS OF MESH BARRIER TAPE TO BE INSTALLED ALONG CONSTRUCTION PERIMETER.
6. EACH ROW OF BARRIER TAPE TO BE 3" WIDE MINIMUM.
7. BARRIER TAPE TO BE ORANGE.
8. SECURE BARRIER TAPE TO STAKES OR EXISTING TREE TRUNKS WITH BOTTOM ROW AT 4' DISTANCE FROM GROUND SURFACE (MINIMUM).
9. MAINTAIN AND REPLACE AS NEEDED. REMOVE AT COMPLETION OF PROJECT PER ON SITE PLAN COORDINATOR.
10. IN EVENT THE ON SITE PLAN COORDINATOR DETERMINES BARRIER TAPE IS NOT SUFFICIENT, REPLACE WITH ORANGE CONSTRUCTION FENCE OR SNOW FENCE.

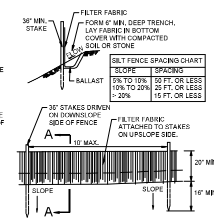


TYPICAL CONSTRUCTION LIMIT BARRIER

N.T.S.

NOTES

1. AT A MINIMUM, EROSION AND SEDIMENT CONTROL MEASURES MUST MEET ALL MEDEP STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL OR PREVIOUSLY APPROVED INTERCHANGEABLE PRACTICES.
2. PERIMETER CONTROLS SHALL BE UTILIZED IN SMALL AREAS ≤ 1 ACRE. IN AREAS > 1 ACRE, TEMPORARY SEDIMENT TRAPS OR TEMPORARY SEDIMENT BASINS ARE TO BE UTILIZED.
3. PERIMETER CONTROLS SHALL BE INSTALLED ON DOWNSLOPE SIDE OF PLANNED EARTH DISTURBANCE.
4. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITIES WITHIN UPSLOPE CONTRIBUTING AREA.
5. SILT FENCE SHALL NOT BE USED AS CONSTRUCTION DEMARCATION.
6. SILTSOXX CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER. SEE DETAIL.
7. EROSION CONTROL MIX BERM CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER, EXCEPT IN AREAS OF CONCENTRATED FLOW OR IN AREAS ADJACENT TO PROTECTED ENVIRONMENTAL RESOURCES. SEE DETAIL.
8. IF SILT FENCE IS INSTALLED WHEN GROUND IS FROZEN, A GRAVEL, SHOT ROCK, OR SAND BALLAST MUST BE USED, MINIMUM OF 8".
9. WHEN DISTURBANCE IS WITHIN 75' OF A WATERBODY OR WETLAND CONTRACTOR MUST USE 2 ROWS OF SILT FENCE OR OTHER APPROVED PERIMETER BMP (SUCH AS SILT FENCE WITH FILTER SOCK OR SILT FENCE WITH EROSION CONTROL MIX).
10. INSTALL SILT FENCE AROUND DOWNGRADIENT OF ALL STOCKPILES AND PREVENT STORMWATER FROM RUNNING ONTO STOCKPILE AREAS.



SILT FENCE SPACING CHART	
SLOPE	SPACING
5% TO 10%	50 FT. OR LESS
10% TO 20%	25 FT. OR LESS
> 20%	15 FT. OR LESS

TYPICAL TEMPORARY SILT FENCE

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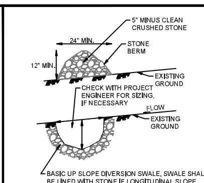

NOTES

1. UPSLOPE DIVERSION BERM WILL BE USED AS SHOWN ON PLAN AND DETAIL. DIVERSION SWALES ARE NOT PART OF THIS DESIGN, IF NECESSARY DURING CONSTRUCTION, CONTRACTOR SHALL CHECK WITH THE PROJECT ENGINEER FOR SIZING.

TYPICAL UPSLOPE DIVERSION DETAIL

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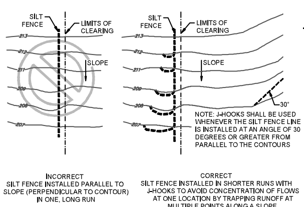
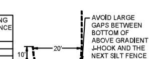


INCORRECT
SILT FENCE INSTALLED PARALLEL TO SLOPE (PERPENDICULAR TO CONTOUR) IN ONE, LONG RUN

CORRECT
SILT FENCE INSTALLED IN SHORTER RUNS WITH J-HOOKS TO AVOID CONCENTRATION OF FLOWS AT ONE LOCATION BY TRAPPING RUNOFF AT MULTIPLE POINTS ALONG A SLOPE.

SLOPE STEEPNESS	MAXIMUM SPACING BETWEEN SILT FENCE J-HOOKS (FT.)
2:1 SLOPE (50%)	25
3:1 SLOPE (33%)	50
4:1 SLOPE (25%)	75
5:1 SLOPE OR FLATTER (50%)	100



NOTES

1. PROPER INSTALLATION OF J-HOOKS PROVIDES SILT FENCE THE ABILITY TO TEMPORARILY POND RUNOFF, ALLOWING TIME FOR SEDIMENTS TO SETTLE.
2. LONG RUNS OF SILT FENCE BETWEEN J-HOOKS SHOULD BE AVOIDED REFER TO ADJACENT TABLE FOR PROPER SPACING OF J-HOOKS.
3. J-HOOKS SHOULD BE BUILT ALONG CONTOUR IN A "SMILE" SHAPE WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM DEPTH OF 10 FEET.
4. ALONG A NARROW RIGHT OF WAY, NARROWER J-HOOKS CAN BE USED WITH A HIGHER SPACING FREQUENCY.

TYPICAL SILT FENCE "J-HOOK" CONSTRUCTION

N.T.S.

GUIDE TO MULCH MATERIALS, RATES, AND USES

	QUALITY STANDARDS	PER 1000 SQ. FT. (Rates noted shall be doubled during winter construction)	PER ACRE	DEPTH OF APPLICATION	REMARKS
WOOD CHIPS OR SHAVINGS	AIR-DRIED. FREE OF OBJECTIONABLE COARSE MATERIAL	500-900 LBS	10-20 TONS	2 - 7"	USED PRIMARILY AROUND SHRUB AND TREE PLANTINGS AND RECREATION TRAILS TO INHIBIT WEED COMPETITION. RESISTANT TO WIND BLOWING. DECOMPOSES SLOWLY.
WOOD FIBER CELLULOSE (PARTLY DIGESTED WOOD FIBERS)	MADE FROM NATURAL WOOD USUALLY WITH GREEN DYE AND DISPERSING AGENT	50 LBS	2,000 LBS.	-	APPLY WITH HYDROMULCHER. NO TIE DOWN REQUIRED. LESS EROSION CONTROL PROVIDED THAN 2 TONS OF HAY OR STRAW.
GRAVEL, CRUSHED STONE OR SLAG	WASHED; SIZE 2B OR 3A - 1½"	9 CU. YDS.	405 CU. YDS.	3"	EXCELLENT MULCH FOR SHORT SLOPES AND AROUND PLANTS AND ORNAMENTALS. USE 2B WHERE SUBJECT TO TRAFFIC. (APPROXIMATELY 2,000 LBS./CU. YD.). FREQUENTLY USED OVER FILTER FABRIC FOR BETTER WEED CONTROL.
HAY OR STRAW	AIR-DRIED; FREE OF UNDESIRABLE SEEDS & COARSE MATERIALS	90-100 LBS 2-3 BALES	2 TONS (100-120 BALES)	COVER ABOUT 90% SURFACE	USE SMALL GRAIN STRAW WHERE MULCH IS MAINTAINED FOR MORE THAN THREE MONTHS. SUBJECT TO WIND BLOWING UNLESS ANCHORED. MOST COMMONLY USED MULCHING MATERIAL. PROVIDES THE BEST MICRO-ENVIRONMENTAL FOR GERMINATING SEEDS.
COMPOST	UP TO 3" PIECES, MODERATELY TO HIGHLY STABLE	3-9 CU. YDS.	134-402 CU. YDS.	1 - 3"	COARSER TEXTURED MULCHES MAY BE MORE EFFECTIVE IN REDUCING WEED GROWTH AND WIND EROSION.
EROSION CONTROL MIX	WELL-GRADED MIXTURE OF PARTICLE SIZES. ORGANIC CONTENT BETWEEN 80-100%, DRY WEIGHT. PARTICLE SIZE SHALL PASS 6" SCREEN (100%)	* SLOPES 3(HZ.):1(VERT.) OR FLATTER = 2 INCH DEPTH PLUS ADDITIONAL 1/2 INCH DEPTH PER 20 FT. OF SLOPE UP TO 100 FT. ** SLOPES BETWEEN 3(HZ.):1(VERT.) AND 2(HZ.):1(VERT.) = 4 INCH DEPTH PLUS ADDITIONAL 1/2 INCH PER 20 FT. OF SLOPE UP TO 100 FT. *** SLOPES STEEPER THAN 2(HZ.):1(VERT.) USE OF EROSION CONTROL MIX AND MULCH DEPTH TO BE REVIEWED AND APPROVED PRIOR TO USE BY ON SITE PLAN COORDINATOR OR EPSC SPECIALIST			COMPRISED OF SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. MAY CONTAIN ROCK < 4" IN DIAMETER. ORGANICS SHALL BE FIBROUS AND ELONGATED. NO LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS.

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

KREBS & LANSING
CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
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Topsham, Maine 04086

Electrical:
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14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER

07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

ESC DETAILS
READFIELD MAIN
STREET SOLAR, LLC

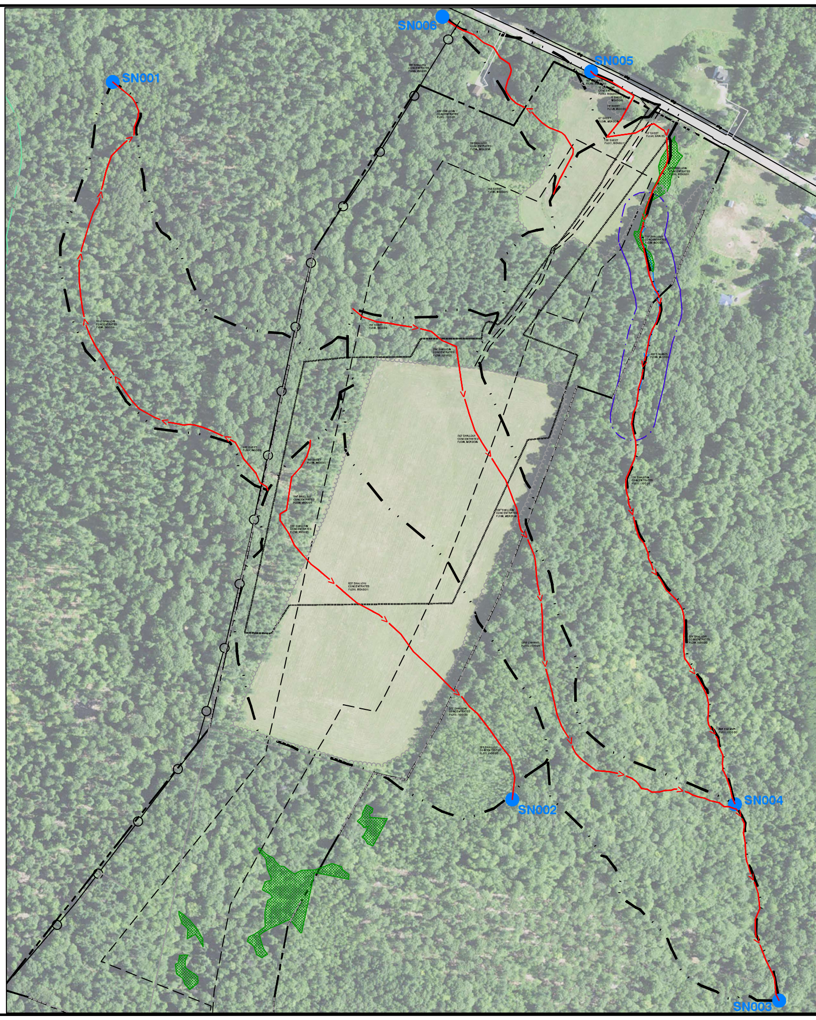
DATE of Issue: 07/31/23

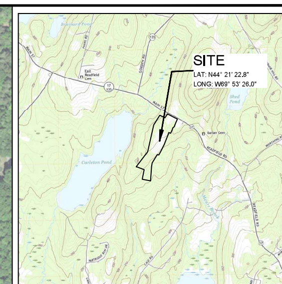
Drawn by: LJM | Checked by: IAJ

Project No.: 22124 | Scale: N/A

Drawing No.: C-2.2 | Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg





LOCATION MAP

SCALE: 1" = 1/2 Mile

Pre-Development Peak Flows (cfs)				
Analysis Point	2-year	10-year	25-year	50-year
SN001	3.87	8.59	12.31	15.78
SN002	6.59	14.24	20.19	25.71
SN003	6.18	13.69	19.59	25.08
SN004	7.8	16.86	23.91	30.45
SN005	0.35	0.76	1.07	1.36
SN006	1.56	3.34	4.73	6.02

NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON LIDAR DATA FROM THE MAINE OFFICE OF GIS.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE, CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS A DESIGN PLAN FOR PERMITTING. FINAL DESIGN MAY BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND ANY CONDITIONS IDENTIFIED DURING THE PROJECT'S REVIEW.
6. TOTAL FENCED AREA: 417,835± S.F. = 9.59 AC
7. TOTAL LIMIT OF DISTURBANCE: 762,596± S.F. = 17.51 AC
8. TOTAL PERMANENT IMPERVIOUS COVERAGE: 10,875± S.F. = 0.25 AC

   POSTS FROM PANEL RACKING AND FENCING = 76± S.F. = 0.0018 AC

   GRAVEL ACCESS DRIVE = 10,249± S.F. = 0.24 AC

   EQUIPMENT PADS = 550± S.F. = 0.013 AC
9. DIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (TRENCHING, POSTS FROM PANEL RACKING AND FENCING, GRUBBING, AND STUMPING)

   INDIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (VEGETATION CLEARING AND SHADING)

   TOTAL WETLAND IMPACTS: 0.0± S.F. = 0.0 AC
10. PROJECT PROPERTY LINES SURVEYED BY HORIZONS ENGINEERING. BOUNDARY SURVEY PROVIDED BY HORIZONS ENGINEERING. PLEASE SEE "NORWICH SOLAR TECHNOLOGIES, INC. MAIN STREET/MAINE ROUTE 17 BOUNDARY, TOPOGRAPHIC & EXISTING CONDITIONS SURVEY" PROJECT #S-21314 DATED 09/14/22.
11. PROJECT PROPERTY = 71.93± AC
12. THE TURNAROUND HAS THE MINIMUM DIMENSIONS DESCRIBED IN THE TOWN OF READFIELD, MAINE LAND USE ORDINANCE DATED JUNE 14, 2022.

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- ABUTTING PROPERTY LINES, HORIZONS ENGINEERING, INC.
- SURVEYED PROPERTY LINE, HORIZONS ENGINEERING, INC.
- 200' PROPERTY LINE SETBACKS TO SOLAR PANELS
- EXISTING GRADE CONTOUR LINES (2 FOOT INTERVALS)
- EXISTING GRADE CONTOUR LINES (10 FOOT INTERVALS)
- EXISTING OVERHEAD POWER
- PROPOSED PERIMETER FENCE
- PROPOSED UNDERGROUND POWER
- PROPOSED OVERHEAD POWER
- PROPOSED POWER POLE ANCHOR
- PROPOSED EQUIPMENT PAD
- PROPOSED SOLAR PANELS
- DELINEATED WETLAND
- WETLAND IMPACT AREA
- MAPPED SOIL BOUNDARY (NRCS)
- EXISTING TREELINE
- PROPOSED TREELINE
- PROJECT LIMIT OF DISTURBANCE WITH PERIMETER CONTROLS, SEE SHEET C-2.2
- STREAM
- 75' STREAM BUFFER
- EXISTING DRIVE
- PROPOSED IMPERVIOUS GRAVEL ACCESS
- PROPOSED PERVIOUS GRAVEL ACCESS
- PROPOSED TEMPORARY STAGING AREA
- EXISTING FENCE
- EXISTING TRAIL
- EXISTING STONEWALL

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Surveying:
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1040 Portland Road
Saco, Maine 04072

0' 150' 300' 450'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 150')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

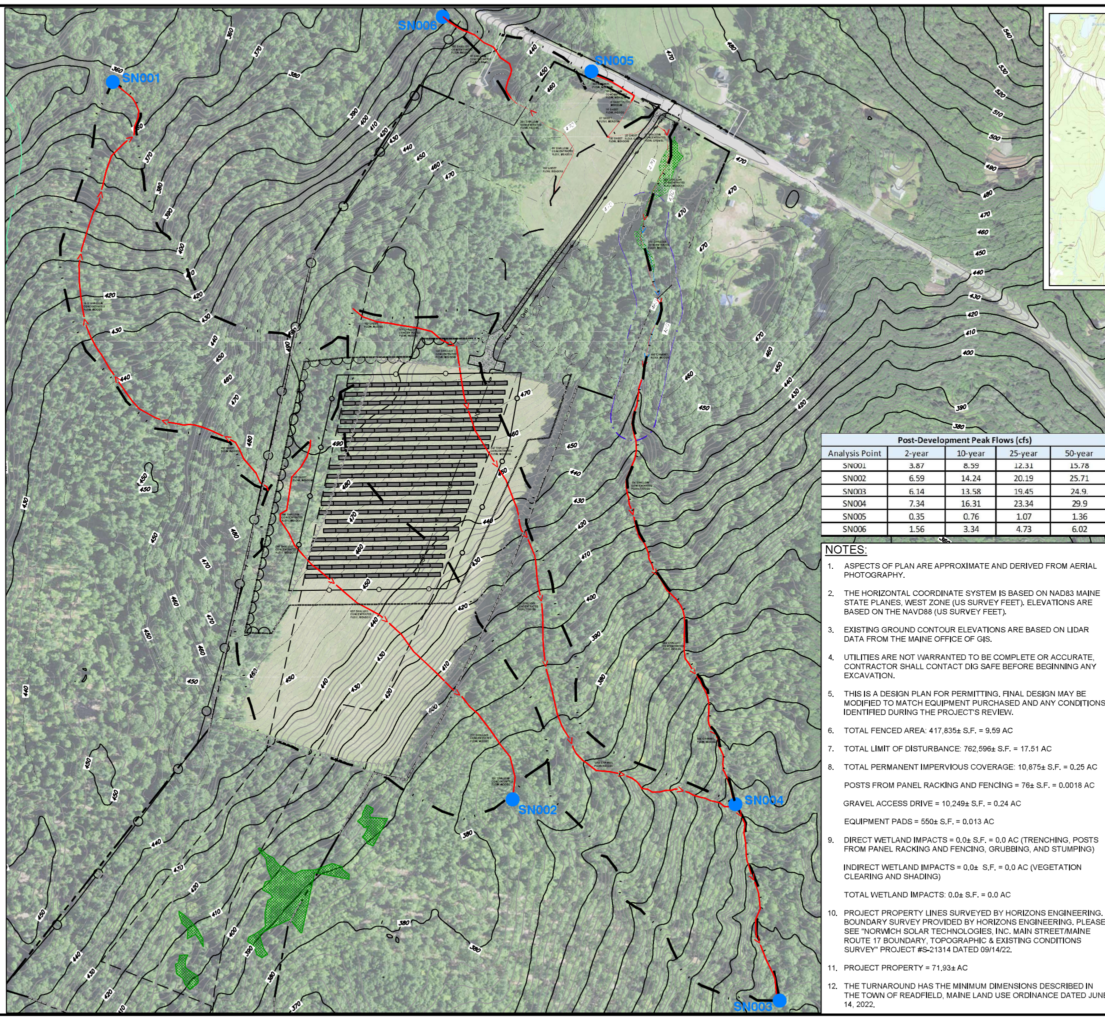
PRE-DEVELOPMENT
STORMWATER PLAN
READFIELD MAIN
STREET SOLAR, LLC

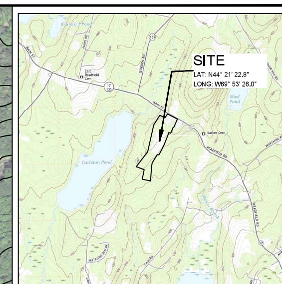
DATE of Issue: 07/31/23

Drawn by: LJM Checked by: IAJ

Project No.: 22124 Scale: 1" = 150'

Drawing No.: C-3.0 Rev No.:





LOCATION MAP
SCALE: 1" = 1/2 Mile

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Analysis Point	2-year	10-year	25-year	50-year
SN001	3.87	8.59	12.31	15.78
SN002	6.59	14.24	20.19	25.71
SN003	6.14	13.58	19.45	24.9.
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NO. 17165
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

POST-DEVELOPMENT
STORMWATER PLAN
READFIELD MAIN
STREET SOLAR, LLC

DATE of Issue: 07/31/23
Drawn by: LJM — Checked by: IAJ
Project No.: 22124 — Scale: 1" = 150'
Drawing No.: C-3.1 — Rev No.:

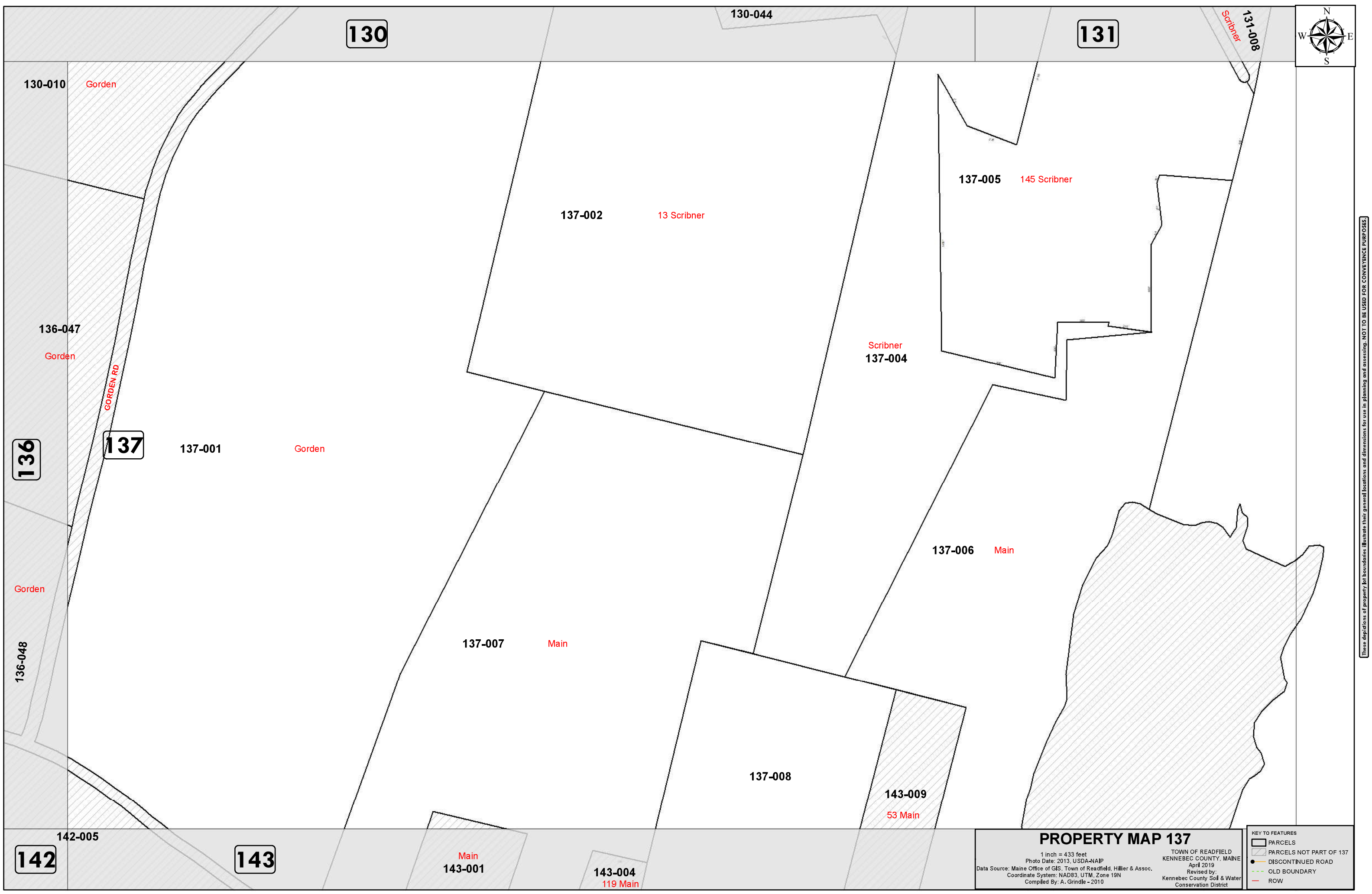
ATTACHMENT C: TAX MAPS

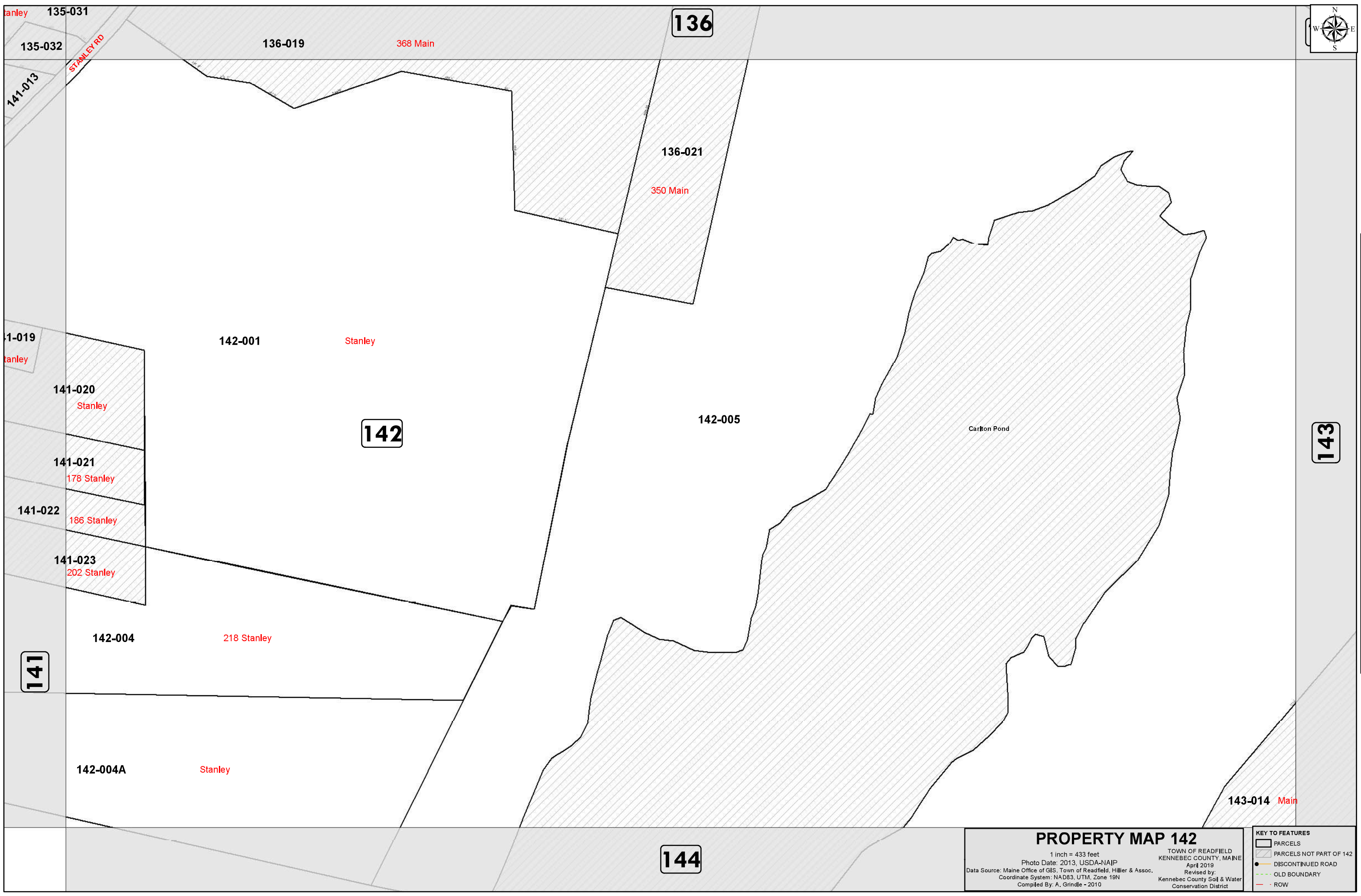
PROPERTY MAP 143

1 inch = 433 feet
Photo Date: 2013, USDA-NAIP
Data Source: Maine Office of GIS, Town of Readfield, Hillier & Assoc.
Coordinate System: NAD83, UTM, Zone 19N
Compiled By: A. Grindle - 2010

TOWN OF READFIELD
KENNEBEC COUNTY, MAINE
April 2019
Revised by:
Kennebec County Soil & Water
Conservation District

KEY TO FEATURES
PARCELS
PARCELS NOT PART OF 143
DISCONTINUED ROAD
OLD BOUNDARY
ROW


130
131
130-044
131-008
Scribner
N
W
E
S
130-010
Gorden
137-002
13 Scribner
137-005
145 Scribner
136-047
Gorden
GORDEN RD
Scribner
137-004
136
137
137-001
Gorden
137-006
Main
Gorden
136-048
137-007
Main
137-008
143-009
53 Main
142-005
142
143
Main
143-001
143-004
119 Main
PROPERTY MAP 137
1 inch = 433 feet
Photo Date: 2013, USDA-NAIP
Data Source: Maine Office of GIS, Town of Readfield, Hillier & Assoc.
Coordinate System: NAD83, UTM, Zone 19N
Compiled By: A. Grindle - 2010
TOWN OF READFIELD
KENNEBEC COUNTY, MAINE
April 2019
Revised by:
Kennebec County Soil & Water
Conservation District
KEY TO FEATURES
PARCELS
PARCELS NOT PART OF 137
DISCONTINUED ROAD
OLD BOUNDARY
ROW
These depictions of property lot boundaries illustrate their general locations and dimensions for use in planning and assessing. NOT TO BE USED FOR CONVEYENCE PURPOSES.



These depictions of property lot boundaries illustrate their general locations and dimensions for use in planning and assessing. NOT TO BE USED FOR CONVEYENCE PURPOSES.


141
142
Stanley
142-004A
142-005
Carlton Pond
142-005
Main
143-014
145
Main
144-001
145-001
Case
144
WINTHROP
N
W
E
S
PROPERTY MAP 144
1 inch = 433 feet
Photo Date: 2013, USDA-NAIP
Data Source: Maine Office of GIS, Town of Readfield, Hillier & Assoc.
Coordinate System: NAD83, UTM, Zone 19N
Compiled By: A. Grindle - 2010
TOWN OF READFIELD
KENNEBEC COUNTY, MAINE
April 2019
Revised by:
Kennebec County Soil & Water
Conservation District
KEY TO FEATURES
PARCELS
PARCELS NOT PART OF 144
DISCONTINUED ROAD
OLD BOUNDARY
ROW
These depictions of property lot boundaries illustrate their general locations and dimensions for use in planning and assessing. NOT TO BE USED FOR CONVEYENCE PURPOSES.

142
143
143-014
Main
145-001
Case
Main
144-001
CHERRYWOOD LN
145-004
26 Main
145-002
14 Cherrywood
145-005
9 Cherrywood
21 Fiddlehead
145-007
7 Fiddlehead
145-003
Case
145
145-008
151 Lakeside
145-009
Lakeside
144
N
W
E
S
These depictions of property lot boundaries illustrate their general locations and dimensions for use in planning and assessing. NOT TO BE USED FOR CONVEYENCE PURPOSES.
PROPERTY MAP 145
1 inch = 433 feet
Photo Date: 2013, USDA-NAIP
Data Source: Maine Office of GIS, Town of Readfield, Hillier & Assoc.
Coordinate System: NAD83, UTM, Zone 19N
Compiled By: A. Grindle - 2010
TOWN OF READFIELD
KENNEBEC COUNTY, MAINE
April 2019
Revised by:
Kennebec County Soil & Water
Conservation District
KEY TO FEATURES
PARCELS
PARCELS NOT PART OF 145
DISCONTINUED ROAD
OLD BOUNDARY
ROW

ATTACHMENT D: TITLE, RIGHT, OR INTEREST DOCUMENTATION

PURCHASE AND SALE AGREEMENT - LAND ONLY

("days" means business days unless otherwise noted, see paragraph 20)

August 30, 2021
Offer Date

9/3/2021, Effective Date
Effective Date is defined in Paragraph 20 of this Agreement.

1. PARTIES: This Agreement is made between **Sunny Acres, LLC** ("Buyer") and **Colin Hewett Executor of William Hewett Estate** ("Seller").

2. DESCRIPTION: Subject to the terms and conditions hereinafter set forth, Seller agrees to sell and Buyer agrees to buy ☐ all ☒ part of (if "part of" see para. 22 for explanation) the property situated in municipality of **Readfield**, County of **Kennebec**, State of Maine, located at **TBD Main Street** and described in deed(s) recorded at said County's Registry of Deeds Book(s) **13355** ______, Page(s) **23-25** ______.

3. PURCHASE PRICE/EARNEST MONEY: For such Deed and conveyance Buyer agrees to pay the total purchase price of $[redacted]. Buyer ☐ has delivered; or ☒ will deliver to the Agency within **5** days of the Effective Date, a deposit of earnest money in the amount [redacted]. Buyer agrees that an additional deposit of earnest money in the amount of $ **see other conditions** will be delivered **see other conditions**. If Buyer fails to deliver the initial or additional deposit in compliance with the above terms Seller may terminate this Agreement. This right to terminate ends once Buyer has delivered said deposit (s). The remainder of the purchase price shall be paid by wire, certified, cashier's or trust account check upon delivery of the Deed.

This Purchase and Sale Agreement is subject to the following conditions:

4. ESCROW AGENT/ACCEPTANCE: **RE/MAX Riverside** ("Agency") shall hold said earnest money and act as escrow agent until closing; this offer shall be valid until **September 3, 2021** (date) **5:00** ☐ AM ☒ PM; and, in the event of non-acceptance, this earnest money shall be returned promptly to Buyer.

5. TITLE AND CLOSING: A deed, conveying good and merchantable title in accordance with the Standards of Title adopted by the Maine Bar Association shall be delivered to Buyer and this transaction shall be closed and Buyer shall pay the balance due and execute all necessary papers on **March 31, 2023** (closing date) or before, if agreed in writing by both parties. If Seller is unable to convey in accordance with the provisions of this paragraph, then Seller shall have a reasonable time period, not to exceed 30 calendar days, from the time Seller is notified of the defect, unless otherwise agreed to in writing by both Buyer and Seller, to remedy the title. Seller hereby agrees to make a good-faith effort to cure any title defect during such period. If, at the later of the closing date set forth above or the expiration of such reasonable time period, Seller is unable to remedy the title, Buyer may close and accept the deed with the title defect or may terminate this Agreement in which case the parties shall be relieved of any further obligations hereunder and any earnest money shall be returned to the Buyer.

6. DEED: The property shall be conveyed by a **Trustee** deed, and shall be free and clear of all encumbrances except covenants, conditions, easements and restrictions of record which do not materially and adversely affect the continued current use of the property.

7. POSSESSION: Possession of premises shall be given to Buyer immediately at closing unless otherwise agreed in writing.

8. RISK OF LOSS: Until the closing, the risk of loss or damage to said premises by fire or otherwise, is assumed by Seller. Buyer shall have the right to view the property within 24 hours prior to closing for the purpose of determining that the premises are in substantially the same condition as on the date of this Agreement.

9. PRORATIONS: The following items, where applicable, shall be prorated as of the date of closing: rent, association fees, (other) **n/a**. Real estate taxes shall be prorated as of the date of closing (based on municipality's fiscal year). Seller is responsible for any unpaid taxes for prior years. If the amount of said taxes is not known at the time of closing, they shall be apportioned on the basis of the taxes assessed for the preceding year with a reapportionment as soon as the new tax rate and valuation can be ascertained, which latter provision shall survive closing. Buyer and Seller will each pay their transfer tax as required by State of Maine.

10. DUE DILIGENCE: Buyer is encouraged to seek information from professionals regarding any specific issue or concern. Neither Seller nor Licensee makes any warranties regarding the condition, permitted use or value of Sellers' real property. This Agreement is subject to the following contingencies, with results being satisfactory to Buyer:

CONTINGENCY	YES	NO	FULL RESOLUTION	OBTAINED BY	TO BE PAID FOR BY
1. SURVEY Purpose: **Property Lines and Topography**	X		within **400** days	**Buyer**	**Buyer**
2. SOILS TEST Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**
3. SEPTIC SYSTEM DESIGN Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**
4. LOCAL PERMITS Purpose: **Solar Permits**	X		within **400** days	**Buyer**	**Buyer**
5. HAZARDOUS WASTE REPORTS Purpose: **If needed for Solar**	X		within **400** days	**Buyer**	**Buyer**
6. UTILITIES Purpose: **CMP Interconnection Agreement**	X		within **400** days	**Buyer**	**Buyer**
7. WATER Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**
8. SUB-DIVISION APPROVAL Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**
9. DEP/LUPC/ACOE APPROVALS Purpose: **If needed for Solar**	X		within **400** days	**Buyer**	**Buyer**
10. ZONING VARIANCE Purpose: **If needed for Solar**	X		within **400** days	**Buyer**	**Buyer**
11. HABITAT REVIEW/ WATERFOWL Purpose: **If needed for Solar**	X		within **400** days	**Buyer**	**Buyer**
12. REGISTERED FARMLAND Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**
13. MDOT DRIVEWAY/ ENTRANCE PERMIT Purpose: **If needed for Solar**	X		within **400** days	**Buyer**	**Buyer**
14. DEED RESTRICTION Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**
15. TAX STATUS* Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**
16. BUILD PACKAGE Purpose: **For Solar Project**	X		within **400** days	**Buyer**	**Buyer**
17. OTHER Purpose: **n/a**		X	within **n/a** days	**n/a**	**n/a**

* If the land is enrolled in the Maine Tree Growth Tax program, Seller agrees to provide Buyer with the current Forest Management and Harvest Plan within **14** days. [X] Yes [ ] No

Further specifications regarding any of the above: **See other conditions. Tree Growth notation is only if necessary.**

Unless otherwise specified above, all of the above will be obtained and paid for by Buyer. Seller agrees to cooperate with Buyer and shall give Buyer and Buyer's agents and consultants reasonable access to the property in order to undertake the above investigations. Buyer agrees to take reasonable steps to return the property to its pre-inspection condition. If the result of any investigation or other condition specified herein is unsatisfactory to Buyer in Buyer's sole discretion, Buyer will declare the Agreement null and void by notifying Seller in writing within the specified number of days, and any earnest money shall be returned to Buyer. If the result of any investigation or other condition specified herein is unsatisfactory to Buyer, and Buyer wishes to pursue remedies other than voiding the Agreement, Buyer must do so to full resolution within the time period set forth above; otherwise this contingency is waived. If Buyer does not notify Seller that an investigation is unsatisfactory within the time period set forth above, or if any investigation under this paragraph is not performed or completed during the period specified in this paragraph, this contingency and the right to conduct an investigation are waived by Buyer. In the absence of inspection(s) mentioned above, Buyer is relying completely upon Buyer's own opinion as to the condition of the property.

11. FINANCING: Buyer's obligation to close:

Not Subject to Financing

☐ is not subject to a financing contingency. Buyer has provided Seller with acceptable proof of the funds.

☒ is not subject to a financing contingency. Buyer shall provide proof of the funds acceptable to Seller within **3** days. If such proof is unacceptable to Seller, Seller may terminate this Agreement no later than **2** days from receipt. If proof of funds is not provided within such time period, Seller may terminate this Agreement which right shall end once such proof is received, however Seller retains the agreed upon time period to terminate if such proof is unacceptable. If Seller terminates in either case, the earnest money shall be returned to Buyer.

☐ ~~Buyer's ability to purchase ☐ is ☐ is not subject to the sale of another property. See addendum ☐ Yes ☐ No.~~

~~**Subject to Financing**~~

☐ ~~Buyer's obligation to close is subject to financing as follows:~~

~~a. Buyer's obligation to close is subject to Buyer obtaining a ________ loan of ______ % of the purchase price, at an interest rate not to exceed ______ % and amortized over a period of ______ years. Buyer is under a good faith obligation to seek and obtain financing on these terms. If such financing is not available to Buyer as of the closing date, Buyer is not obligated to close and may terminate this Agreement in which case the earnest money shall be returned to Buyer.~~

~~b. Buyer to provide Seller with letter from lender showing that Buyer has made application for loan specified in (a) and, subject to verification of information, is qualified for the loan requested within ______ days from the Effective Date of the Agreement. If Buyer fails to provide Seller with such letter within said time period, Seller may terminate this Agreement and the earnest money shall be returned to Buyer. This right to terminate ends once Buyer's letter is received.~~

~~c. Buyer hereby authorizes, instructs and directs its lender to communicate the status of the Buyer's loan application to Seller, Seller's licensee and Buyer's licensee.~~

~~d. After (b) is met, if the lender notifies Buyer that it is unable or unwilling to provide said financing, Buyer is obligated to provide Seller with written documentation of the loan denial within two days of receipt. After notifying Seller, Buyer shall have ______ days to provide Seller with a letter from another lender showing that Buyer has made application for loan specified in (a) and, subject to verification of information, is qualified for the loan requested. If Buyer fails to provide Seller with such letter within said time period, Seller may terminate this Agreement and the earnest money shall be returned to Buyer. This right to terminate ends once Buyer's letter is received.~~

~~e. Buyer agrees to pay no more than ______ points. Seller agrees to pay up to $______ toward Buyer's actual pre-paids, points and/or closing costs, but no more than allowable by Buyer's lender.~~

~~f. Buyer's ability to obtain financing ☐ is ☐ is not subject to the sale of another property. See addendum ☐ Yes ☐ No.~~

~~g. Buyer may choose to pay cash instead of obtaining financing. If so, Buyer shall notify Seller in writing including providing proof of funds and the Agreement shall no longer be subject to financing, and Seller's right to terminate pursuant to the provisions of this paragraph shall be void and Seller's obligations pursuant to 11e shall remain in full force and effect.~~

12. BROKERAGE DISCLOSURE: Buyer and Seller acknowledge they have been advised of the following relationships:

Licensee	MLS ID	Agency	MLS ID
Jake Hewett	(**020549**) of	**Vallee Harwood & Blouin Real Estate**	(**3128**)

is a ☒ Seller Agent ☐ Buyer Agent ☐ Disc Dual Agent ☐ Transaction Broker

Licensee	MLS ID	Agency	MLS ID
Peter Bettinger	(**019250**) of	**RE/MAX Riverside**	(**1874**)

is a ☐ Seller Agent ☒ Buyer Agent ☐ Disc Dual Agent ☐ Transaction Broker

If this transaction involves Disclosed Dual Agency, the Buyer and Seller acknowledge the limited fiduciary duties of the agents and hereby consent to this arrangement. In addition, the Buyer and Seller acknowledge prior receipt and signing of a Disclosed Dual Agency Consent Agreement.

13. PROPERTY DISCLOSURE FORM: Buyer acknowledges receipt of Property Disclosure Form.

14. DEFAULT/RETURN OF EARNEST MONEY: Buyer's failure to fulfill any of Buyer's obligations hereunder shall constitute a default and Seller may employ all legal and equitable remedies, including without limitation, termination of this Agreement and forfeiture by Buyer of the earnest money. Seller's failure to fulfill any of Seller's obligations hereunder shall constitute a default and Buyer may employ all legal and equitable remedies, including without limitation, termination of this Agreement and return to Buyer of the earnest money. Agency acting as escrow agent has the option to require written releases from both parties prior to disbursing the earnest money to either Buyer or Seller. In the event that the Agency is made a party to any lawsuit by virtue of acting as escrow agent, Agency shall be entitled to recover reasonable attorney's fees and costs which shall be assessed as court costs in favor of the prevailing party.

15. MEDIATION: Earnest money or other disputes within the jurisdictional limit of small claims court will be handled in that forum. All other disputes or claims arising out of or relating to this Agreement or the property addressed in this Agreement (other than requests for injunctive relief) shall be submitted to mediation in accordance with generally accepted mediation practices. Buyer and Seller are bound to mediate in good faith and to each pay half of the mediation fees. If a party fails to submit a dispute or claim to mediation prior to initiating litigation (other than requests for injunctive relief), then that party will be liable for the other party's legal fees in any subsequent litigation regarding that same matter in which the party who failed to first submit the dispute or claim to mediation loses in that subsequent litigation. This clause shall survive the closing of the transaction.

16. PRIOR STATEMENTS: Any representations, statements and agreements are not valid unless contained herein. This Agreement completely expresses the obligations of the parties and may only be amended in writing, signed by both parties.

17. HEIRS/ASSIGNS: This Agreement shall extend to and be obligatory upon heirs, personal representatives, successors, and assigns of the Seller and the assigns of the Buyer.

18. COUNTERPARTS: This Agreement may be signed on any number of identical counterparts, such as a faxed copy, with the same binding effect as if the signatures were on one instrument. Original, faxed or other electronically transmitted signatures are binding.

19. NOTICE: Any notice, communication or document delivery requirements hereunder may be satisfied by providing the required notice, communication or documentation to or from the parties or their Licensee. Only withdrawals of offers and counteroffers will be effective upon communication, verbally or in writing.

20. EFFECTIVE DATE/BUSINESS DAYS: This Agreement is a binding contract when the last party signing has caused a paper or electronic copy of the fully executed agreement to be delivered to the other party which shall be the Effective Date. Licensee is authorized to fill in the Effective Date on Page 1 hereof. Except as expressly set forth to the contrary, the use of the term "days" in this Agreement, including all addenda made a part hereof, shall mean business days defined as excluding Saturdays, Sundays and any observed Maine State/Federal holidays. Deadlines in this Agreement, including all addenda, expressed as "within x days" shall be counted from the Effective Date, unless another starting date is expressly set forth, beginning with the first day after the Effective Date, or such other established starting date, and ending at 5:00 p.m. Eastern Time on the last day counted. Unless expressly stated to the contrary, deadlines in this Agreement, including all addenda, expressed as a specific date shall end at 5:00 p.m. Eastern Time on such date.

21. CONFIDENTIALITY: Buyer and Seller authorize the disclosure of the information herein to the real estate licensees, attorneys, lenders, appraisers, inspectors, investigators and others involved in the transaction necessary for the purpose of closing this transaction. Buyer and Seller authorize the lender and/or closing agent preparing the entire closing disclosure and/or settlement statement to release a copy of the closing disclosure and/or settlement statement to the parties and their licensees prior to, at and after the closing.

22. [redacted]HER CONDITIONS: **Buyer will close w/in 30 days of receipt of all necessary permits & interconnecting agreement from CMP. $[redacted]non-refundable payment on November 1st, 2021. Payment goes towards purchase price, but is released to the seller and kept by the seller.[redacted]non-refundable payment to be paid to seller on January 15th, 2022. Payment goes towards purchase price.**

$[redacted] Non-Refundable payments that go towards the purchase price will be paid on April 15th, 2022, July 15th, 2022, October 15th, 2022 and January 15th, 2023. Payments are to be paid to the seller and kept by the seller as long as current purchase and sale is still binding.

23. GENERAL PROVISIONS:
    a. A copy of this Agreement is to be received by all parties and, by signature, receipt of a copy is hereby acknowledged. If not fully understood, contact an attorney. This is a Maine contract and shall be construed according to the laws of Maine.
    b. Seller acknowledges that State of Maine law requires buyers of property owned by non-resident sellers to withhold a prepayment of capital gains tax unless a waiver has been obtained by Seller from the State of Maine Revenue Services.
    c. Buyer and Seller acknowledge that under Maine law payment of property taxes is the legal responsibility of the person who owns the property on April 1, even if the property is sold before payment is due. If any part of the taxes is not paid when due, the lien will be filed in the name of the owner as of April 1 which could have a negative impact on their credit rating. Buyer and Seller shall agree at closing on their respective obligations regarding actual payment of taxes after closing. Buyer and Seller should make sure they understand their obligations agreed to at closing and what may happen if taxes are not paid as agreed.
    d. Buyer acknowledges that Maine law requires continuing interest in the property and any back up offers to be communicated by the listing agent to the Seller.
    e. Whenever this Agreement provides for earnest money to be returned or released, agency acting as escrow agent must comply with Maine Real Estate Commission rules which may require written notices or obtaining written releases from both parties.

24. ADDENDA: ☐ Yes ☒ No Explain: ______________________________

 Buyer(s) Initials DS TMCB ________ ________ ________ Seller(s) Initials CCH ________ ________ ________

 Norwich

25. ELECTRONIC SIGNATURES: Pursuant to the Maine Uniform Electronic Transactions Act and Digital Signature Act, the parties authorize and agree to the use of electronic signatures as a method of signing/initialing this Agreement, including all addenda. The parties hereby agree that either party may sign electronically by utilizing an electronic signature service.

Buyer's Mailing address is **15 Railroad Way, White River Junction, VT 05001** .

DocuSigned by: Troy McBride 8/30/2021

BUYER **Sunny Acres, LLC** DATE | BUYER DATE

BUYER DATE | BUYER DATE

Seller accepts the offer and agrees to deliver the above-described property at the price and upon the terms and conditions set forth and agrees to pay agency a commission for services as specified in the listing agreement.

Seller's Mailing address is ______ .

Colin C Hewett 9/3/2021

SELLER **Colin Hewett Executor of William Hewett Estate** DATE | SELLER DATE

SELLER DATE | SELLER DATE

COUNTER-OFFER

Seller agrees to sell on the terms and conditions as detailed herein with the following changes and/or conditions:

The parties acknowledge that until signed by Buyer, Seller's signature constitutes only an offer to sell on the above terms and the offer will expire unless accepted by Buyer's signature with communication of such signature to Seller by (date) ______ (time) ______ ☐ AM ☐ PM.

SELLER DATE | SELLER DATE

SELLER DATE | SELLER DATE

The Buyer hereby accepts the counter offer set forth above.

BUYER DATE | BUYER DATE

BUYER DATE | BUYER DATE

EXTENSION

The closing date of this Agreement is extended until ______ .
DATE

SELLER DATE | SELLER DATE

SELLER DATE | SELLER DATE

BUYER DATE | BUYER DATE

BUYER DATE | BUYER DATE

DocuSign Envelope ID: A6E74B91-BF6A-429B-876E-3F343F9BA60A

ADDENDUM 2 TO AGREEMENT

Addendum to contract dated **August 30, 2021**

between **Colin Hewett Executor of William Hewett Estate** (hereinafter "Seller")

and **Sunny Acres, LLC** (hereinafter "Buyer")

property located at **TBD Main Street, Readfield, ME 04355**

Closing to be extended until: Within 30 days of receiving permits and CMP Interconnection Agreement (1.3.9 Approval) or 3.31.25 - whichever is first. Buyer to notify seller once Permits and Agreement have been accepted.

[redacted]

If/When the 30-day closing notification is made because the Buyer has received permits and CMP Interconnection Agreement - [redacted]

Parties acknowledge Agency's advice to seek legal, tax and other professional advice as necessary in connection with sale/purchase of property.

DocuSigned by: Troy McBride 39BA2540C...	1/24/2023	Colin C Hewett	2/10/2023
Buyer **Sunny Acres, LLC**	Date	Seller **Colin Hewett Executor of William Hewett Estate**	Date
Buyer	Date	Seller	Date
Buyer	Date	Seller	Date
Buyer	Date	Seller	Date

REALTOR®

EQUAL HOUSING OPPORTUNITY

LEASE OPTION AGREEMENT

THIS LEASE OPTION AGREEMENT, is entered into as of December 17th, 2021 (the "**Effective Date**"), by and between Sunny Acres, LLC, with an address of 15 Railroad Row, Suite 101, White River Junction, Vermont 05001 ("**Lessor**"), and Readfield Main Street Solar LLC, a Maine limited liability company with a principal place of business located at 14 Maine Street, Suite 305 C-1, Box 49, Brunswick, Maine 04011 ("**Lessee**").

WITNESSETH:

WHEREAS, Lessor is the owner of real property located on Main Street, Readfield, Maine 04355, (the "**Property**") with latitude 44.356045 N and longitude -69.890505 W ; and

WHEREAS, Lessor desires to grant Lessee an option to lease approximately +/- 80.10 acre, more or less of the Property (the "**Leased Premises**") for the construction and operation of a solar electric generating system (the "**System**"); and

WHEREAS, the parties have agreed that Lessee is granted an option to lease said Leased Premises from Lessor; and

WHEREAS, the parties wish to reduce their agreement to writing.

NOW THEREFORE, in consideration of [redacted] and other good and valuable consideration and the mutual benefits accruing to each, the parties hereby covenant and agree as follows:

1. Lessor hereby grants to Lessee the sole and exclusive right and option (the "**Option**") throughout the Option Period to lease from Lessor the Leased Premises or any portion thereof, including access thereto, for the development and operation of the System.

2. This Lease Option Agreement shall be and remain in full force for **one (1) year** from the date of execution of this Lease Option Agreement (the "**Option Period**").

3. Payments. Payments under this Lease Option Agreement shall be as follows:

Term		Payment
One-year Option Period	Payable at Signing of Lease Option Agreement	[redacted]

4. Lessor hereby warrants and represents that Lessor: (a) owns the Property in fee simple absolute; (b) has the sole and unilateral right and authority to enter into this Lease Option Agreement; (c) has and will maintain good and marketable title to the Property, free and clear of any encumbrances except those which of record appear; (d) shall not enter into any lease, option to lease, purchase and sale agreement, option to purchase, or any other similar agreement with any other developer of solar energy generating systems during the Option Period; and (e) shall notify Lessee promptly in writing after any transfer or other change in ownership of all or any part of the Property, including the name and address of the new owner.

5. Lessee shall give Lessor written notice of Lessee's election to exercise this Option and to lease the Leased Premise at the time and date specified by Lessee in such notice. The formal Solar Site Lease Agreement, which has been fully negotiated and agreed to by Lessor and Lessee, and included herein as <u>Exhibit 1 – Solar Site Lease Agreement</u>, shall be executed by both parties at that time.

6. Extension of Option Period. Prior to the conclusion of the Option Period, Lessee may request, and Lessor shall grant, a one-time extension of the Option Period for a period of not more than **one (1) year**. Lessee shall pay Lessor an extension payment of [redacted] at the time of the extension request. Lessor shall credit the extension payment to the first payment due under the Solar Site Lease Agreement. In the event that Lessee does not exercise this Option to enter into a Solar Site Lease Agreement, Lessor shall retain any extension payment made in accordance with this Section.

7. During the Option Period, Lessor shall permit Lessee and its authorized agents and representatives to enter upon the Property to:

a. conduct any necessary surveys, studies or analyses to determine the Property's suitability to host the System;

b. submit any applications for permits or licenses necessary to facilitate construction and operation of the System, including but not limited to a Certificate of Public Good; and

c. attend and participate in any public meetings or hearings regarding the System.

8. Lessee shall bear the cost of all surveys, studies, analyses, permits and licenses.

9. In the event Lessor fails to perform its obligations under this Option Agreement for any reason other than Lessee's breach, Lessee may pursue all remedies available at law and in equity.

10. The parties shall execute any and all other documents and take all actions necessary to effectuate the intent of this Lease Option Agreement.

11. This Option shall be binding upon the parties hereto and the respective heirs, successors and assigns of each.

[signatures appear on following page]

IN WITNESS WHEREOF, the parties have executed this Lease Option Agreement on the day and year first above written.

LESSOR

Sunny Acres, LLC, a Vermont member-managed limited liability company

By: Norwich Technologies, Inc., its Member

By: ____________________
Its duly authorized officer

STATE OF VERMONT
COUNTY OF Windsor.

On this 17th date of December, 2021 personally appeared Troy McBride who executed the foregoing instrument, and acknowledged that this instrument, signed by him/her/them, to be his/her/their free act and deed.

Before me,

Gregg Freeman
Notary Public, State of Vermont
My Commission Number: 157.0013307
My Commission Expires Jan 31, 2023

____
Notary Public
My commission expires: Jan. 31, 2023

LESSEE

Readfield Main Street Solar LLC, a Maine member-managed limited liability company

By: Norwich Technologies, Inc., its Member

By: ____________________
Its duly authorized officer

STATE OF MAINE
COUNTY OF Windsor.

On this 17th date of December, 2021 personally appeared Troy McBride who executed the foregoing instrument, and acknowledged that this instrument, signed by him, to be his free act and deed and the free act and deed of Readfield Main Street Solar LLC

Before me,

Gregg Freeman
Notary Public, State of Vermont
My Commission Number: 157.0013307
My Commission Expires Jan 31, 2023

____
Notary Public
My commission expires Jan. 31, 2023

READFIELD MAIN SOLAR LLC

November 29, 2022

To: Sunny Acres LLC
15 Railroad Row
Suite 101
White River Junction, VT 05001

Re: Extension of Lease Option Period

Dear Sunny Acres LLC:

Pursuant to our Lease Option Agreement, upon request by the Lessee, Lessor shall grant an extension of the Option Period. Lessee requests an extension of the Option Period to December 17, 2023. Enclosed please find the extension payment of [redacted] We look forward to the continuation of a most successful relationship.

Sincerely,

Readfield Main Solar LLC,
a Maine member-managed limited liability company

By: Norwich Technologies, Inc., its Member

DocuSigned by:

By: Troy McBride
4A258D39BA2540C...
Its duly authorized officer

ATTACHMENT E: STORMWATER MANAGEMENT REPORT

Stormwater Management Report

Readfield Main Street Solar, LLC
Proposed Solar Project
Readfield, Maine

Submitted on behalf of:

Prepared by:

Krebs and Lansing Consulting Engineers, Inc.
Ian Jewkes, P.E. ME #17165
164 Main Street, Suite 201
Colchester, Vermont 05446
(802) 878-0375
ian.jewkes@krebsandlansing.com

August 03, 2023

Section 1.0 – Introduction

The following plan outlines anticipated inspection and maintenance procedures for the proposed erosion and sediment control measures, as well as stormwater management systems for the proposed solar project. The purpose of this plan is to detail the measures necessary to comply with the Maine Department of Environmental Conservation "Stormwater Management Rules" detailed in Chapters 500, 501, & 502 and the "Maine Stormwater Best Management Practices Manual". In addition to these requirements there are requirements from the Town of Readfield regulations that must be met. Section 6, item 10 of the Town of Readfield Solar Ordinance requires "a stormwater management plan, certified by a licensed Maine engineer, that demonstrates stormwater from the Solar Energy System (SES) will infiltrate into the ground beneath the SES at a rate equal to that of the infiltration rate prior to the placement of the system." Readfield Main Street Solar, LLC is proposing a 0.975 MW AC solar energy facility. This project site is located on the southern side of Main Street east of Carleton Pond and west of Case Cemetery.

The project will include the following activities:

- Temporary Sediment and Erosion Control
- Construction Entrance
- Construction of new gravel drives and turnarounds for project access including sections of pervious gravel
- Temporary construction staging areas
- Installation of solar modules and racking support system
- Installation of buried and above ground electric cables and conduits
- Installation of electrical equipment, transformer and associated concrete pads
- Installation of project fencing
- Removal of temporary erosion control measures after construction is complete and a fully vegetated condition has been achieved

The total project limit of disturbance is 17.51 acres. The fenced area enclosing the solar facility encompasses an area of 9.59 acres. The total impervious area created by the project is 10,875 square feet (0.25 acres). Please note the Maine DEP only considers the solar module racking post footprint to be impervious, not the solar modules. See 06-096 Chapter 500 Section 3(L).

Section 2.0 – Hydrologic Modeling

The pre- and post-development site conditions were modeled using the HydroCAD modeling program, version 10. This program was developed in accordance with the methodology published by the USDA Soil Conservation Service TR-55 document. Precipitation data used in the analysis from Maine Chapter 500 (Appendix H, Kennebec County), is shown in the table below.

Recurrence Interval	Type III, 24-hour storm depth
2-year storm	2.80 inches
10-year storm	4.20 inches
25-year storm	5.20 inches
50-year storm	6.10 inches

Section 3.0 – Description of Analysis Points

The watershed model developed analyzed the discharge of runoff from the project site at six Analysis Points downstream of the proposed development. The selected analysis points are defined below and can be found on Sheets C-3.0 and C-3.1. Grading and minor earthwork are proposed at the new turn around and transformer locations. There is one section of pervious gravel road proposed in the watershed draining to analysis point SN004. The analysis points, watershed boundaries, and total area assessed for pre- and post- development remain the same, allowing us to compare the values.

Analysis Point #1 (SN001)
Location: Latitude: N44° 21' 23.08"
Longitude: W69° 53' 50.46"

Pre-Development Drainage Area: 11.70 acres
Post-Development Drainage Area: 11.70 acres

Analysis Point #2 (SN002)
Location: Latitude: N44° 20' 59.60"
Longitude: W69° 53' 32.36"

Pre-Development Drainage Area: 18.01 acres
Post-Development Drainage Area: 18.01 acres

Analysis Point #3 (SN003)
Location: Latitude: N44° 20' 53.00"
Longitude: W69° 53' 20.23"

Pre-Development Drainage Area: 19.65 acres
Post-Development Drainage Area: 19.65 acres

Analysis Point #4 (SN004)

Location: Latitude: N44° 20' 59.42"
Longitude: W69° 53' 22.22"

Pre-Development Drainage Area: 20.19 acres
Post-Development Drainage Area: 20.19 acres

Analysis Point #5 (SN005)
Location: Latitude: N44° 21' 23.37"
Longitude: W69° 53' 28.67"

Pre-Development Drainage Area: 0.65 acres
Post-Development Drainage Area: 0.65 acres

Analysis Point #6 (SN006)
Location: Latitude: N44° 21' 25.17"
Longitude: W69° 53' 35.40"

Pre-Development Drainage Area: 2.49 acres
Post-Development Drainage Area: 2.49 acres

Section 4.0 – Pre-Development Site Conditions

The pre-development conditions and drainage patterns are shown on the attached Sheet C-3.0. The watershed area evaluated encompasses an area of 72.69 acres. The runoff from the eastern side of the site generally flows to the southeast. The runoff from the western side of the site generally flows to the northwest. There is a wetland and stream complex in the center of the eastern portion of the site. The existing soils in the majority of the site are Lyman-Tunbridge complex soils, hydrologic soil group (HSG) D. These are loamy supraglacial till stony soils. The remaining existing soils that make up the site are also in HSG D, including Paxton-Charlton and Woodbridge fine sandy loams.

The pre-development peak flow rates were evaluated for storms ranging from the 2-year, 10-year, 25-year, and 50-year 24-hour storm events. Below are the peak flow values for the 2-year, 10-year, 25-year storms.

Pre-Development Peak Flows (cfs)				
Analysis Point	2-year	10-year	25-year	50-year
SN001	3.87	8.59	12.31	15.78
SN002	6.59	14.24	20.19	25.71
SN003	6.18	13.69	19.59	25.08
SN004	7.80	16.86	23.91	30.45

SN005	0.35	0.76	1.07	1.36
SN006	1.56	3.34	4.73	6.02

Section 5.0 – Post-Development Site Conditions

The post-development conditions and drainage patterns are shown on the attached Sheet C-3.1. The proposed project is a 0.975 MW-AC solar energy facility. The project will include pervious and impervious roadways, equipment pads, posts to support solar racking and perimeter fences, and 8 new power poles. The new roadways, equipment pads and posts, and power poles will be the infrastructure which generates the proposed impervious surface on site. The total new impervious area proposed is 10,875 square feet (0.25 acres). There is a 10,922 square foot (0.25 acre) section of pervious project road through the northern central portion of the project.

The array field itself will be made up of fixed mount solar panels. The panels sit on supports which are held above the ground on steel I-beam posts similar to those supporting roadside guardrails. These posts have very small cross-sectional areas which contribute minimally to the total impervious area.

The post-development peak flow rates were evaluated for storms ranging from the 2-year, 10-year, 25-year, and 50-year 24-hour storm events.

Post-Development Peak Flows (cfs)				
Analysis Point	2-year	10-year	25-year	50-year
SN001	3.87	8.59	12.31	15.78
SN002	6.59	14.24	20.19	25.71
SN003	6.14	13.58	19.45	24.9.
SN004	7.34	16.31	23.34	29.90
SN005	0.35	0.76	1.07	1.36
SN006	1.56	3.34	4.73	6.02

Section 6.0 – Water Quality Analysis Summary

The post development meadow condition, being mowed once or at the most twice a year, has similar runoff characteristics to the pre-development partially wooded areas. Rounding to a nominal ½ cubic foot per second, the post-development peak runoff flows do not increase at any of the six analysis points for the 2-, 10-, 25- & 50-year storm events. It is our opinion that this meets the intent of the flooding standard and the Readfield solar ordinance guidelines. Please note that this project is not subject to Site Law jurisdiction and the new impervious area of 0.25 acres is well below the 3-acre threshold. The impervious area proposed is treated via flow over vegetated areas. The project is not located in a drainage area for which the Phosphorus Standard or the Urban Impaired Standard applies, 06-096 Chapter 502.

Based on this analysis it is our conclusion that the project as designed meets the Basic Standards detailed in Chapter 500 and the Town of Readfield Solar Ordinance.

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

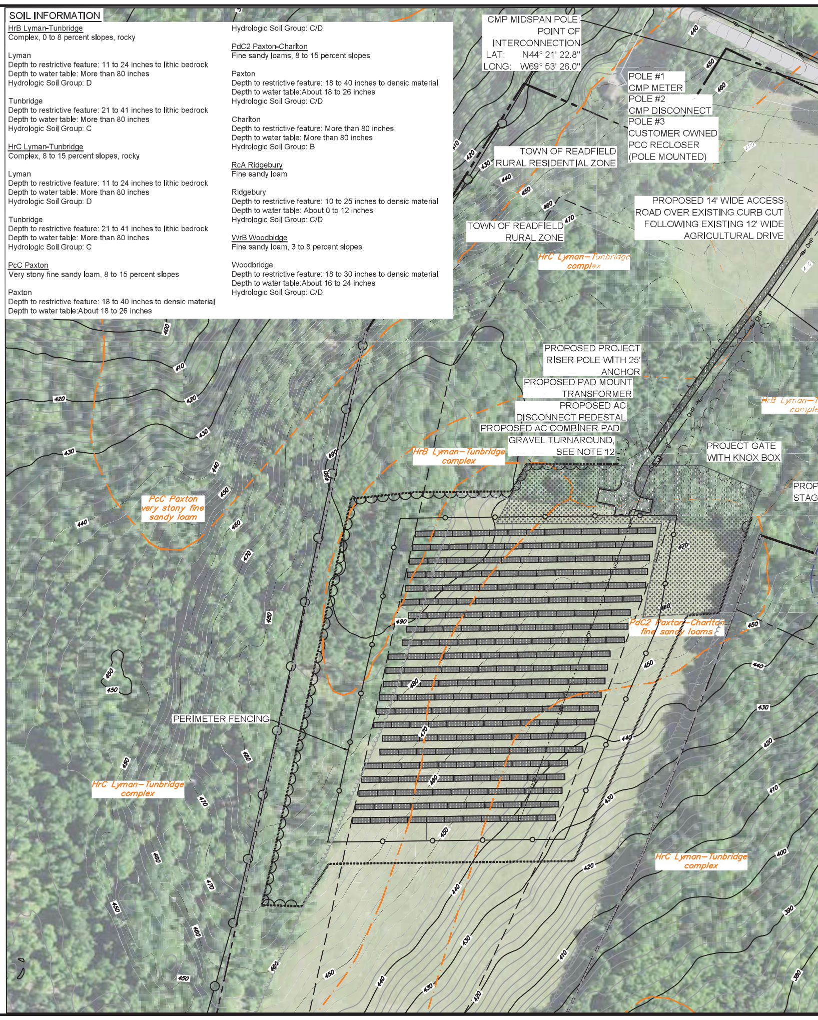
NORWICH SOLAR
Brunswick, Maine

Stantec

KRESBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446

horizons Engineering
NEWPORT VT • LITTLETON NH • NEW LONDON NH
POMFRET VT • KENNEBUNK ME • CONWAY NH

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION



SOIL INFORMATION

HrB Lyman-Tunbridge
Complex, 0 to 8 percent slopes, rocky

Lyman
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: D

Tunbridge
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: C

HrC Lyman-Tunbridge
Complex, 8 to 15 percent slopes, rocky

Lyman
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: D

Tunbridge
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: C

PcC Paxton
Very stony fine sandy loam, 8 to 15 percent slopes

Paxton
Depth to restrictive feature: 18 to 40 inches to densic material
Depth to water table:About 18 to 26 inches
Hydrologic Soil Group: C/D

PdC2 Paxton-Charlton
Fine sandy loams, 8 to 15 percent slopes

Paxton
Depth to restrictive feature: 18 to 40 inches to densic material
Depth to water table:About 18 to 26 inches
Hydrologic Soil Group: C/D

Charlton
Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Hydrologic Soil Group: B

RcA Ridgebury
Fine sandy loam

Ridgebury
Depth to restrictive feature: 10 to 25 inches to densic material
Depth to water table: About 0 to 12 inches
Hydrologic Soil Group: C/D

WrB Woodbidge
Fine sandy loam, 3 to 8 percent slopes

Woodbridge
Depth to restrictive feature: 18 to 30 inches to densic material
Depth to water table:About 16 to 24 inches
Hydrologic Soil Group: C/D

NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
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7. TOTAL LIMIT OF DISTURBANCE: 762,596± S.F. = 17.51 AC
8. TOTAL PERMANENT IMPERVIOUS COVERAGE: 10,875± S.F. = 0.25 AC

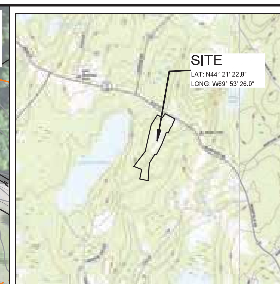
   POSTS FROM PANEL RACKING AND FENCING = 76± S.F. = 0.0018 AC

   GRAVEL ACCESS DRIVE = 10,249± S.F. = 0.24 AC

   EQUIPMENT PADS = 550± S.F. = 0.013 AC
9. DIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (TRENCHING, POSTS FROM PANEL RACKING AND FENCING, GRUBBING, AND STUMPING)

   INDIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (VEGETATION CLEARING AND SHADING)

   TOTAL WETLAND IMPACTS: 0.0± S.F. = 0.0 AC
10. PROJECT PROPERTY LINES SURVEYED BY HORIZONS ENGINEERING. BOUNDARY SURVEY PROVIDED BY HORIZONS ENGINEERING. PLEASE SEE "NORWICH SOLAR TECHNOLOGIES, INC. MAIN STREET/MAINE ROUTE 17 BOUNDARY, TOPOGRAPHIC & EXISTING CONDITIONS SURVEY" PROJECT #S-21314 DATED 09/14/22.
11. PROJECT PROPERTY = 71.93± AC
12. THE TURNAROUND HAS THE MINIMUM DIMENSIONS DESCRIBED IN THE TOWN OF READFIELD, MAINE LAND USE ORDINANCE DATED JUNE 14, 2022.



LOCATION MAP
SCALE: 1" = 1/2 Mile

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- ABUTTING PROPERTY LINES, HORIZONS ENGINEERING, INC.
- SURVEYED PROPERTY LINE, HORIZONS ENGINEERING, INC.
- 200' PROPERTY LINE SETBACKS TO SOLAR PANELS
- EXISTING GRADE CONTOUR LINES (2 FOOT INTERVALS)
- EXISTING GRADE CONTOUR LINES (10 FOOT INTERVALS)
- EXISTING OVERHEAD POWER
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- PROPOSED UNDERGROUND POWER
- PROPOSED OVERHEAD POWER
- PROPOSED POWER POLE ANCHOR
- PROPOSED EQUIPMENT PAD
- PROPOSED SOLAR PANELS
- DELINEATED WETLAND
- WETLAND IMPACT AREA
- MAPPED SOIL BOUNDARY (NRCS)
- EXISTING TREELINE
- PROPOSED TREELINE
- PROJECT LIMIT OF DISTURBANCE WITH PERIMETER CONTROLS, SEE SHEET C-2.2
- STREAM
- 75' STREAM BUFFER
- EXISTING DRIVE
- PROPOSED IMPERVIOUS GRAVEL ACCESS, SEE SHEET C-2.0
- PROPOSED PERVIOUS GRAVEL ACCESS, SEE SHEET C-2.0
- PROPOSED TEMPORARY STAGING AREA
- EXISTING FENCE
- EXISTING TRAIL
- EXISTING STONEWALL

"APPROVED BY TOWN OF READFIELD PLANNING BOARD"

NAME:	DATE:
1.	
2.	
3.	
4.	
5.	
6.	
7.	

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Stantec
30 Park Drive
Topsham, Maine 04086

Electrical:
Norwich Solar
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072

0' 150' 300' 450'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 150')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

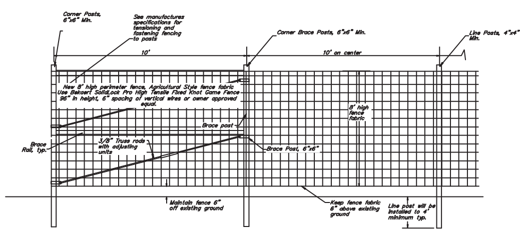
STATE OF MAINE
IAN A. JEWKES
NO. 17765
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

SITE PLAN
READFIELD MAIN
STREET SOLAR, LLC

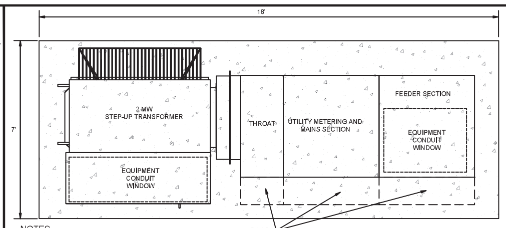
DATE of Issue: 07/31/23
Drawn by: LJM Checked by: IAJ
Project No.: 22124 Scale: 1" = 150'
Drawing No.: C-1.0 Rev No.:



Note:
- Agricultural style fence requires strong corner brace post assemblies, see Bekaert for additional specifications
- Additional bracing may be required on longer fence runs. Contractor to add additional bracing when contractor observes corner post deflection during fence tensioning/fastening.
- Fabric to be fastened with manufacturer approved corrosion resistant staples
- Fabric to be Bekaert SolidLock Pro High Tensile Fixed Knot Game Fence. Height: 96". Vertical Spacing of Wires: 6" or owner approved equal

TYPICAL AGRICULTURAL FENCE

N.T.S.

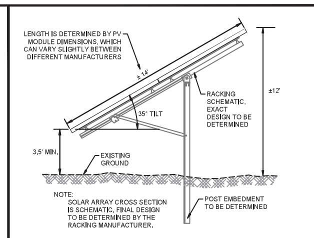


NOTES

1. SLAB LAYOUT TO BE REVIEWED AND CERTIFIED BY ELECTRICAL ENGINEER PRIOR TO INSTALLATION.
2. CONTRACTOR TO VERIFY LOCATIONS OF REBAR IN SLAB AND REDUCE CONFLICTS WITH DRILL LOCATIONS FOR EQUIPMENT SUPPORTS.
3. NO CONCRETE WINDOWS ARE PROPOSED FOR THIS SLAB. CONDUIT WILL BE INSTALLED PRIOR TO POURING CONCRETE. STUB CONDUIT UP THROUGH THE PREPARED SLAB IN THE EQUIPMENT WINDOW LOCATIONS SHOWN AND POUR CONCRETE AROUND STUBBED CONDUIT.

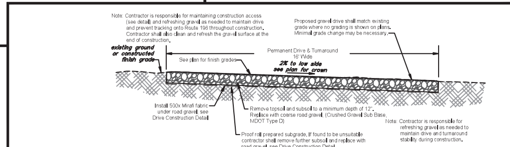
CONCRETE SLAB LAYOUT

N.T.S.



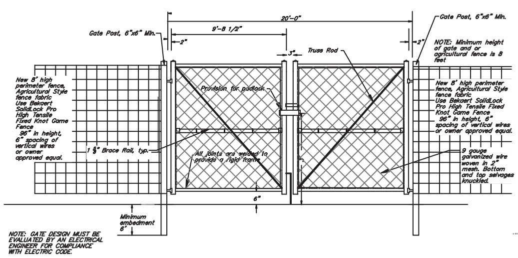
TYPICAL SOLAR ARRAY CROSS SECTION (RENDERING)

N.T.S.



PERMANENT ACCESS DRIVE CROSS SECTION

N.T.S.



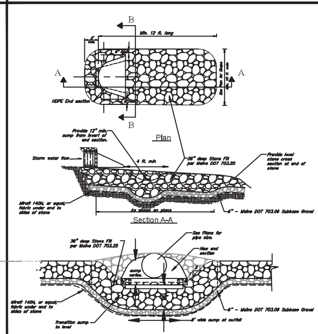
NOTE: GATE DESIGN MUST BE EVALUATED BY AN ELECTRICAL ENGINEER FOR COMPLIANCE WITH ELECTRIC CODE.

Contractor to supply shop drawing of swing gate. Movable portion of gate will be evaluated for durability, reliability, ease of operation by Owner.

PERMANENT SWING GATE

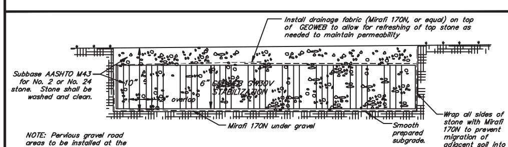
N.T.S.

Provide Knox Box for emergency access, coordinate location and type with fire department.



Typical Rip Rap Outfall and Energy Dissipation Pad Detail

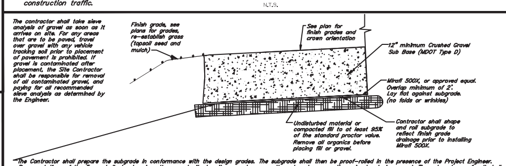
N.T.S.



NOTE: Pervious gravel road areas to be installed at the end of construction to avoid contamination by construction traffic.

PERVIOUS GRAVEL ROAD DETAIL

N.T.S.

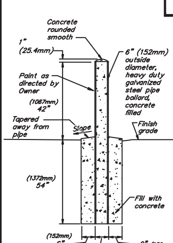


The Contractor shall prepare the subgrade in conformance with the design grades. The subgrade shall then be proof-rolled in the presence of the Project Engineer. Representatives of the Town shall also be given the opportunity to witness and approve the subgrade preparation prior to placing gravel. The subgrade proof-roll shall be completed with a loaded tandem dump truck. Conditions may require removal of unsuitable material and placement of additional subbase. Removal of unsuitable subsoil and replacement with suitable subgrade is part of the Contractor's scope of work. The Owner must approve any work involved with the removal of unsuitable material and placement of additional subbase.

DRIVE CONSTRUCTION DETAIL N.T.S.

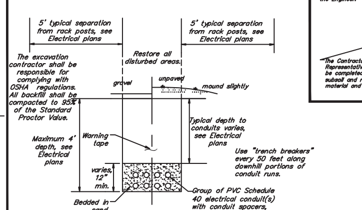
CONSTRUCTION NOTES

1. The methods and materials of construction shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by Engineer. All work shall be done in a workmanlike manner and completed in the time specified by Owner.
2. The Contractor shall be responsible for all work and materials shown and required to make the job complete. These drawings do not show every fitting or appurtenance. Materials shall be as specified on the drawings. Manufacturer's product specifications shall be submitted for all materials to the Engineer for approval prior to installation.
3. The location and size of existing underground utilities is not warranted to be exact or complete. The Contractor shall field locate all utilities and shall contact the affected utility company, the Engineer and the Town prior to making any hook ups. The Contractor shall be solely responsible for all existing utilities and their uninterrupted services. All off-site backfill, sheeting and shoring, dewatering, clearing and grubbing, erosion control, dust control, traffic control, grading, and all incidentals shall be included as part of the required work.
4. The Contractor shall verify all temporary bench marks before use.
5. The workmen and public shall be protected by the Contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flagmen. All barricades left in position overnight are to be properly lighted. Kerosene pots are not acceptable. When work narrows the usable pavement, flagmen shall be employed to aid the flow of traffic so that there will be no undue delays. The Contractor shall be held responsible for the safety of all workmen and the general public and all damages to property occurring from or upon the work occasioned by negligence or otherwise growing out of a failure on the part of the Contractor to protect persons or property from hazards of open trenches, materials, or equipment at any time of the day or night within the working area. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652.
6. The Contractor shall verify all utility intersections and contact Engineer and Owner with conflicts.
7. The Contractor shall call, Dig Safe or other approved equal underground utility identifier prior to any excavation.
8. The Contractor shall coordinate with final electrical, structural and landscaping plans.



OPTIONAL PIPE BOLLARD DETAIL

N.T.S.



TYPICAL CONDUIT TRENCH

N.T.S.

CONDUIT TRENCHING NOTES

1. The methods and materials of construction shall conform to the latest standards of Central Maine Power's Handbook of Requirements and the State of Maine. All work shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by the Owners Representative.
2. The excavation contractor shall dig the conduit trenching and assist the Electrician in placing the conduit. The conduits shall be placed with conduit spacers when more than two conduits are placed in a trench. All conduit and spacers shall be provided by the Electrical Contractor.
3. The excavation contractor shall allow sufficient time for the conduit to be inspected prior to backfilling. If any conduit is backfilled without inspection it will be the excavation contractor's responsibility to uncover the conduit for inspection and backfill the trench without charge.
4. The workers and public shall be protected by the excavation contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flaggers. All barricades left in position overnight are to be properly lighted. When work narrows the usable pavement, flaggers shall be employed to aid the flow of traffic so that there will be no undue delays. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652.
5. The excavation contractor is responsible for compacting all trench backfill to 95% of the Standard Proctor Value.
6. The excavation contractor is responsible for all conduit excavation and backfill necessary to complete the project.

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

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www.krebsandlansing.com

horizons Engineering
NEWPORT VT • LITTLETON NH • NEW LONDON NH
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MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
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164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Stantec
30 Park Drive
Topsham, Maine 04086

Electrical:
Norwich Solar
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

STANDARD DETAILS
READFIELD MAIN
STREET SOLAR, LLC

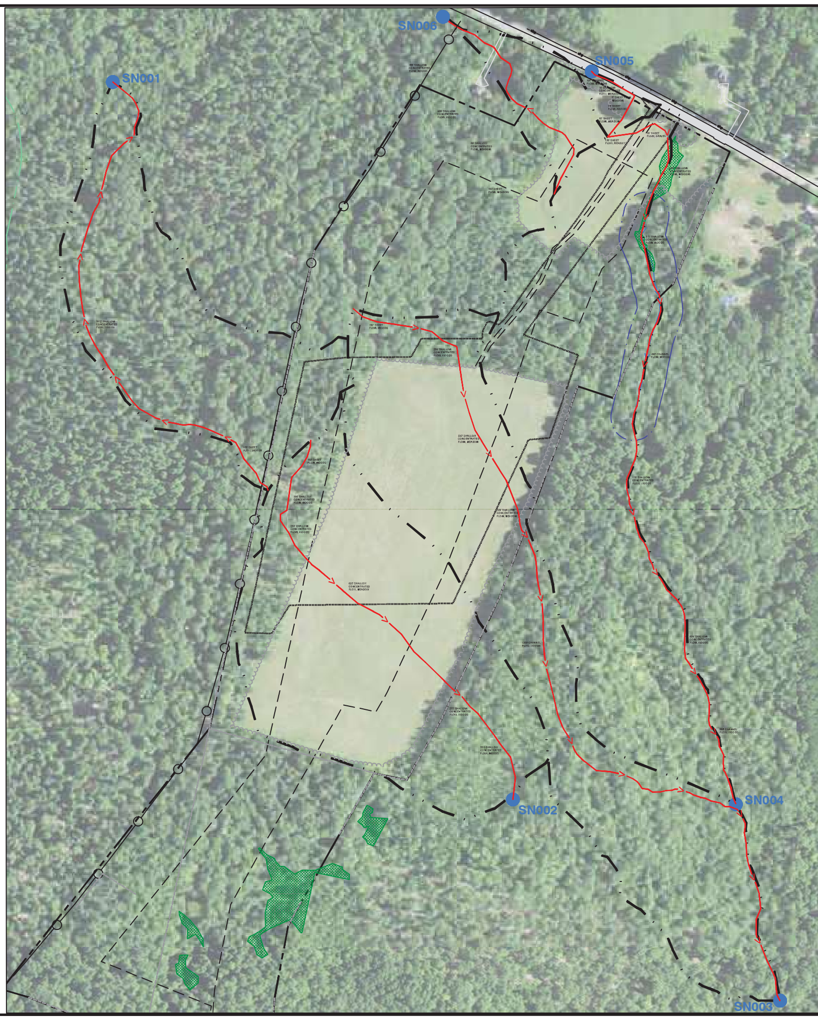
DATE of Issue: 07/31/23

Drawn by: LJM — Checked by: IAJ

Project No.: 22124 — Scale: N/A

Drawing No.: C-2.0 — Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg



LOCATION MAP
SCALE: 1" = 1/2 Mile

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LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- ABUTTING PROPERTY LINES, HORIZONS ENGINEERING, INC.
- SURVEYED PROPERTY LINE, HORIZONS ENGINEERING, INC.
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- WETLAND IMPACT AREA
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- PROJECT LIMIT OF DISTURBANCE WITH PERIMETER CONTROLS, SEE SHEET C-2.2
- STREAM
- 75' STREAM BUFFER
- EXISTING DRIVE
- PROPOSED IMPERVIOUS GRAVEL ACCESS
- PROPOSED PERVIOUS GRAVEL ACCESS
- PROPOSED TEMPORARY STAGING AREA
- EXISTING FENCE
- EXISTING TRAIL
- EXISTING STONEWALL

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

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horizons Engineering
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Surveying:
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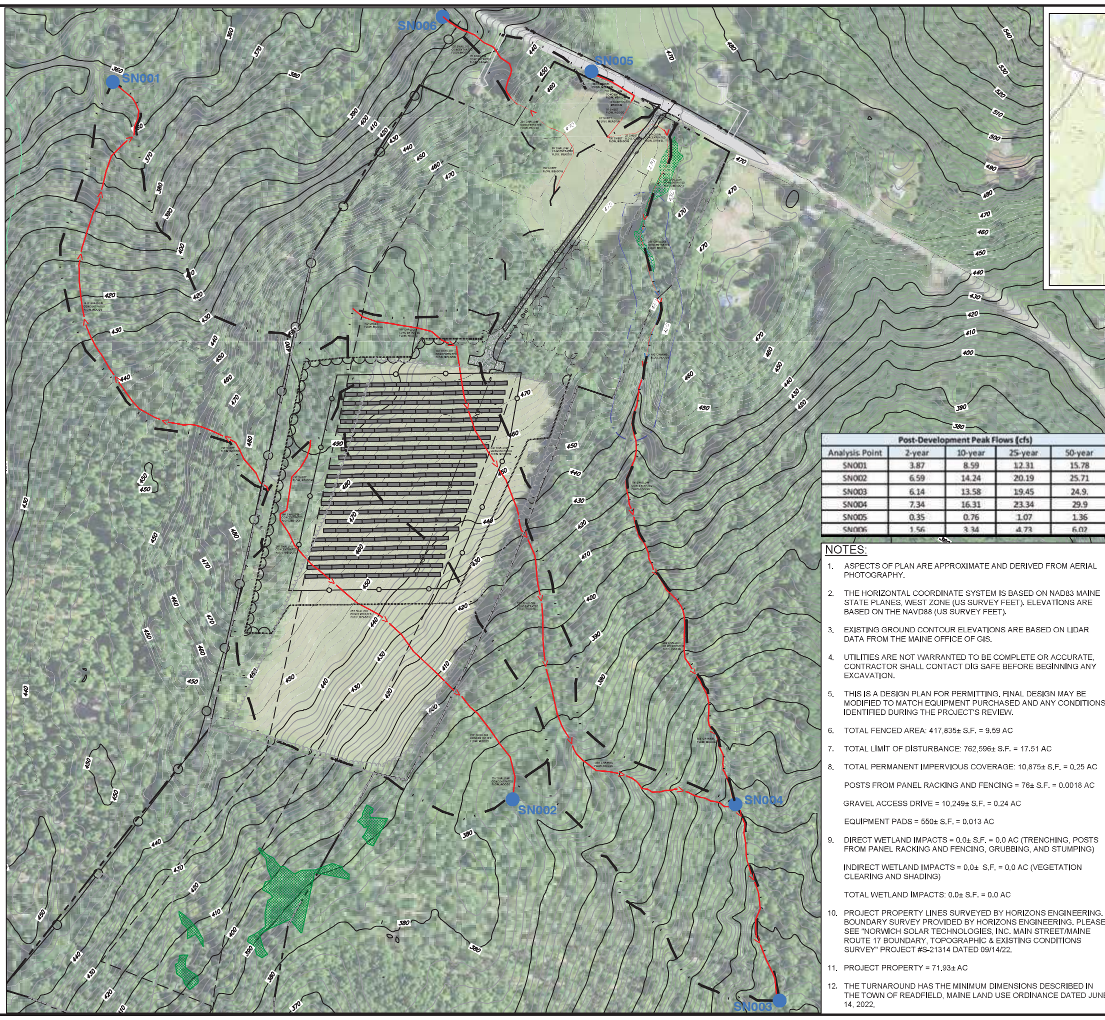
0' 150' 300' 450'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 150')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

STATE OF MAINE
IAN A. JEWKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:
PRE-DEVELOPMENT STORMWATER PLAN READFIELD MAIN STREET SOLAR, LLC

DATE of Issue: 07/31/23
Drawn by: LJM
Checked by: IAJ
Project No.: 22124
Scale: 1" = 150'
Drawing No.: C-3.0
Rev No.:



LOCATION MAP
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SN006	1.56	3.34	4.73	6.02

NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON LIDAR DATA FROM THE MAINE OFFICE OF GIS.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE, CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS A DESIGN PLAN FOR PERMITTING. FINAL DESIGN MAY BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND ANY CONDITIONS IDENTIFIED DURING THE PROJECT'S REVIEW.
6. TOTAL FENCED AREA: 417,835± S.F. = 9.59 AC
7. TOTAL LIMIT OF DISTURBANCE: 762,596± S.F. = 17.51 AC
8. TOTAL PERMANENT IMPERVIOUS COVERAGE: 10,875± S.F. = 0.25 AC

   POSTS FROM PANEL RACKING AND FENCING = 76± S.F. = 0.0018 AC

   GRAVEL ACCESS DRIVE = 10,249± S.F. = 0.24 AC

   EQUIPMENT PADS = 550± S.F. = 0.013 AC
9. DIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (TRENCHING, POSTS FROM PANEL RACKING AND FENCING, GRUBBING, AND STUMPING)

   INDIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (VEGETATION CLEARING AND SHADING)

   TOTAL WETLAND IMPACTS: 0.0± S.F. = 0.0 AC
10. PROJECT PROPERTY LINES SURVEYED BY HORIZONS ENGINEERING. BOUNDARY SURVEY PROVIDED BY HORIZONS ENGINEERING. PLEASE SEE "NORWICH SOLAR TECHNOLOGIES, INC. MAIN STREET/MAINE ROUTE 17 BOUNDARY, TOPOGRAPHIC & EXISTING CONDITIONS SURVEY" PROJECT #S-21314 DATED 09/14/22.
11. PROJECT PROPERTY = 71.93± AC
12. THE TURNAROUND HAS THE MINIMUM DIMENSIONS DESCRIBED IN THE TOWN OF READFIELD, MAINE LAND USE ORDINANCE DATED JUNE 14, 2022.

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- ABUTTING PROPERTY LINES, HORIZONS ENGINEERING, INC.
- SURVEYED PROPERTY LINE, HORIZONS ENGINEERING, INC.
- 200' PROPERTY LINE SETBACKS TO SOLAR PANELS
- EXISTING GRADE CONTOUR LINES (2 FOOT INTERVALS)
- EXISTING GRADE CONTOUR LINES (10 FOOT INTERVALS)
- EXISTING OVERHEAD POWER
- PROPOSED PERIMETER FENCE
- PROPOSED UNDERGROUND POWER
- PROPOSED OVERHEAD POWER
- PROPOSED POWER POLE ANCHOR
- PROPOSED EQUIPMENT PAD
- PROPOSED SOLAR PANELS
- DELINEATED WETLAND
- WETLAND IMPACT AREA
- MAPPED SOIL BOUNDARY (NRCS)
- EXISTING TREELINE
- PROPOSED TREELINE
- PROJECT LIMIT OF DISTURBANCE WITH PERIMETER CONTROLS, SEE SHEET C-2.2
- STREAM
- 75' STREAM BUFFER
- EXISTING DRIVE
- PROPOSED IMPERVIOUS GRAVEL ACCESS
- PROPOSED PERVIOUS GRAVEL ACCESS
- PROPOSED TEMPORARY STAGING AREA
- EXISTING FENCE
- EXISTING TRAIL
- EXISTING STONEWALL

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

horizons Engineering
NEWPORT VT • LITTLETON NH • NEW LONDON NH
POMFRET VT • KENNEBUNK ME • CONWAY NH

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Stantec
30 Park Drive
Topsham, Maine 04086

Electrical:
Norwich Solar
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072

0' 150' 300' 450'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 150')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

STATE OF MAINE
IAN A. JEWKES
NO. 17155
LICENSED
PROFESSIONAL ENGINEER

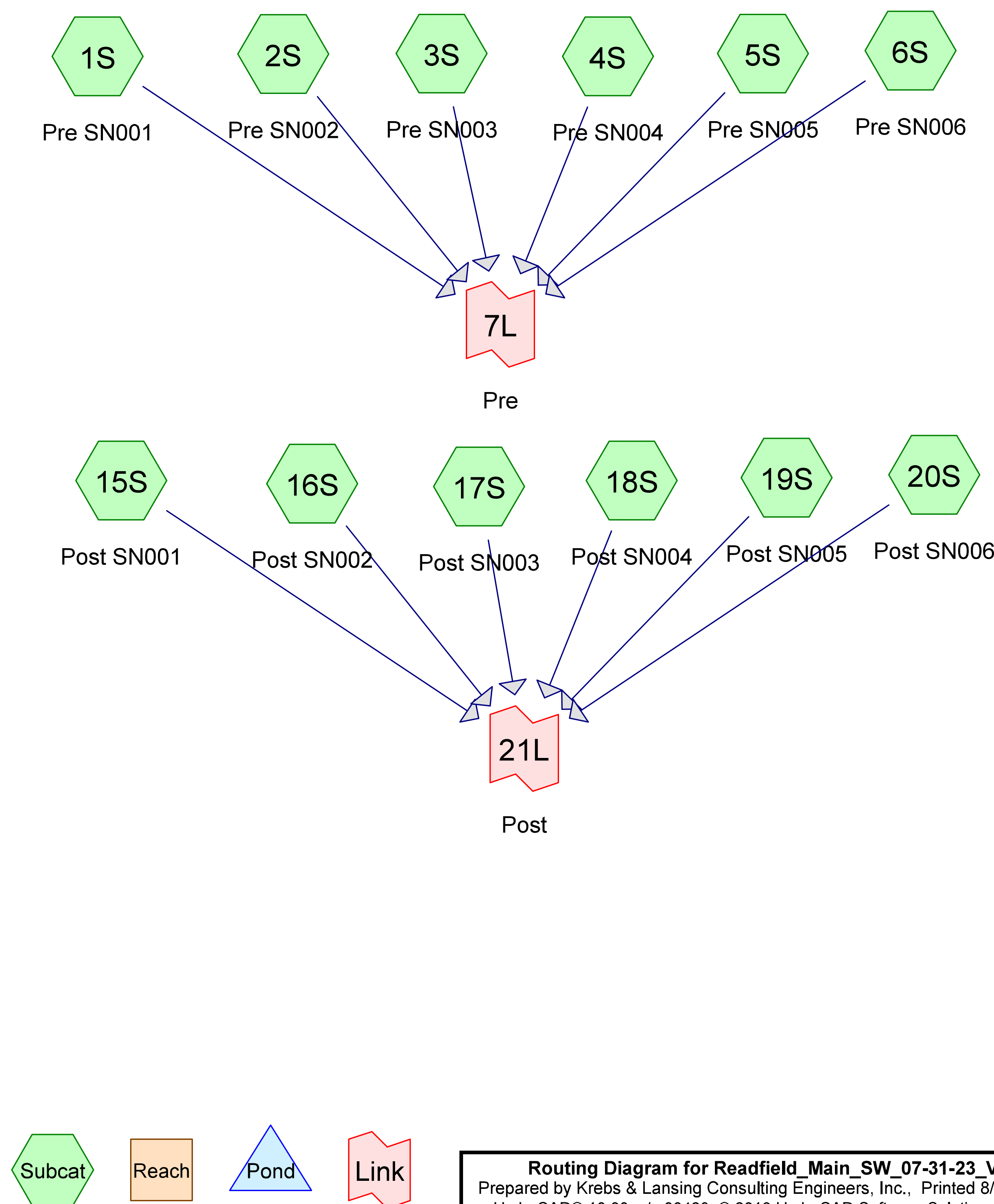
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

POST-DEVELOPMENT
STORMWATER PLAN
READFIELD MAIN
STREET SOLAR, LLC

DATE of Issue: 07/31/23
Drawn by: LJM Checked by: IAJ
Project No.: 22124 Scale: 1" = 150'
Drawing No.: C-3.1 Rev No.:



Routing Diagram for Readfield_Main_SW_07-31-23_V2
Prepared by Krebs & Lansing Consulting Engineers, Inc., Printed 8/3/2023
HydroCAD® 10.00 s/n 06429 © 2013 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
50.010	78	Meadow, non-grazed, HSG D (2S, 3S, 4S, 5S, 6S, 15S, 16S, 17S, 18S, 19S, 20S)
0.760	98	Paved parking, HSG D (3S, 4S, 5S, 6S, 16S, 17S, 18S, 19S, 20S)
94.600	77	Woods, Good, HSG D (1S, 2S, 3S, 4S, 5S, 6S, 15S, 16S, 17S, 18S, 19S, 20S)
145.369	**77**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
145.369	HSG D	1S, 2S, 3S, 4S, 5S, 6S, 15S, 16S, 17S, 18S, 19S, 20S
0.000	Other	
145.369		**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	0.000	0.000	50.010	0.000	50.010	Meadow, non-grazed	2S, 3S, 4S, 5S, 6S, 15S, 16S, 17S, 18S, 19S, 20S
0.000	0.000	0.000	0.760	0.000	0.760	Paved parking	3S, 4S, 5S, 6S, 16S, 17S, 18S, 19S, 20S
0.000	0.000	0.000	94.600	0.000	94.600	Woods, Good	1S, 2S, 3S, 4S, 5S, 6S, 15S, 16S, 17S, 18S, 19S, 20S
0.000	**0.000**	**0.000**	**145.369**	**0.000**	**145.369**	**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 1S: Pre SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>0.82"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=3.87 cfs 0.802 af

Subcatchment 2S: Pre SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>0.87"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=6.59 cfs 1.313 af

Subcatchment 3S: Pre SN003 Runoff Area=855,947 sf 0.02% Impervious Runoff Depth>0.82"
Flow Length=3,053' Tc=89.7 min CN=77 Runoff=6.18 cfs 1.342 af

Subcatchment 4S: Pre SN004 Runoff Area=879,255 sf 1.50% Impervious Runoff Depth>0.88"
Flow Length=2,580' Tc=72.6 min CN=78 Runoff=7.80 cfs 1.476 af

Subcatchment 5S: Pre SN005 Runoff Area=28,335 sf 4.35% Impervious Runoff Depth>0.89"
Flow Length=328' Tc=40.9 min CN=78 Runoff=0.35 cfs 0.048 af

Subcatchment 6S: Pre SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>0.90"
Flow Length=835' Tc=30.2 min CN=78 Runoff=1.56 cfs 0.186 af

Subcatchment 15S: Post SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>0.82"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=3.87 cfs 0.802 af

Subcatchment 16S: Post SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>0.87"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=6.59 cfs 1.313 af

Subcatchment 17S: Post SN003 Runoff Area=855,947 sf 0.14% Impervious Runoff Depth>0.82"
Flow Length=3,052' Tc=90.0 min CN=77 Runoff=6.14 cfs 1.342 af

Subcatchment 18S: Post SN004 Runoff Area=879,453 sf 1.06% Impervious Runoff Depth>0.83"
Flow Length=2,579' Tc=71.5 min CN=77 Runoff=7.34 cfs 1.393 af

Subcatchment 19S: Post SN005 Runoff Area=28,335 sf 4.90% Impervious Runoff Depth>0.89"
Flow Length=328' Tc=40.9 min CN=78 Runoff=0.35 cfs 0.048 af

Subcatchment 20S: Post SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>0.90"
Flow Length=835' Tc=30.2 min CN=78 Runoff=1.56 cfs 0.186 af

Link 7L: Pre Inflow=24.78 cfs 5.168 af
Primary=24.78 cfs 5.168 af

Link 21L: Post Inflow=24.32 cfs 5.084 af
Primary=24.32 cfs 5.084 af

Total Runoff Area = 145.369 ac Runoff Volume = 10.252 af Average Runoff Depth = 0.85"
99.48% Pervious = 144.609 ac 0.52% Impervious = 0.760 ac

Summary for Subcatchment 1S: Pre SN001

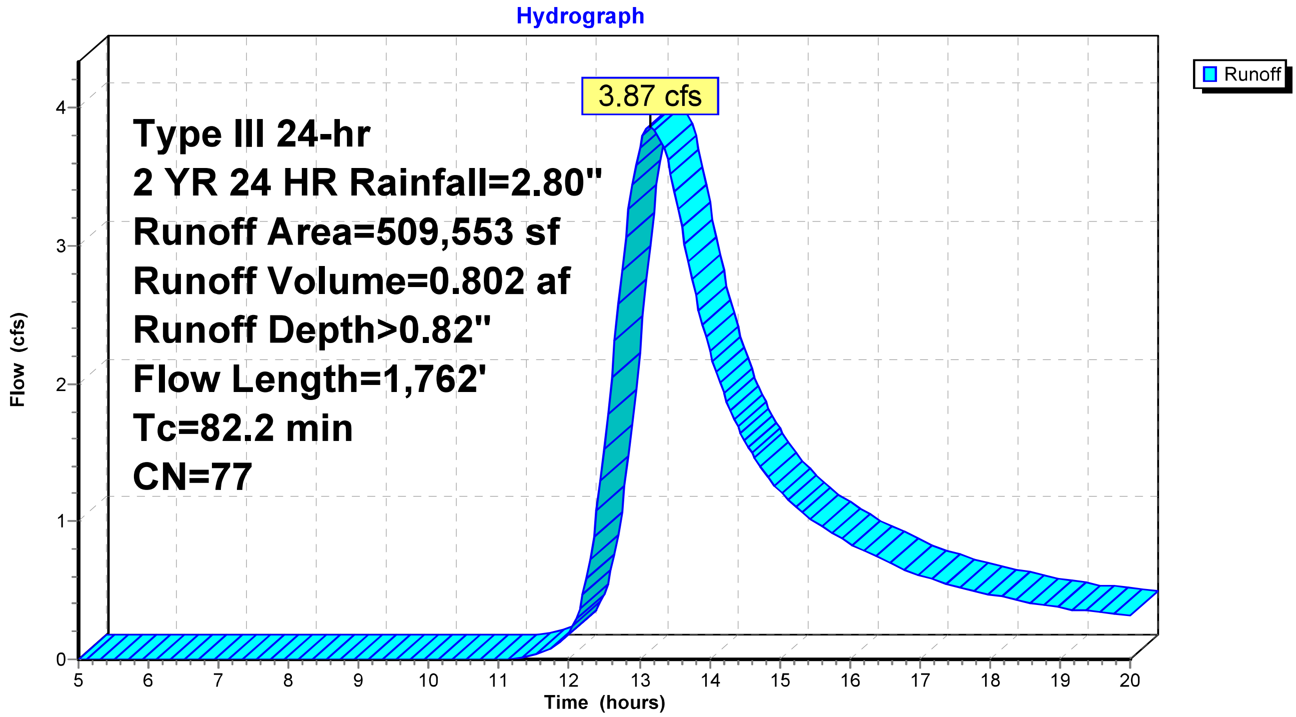
Runoff = 3.87 cfs @ 13.17 hrs, Volume= 0.802 af, Depth> 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
509,553	77	Woods, Good, HSG D
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 1S: Pre SN001



Summary for Subcatchment 2S: Pre SN002

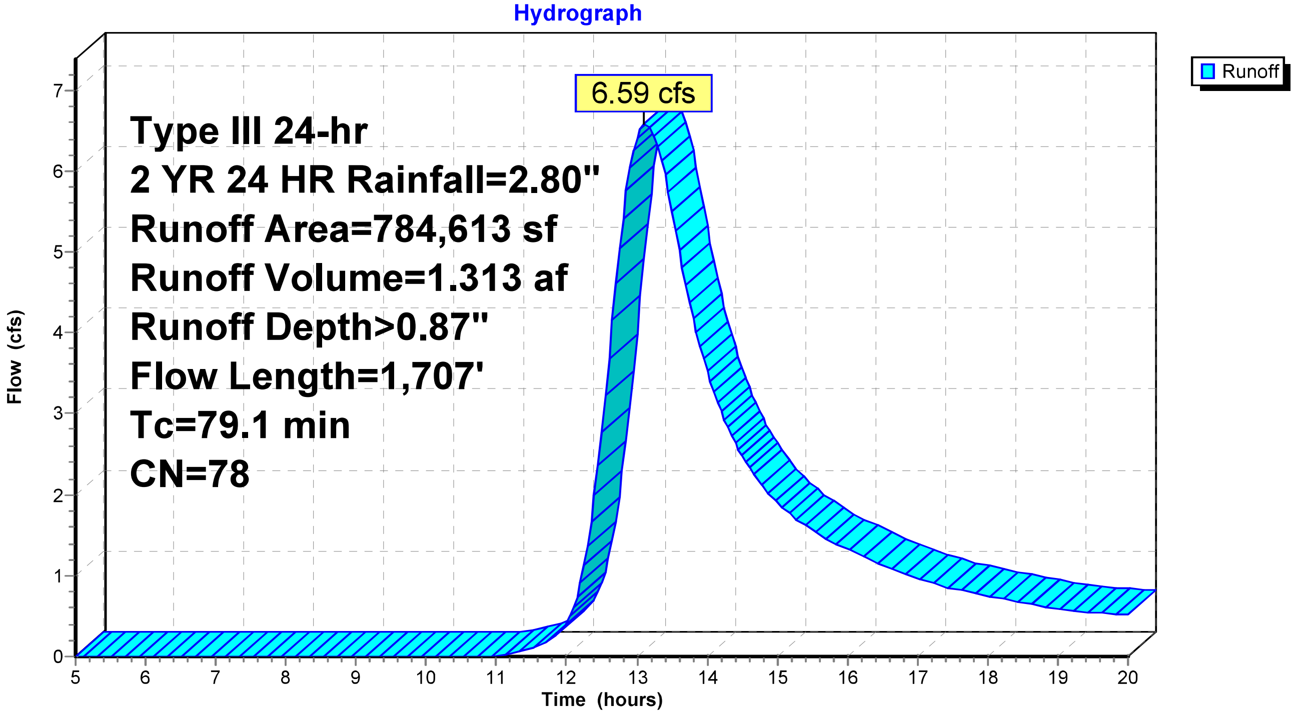
Runoff = 6.59 cfs @ 13.11 hrs, Volume= 1.313 af, Depth> 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
320,827	77	Woods, Good, HSG D
463,786	78	Meadow, non-grazed, HSG D
784,613	78	Weighted Average
784,613		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 2S: Pre SN002



Summary for Subcatchment 3S: Pre SN003

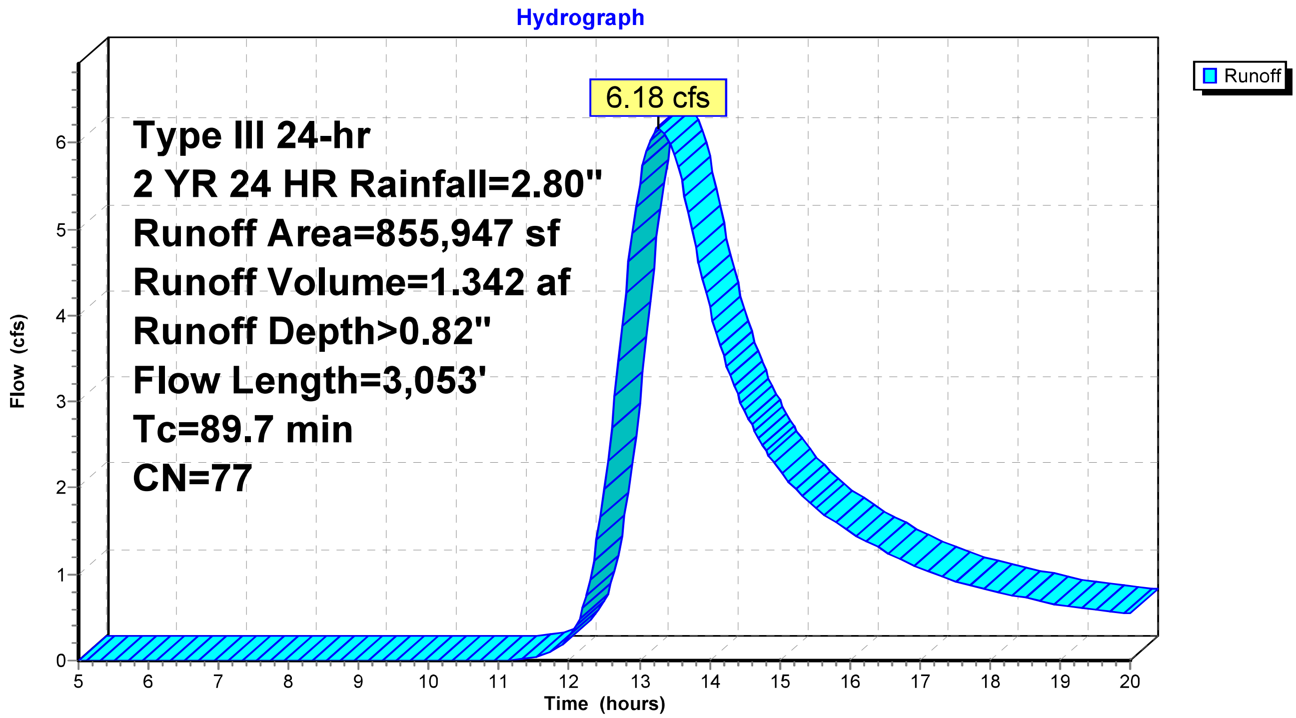
Runoff = 6.18 cfs @ 13.27 hrs, Volume= 1.342 af, Depth> 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
564,677	77	Woods, Good, HSG D
291,094	78	Meadow, non-grazed, HSG D
176	98	Paved parking, HSG D
855,947	77	Weighted Average
855,771		99.98% Pervious Area
176		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	297	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
89.7	3,053	Total			

Subcatchment 3S: Pre SN003



Summary for Subcatchment 4S: Pre SN004

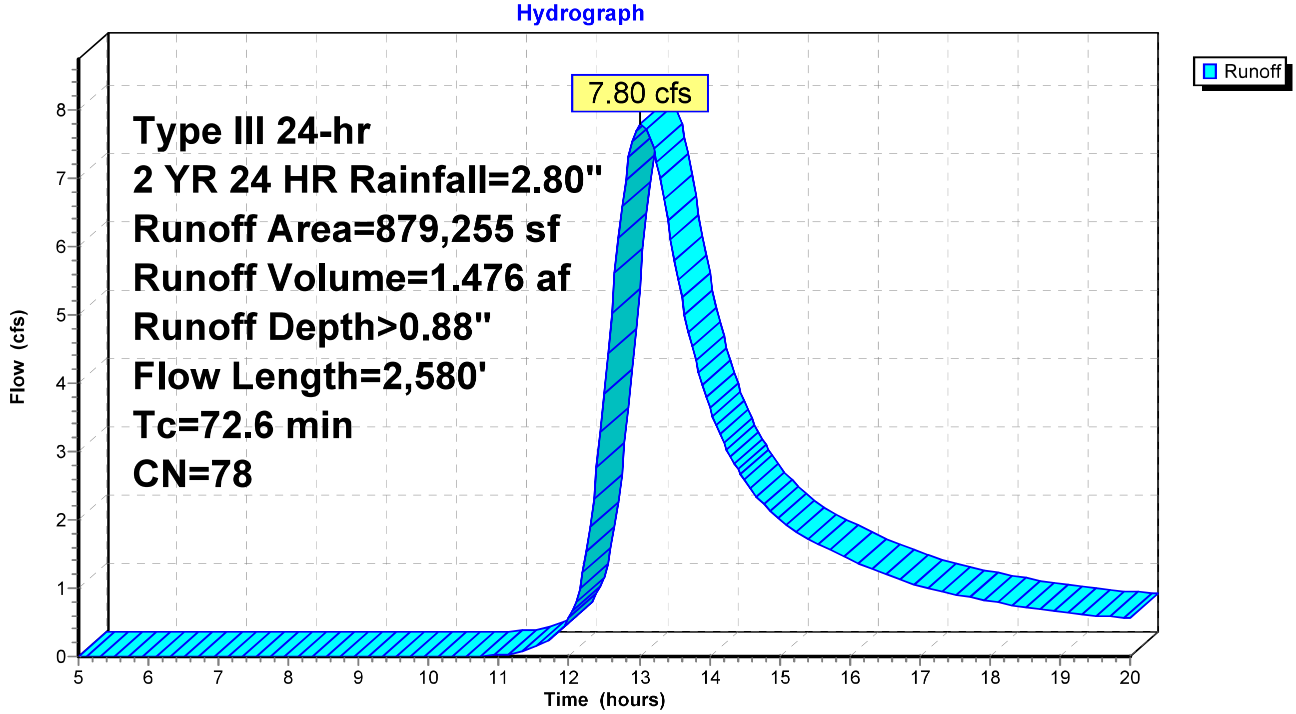
Runoff = 7.80 cfs @ 13.02 hrs, Volume= 1.476 af, Depth> 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
690,692	77	Woods, Good, HSG D
175,331	78	Meadow, non-grazed, HSG D
13,232	98	Paved parking, HSG D
879,255	78	Weighted Average
866,023		98.50% Pervious Area
13,232		1.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	135	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.3	15	0.0120	0.72		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
7.6	283	0.0078	0.62		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
72.6	2,580	Total			

Subcatchment 4S: Pre SN004



Summary for Subcatchment 5S: Pre SN005

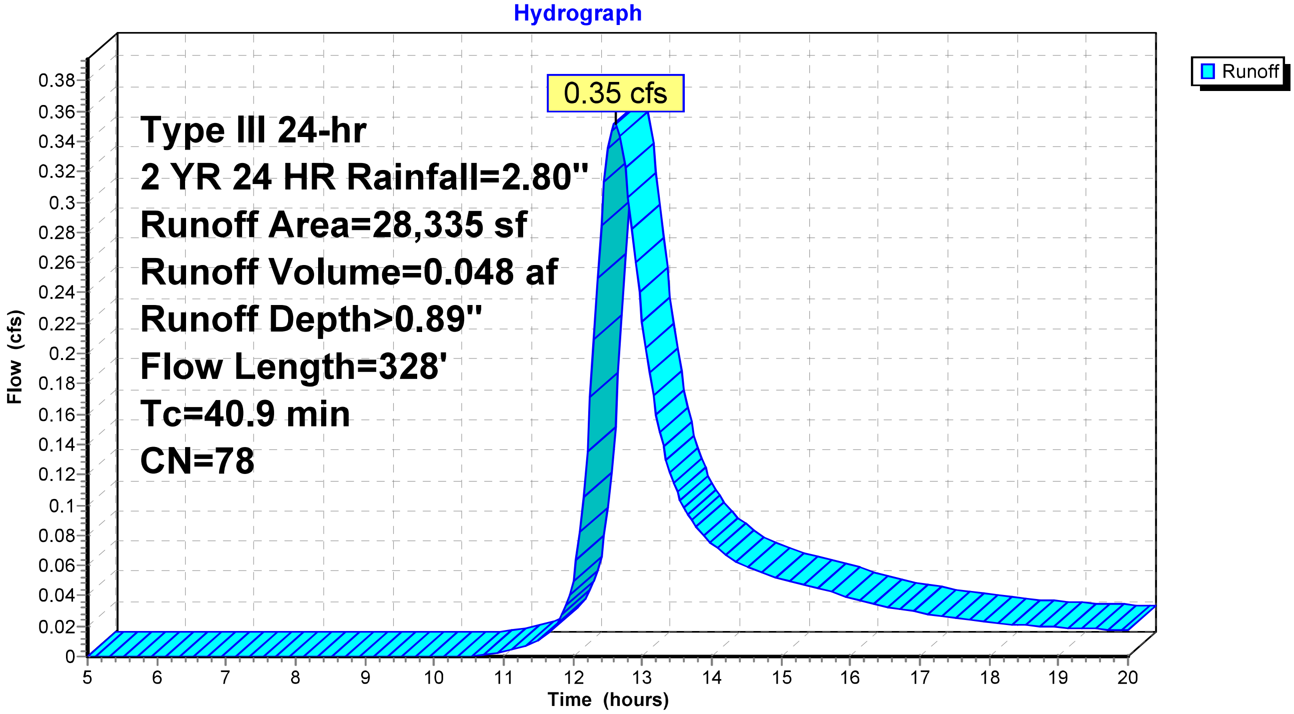
Runoff = 0.35 cfs @ 12.60 hrs, Volume= 0.048 af, Depth> 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
14,244	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,233	98	Paved parking, HSG D
28,335	78	Weighted Average
27,102		95.65% Pervious Area
1,233		4.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 5S: Pre SN005



Summary for Subcatchment 6S: Pre SN006

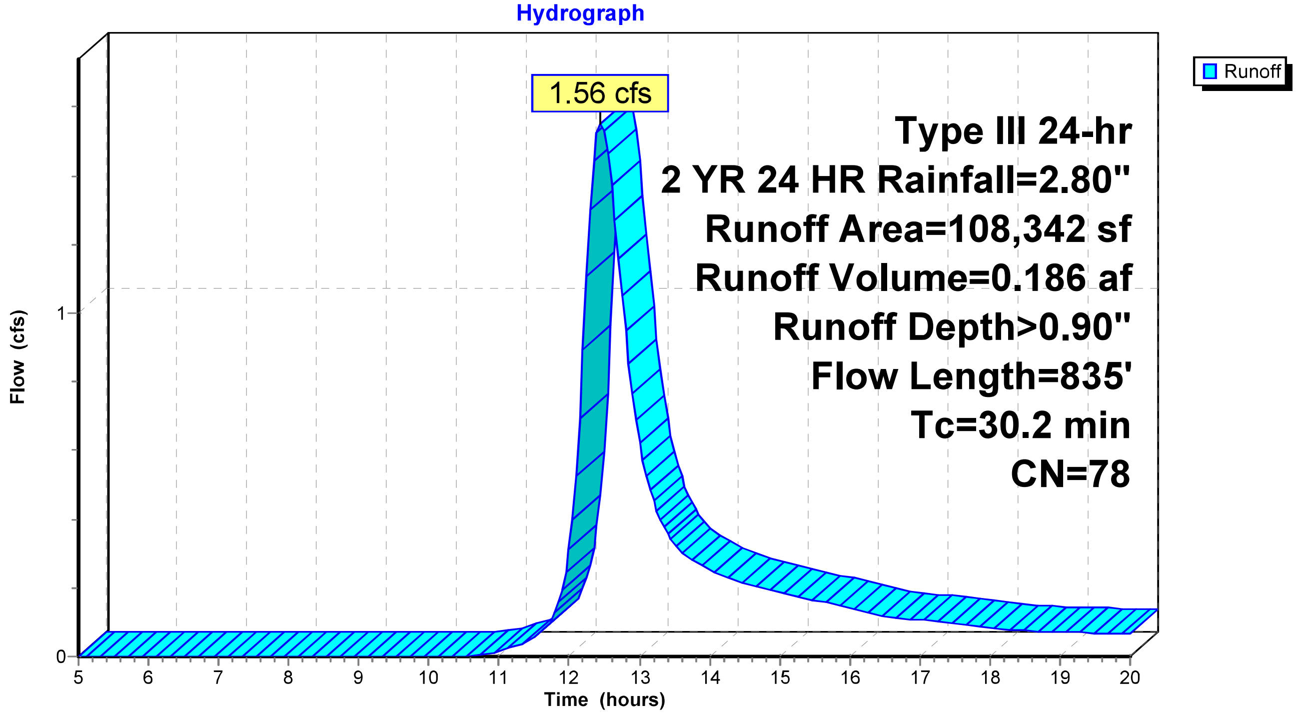
Runoff = 1.56 cfs @ 12.45 hrs, Volume= 0.186 af, Depth> 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

Subcatchment 6S: Pre SN006



Summary for Subcatchment 15S: Post SN001

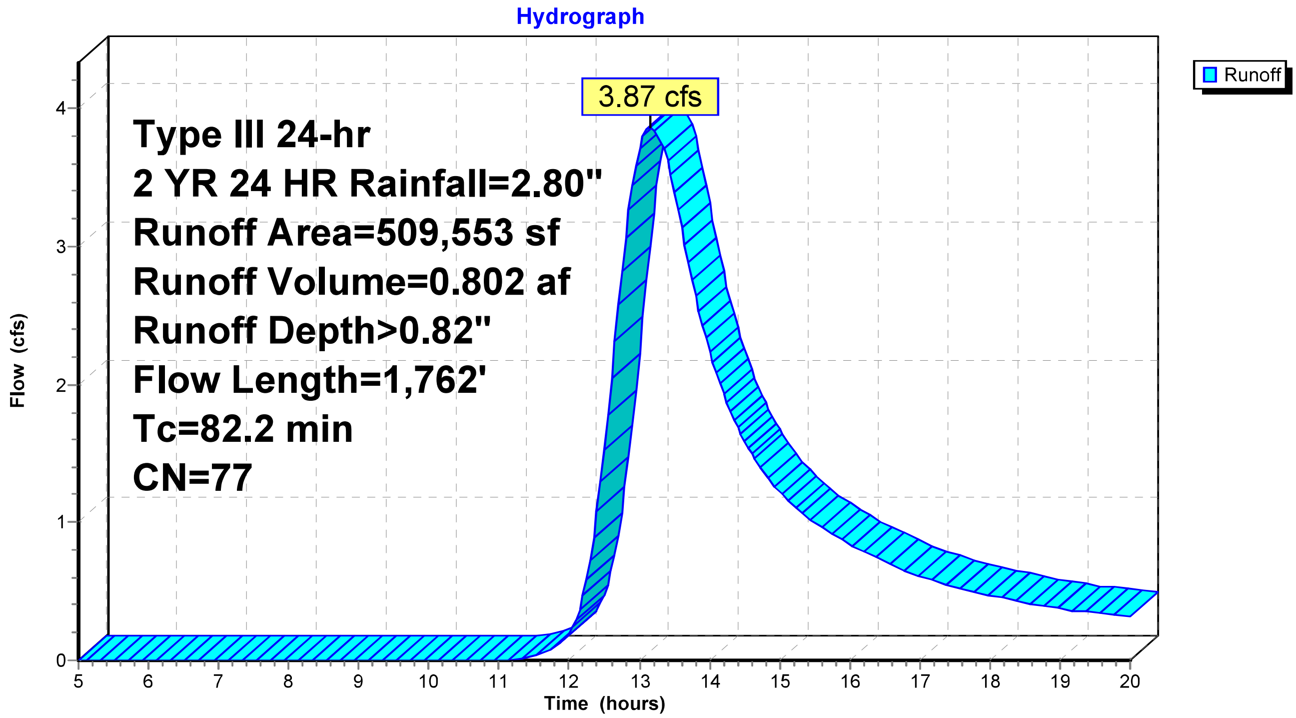
Runoff = 3.87 cfs @ 13.17 hrs, Volume= 0.802 af, Depth> 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
468,109	77	Woods, Good, HSG D
41,444	78	Meadow, non-grazed, HSG D
509,553	77	Weighted Average
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 15S: Post SN001



Summary for Subcatchment 16S: Post SN002

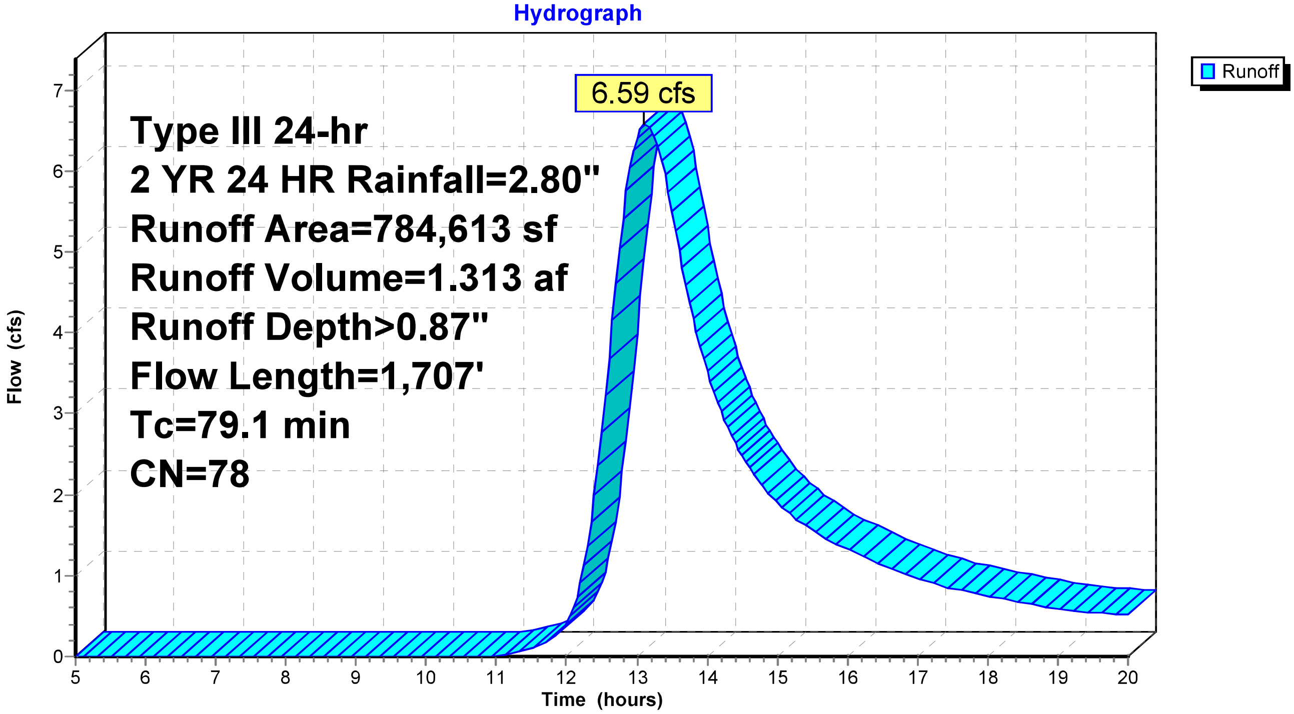
Runoff = 6.59 cfs @ 13.11 hrs, Volume= 1.313 af, Depth> 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
220,016	77	Woods, Good, HSG D
564,580	78	Meadow, non-grazed, HSG D
17	98	Paved parking, HSG D
784,613	78	Weighted Average
784,596		100.00% Pervious Area
17		0.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 16S: Post SN002



Summary for Subcatchment 17S: Post SN003

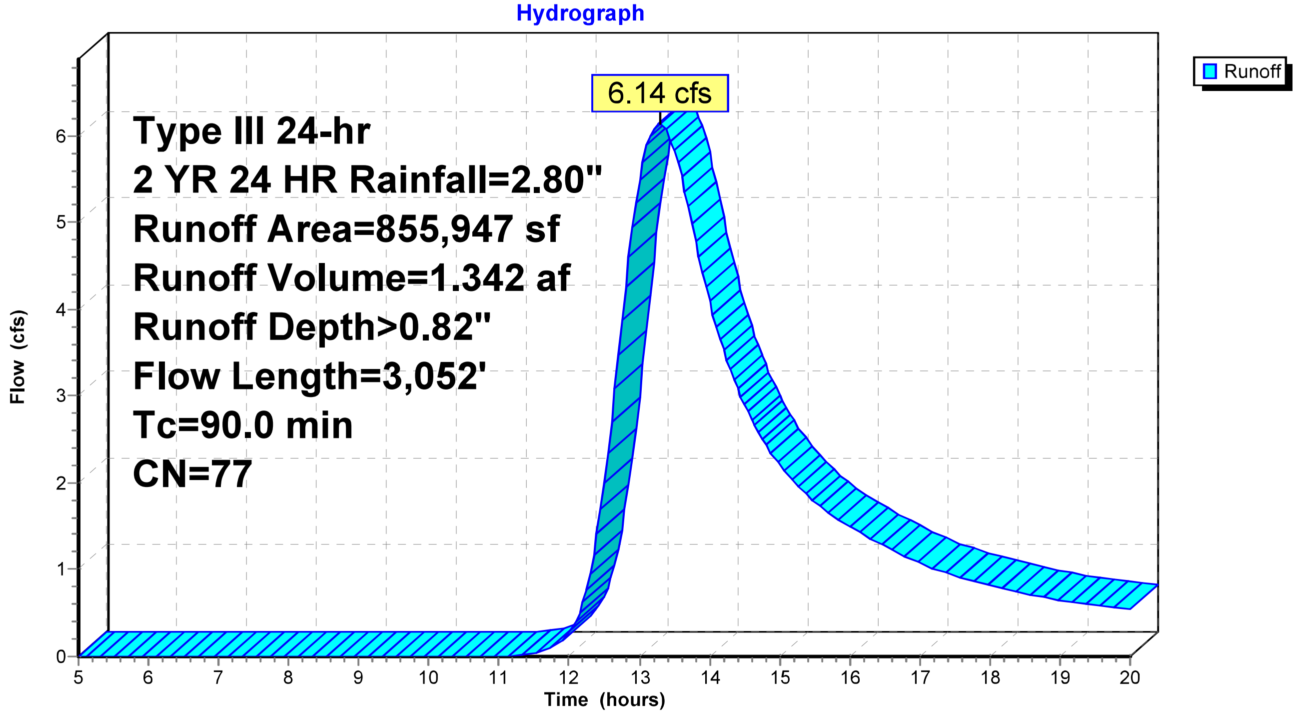
Runoff = 6.14 cfs @ 13.29 hrs, Volume= 1.342 af, Depth> 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
530,763	77	Woods, Good, HSG D
323,995	78	Meadow, non-grazed, HSG D
1,189	98	Paved parking, HSG D
855,947	77	Weighted Average
854,758		99.86% Pervious Area
1,189		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
5.1	161	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.5	135	0.0050	0.49		**Shallow Concentrated Flow, Shallow Conc. Meadow** Short Grass Pasture Kv= 7.0 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
90.0	3,052	Total			

Subcatchment 17S: Post SN003



Summary for Subcatchment 18S: Post SN004

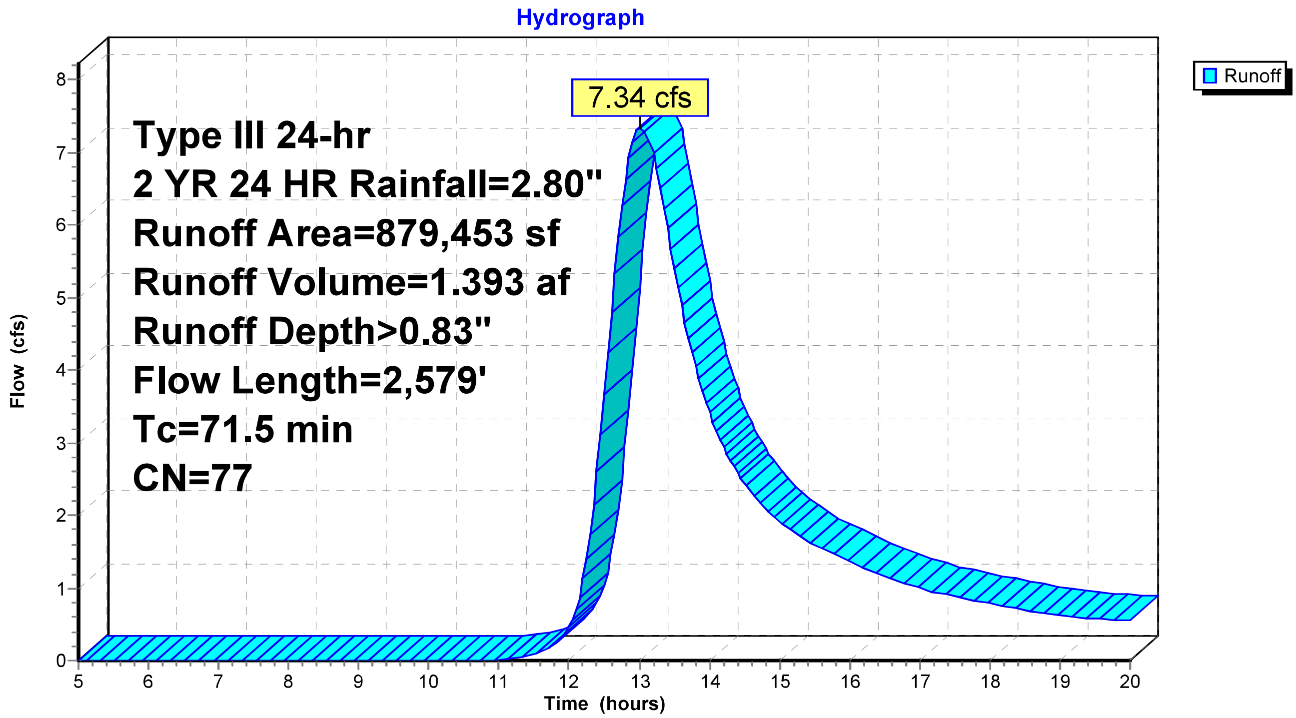
Runoff = 7.34 cfs @ 13.02 hrs, Volume= 1.393 af, Depth> 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
637,001	77	Woods, Good, HSG D
222,209	78	Meadow, non-grazed, HSG D
9,321	98	Paved parking, HSG D
10,922	78	Meadow, non-grazed, HSG D
879,453	77	Weighted Average
870,132		98.94% Pervious Area
9,321		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.4	20	0.0120	0.76		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
0.1	14	0.0150	1.97		**Shallow Concentrated Flow, Shallow Conc. Gravel** Unpaved Kv= 16.1 fps
7.0	268	0.0082	0.63		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
71.5	2,579	Total			

Subcatchment 18S: Post SN004



Summary for Subcatchment 19S: Post SN005

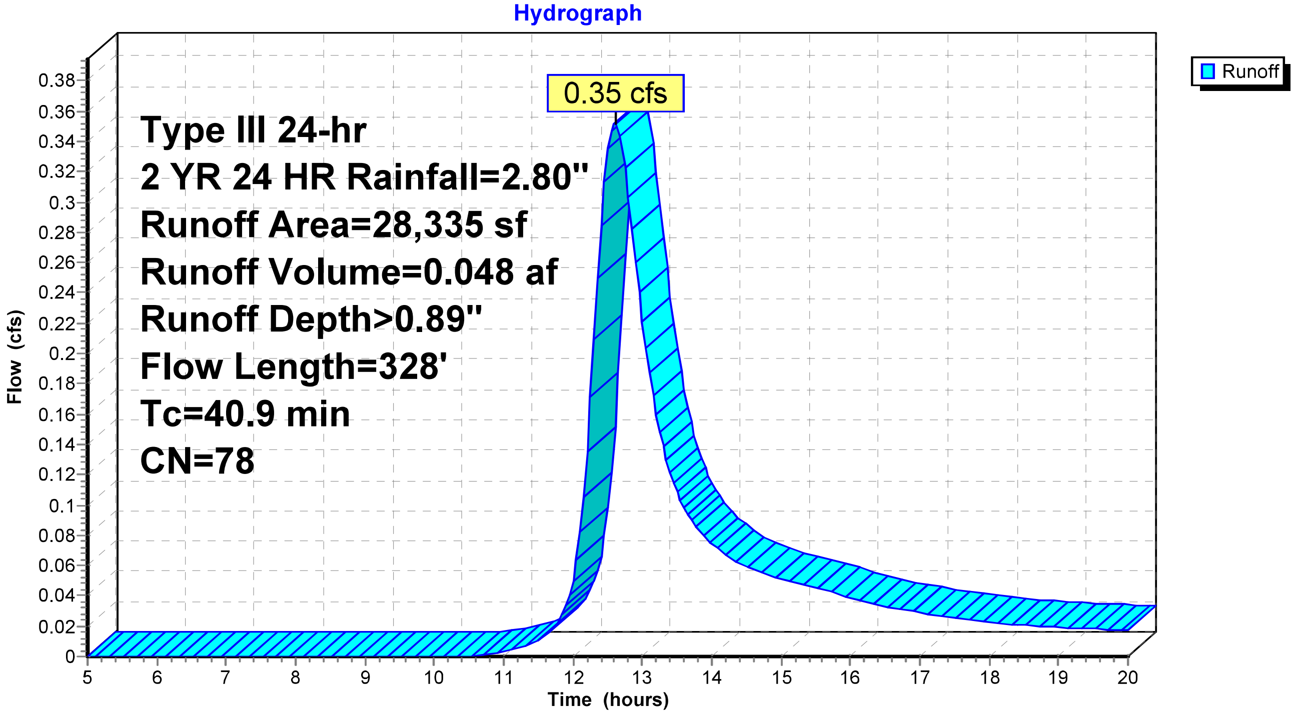
Runoff = 0.35 cfs @ 12.60 hrs, Volume= 0.048 af, Depth> 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
14,090	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,387	98	Paved parking, HSG D
28,335	78	Weighted Average
26,948		95.10% Pervious Area
1,387		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 19S: Post SN005



Summary for Subcatchment 20S: Post SN006

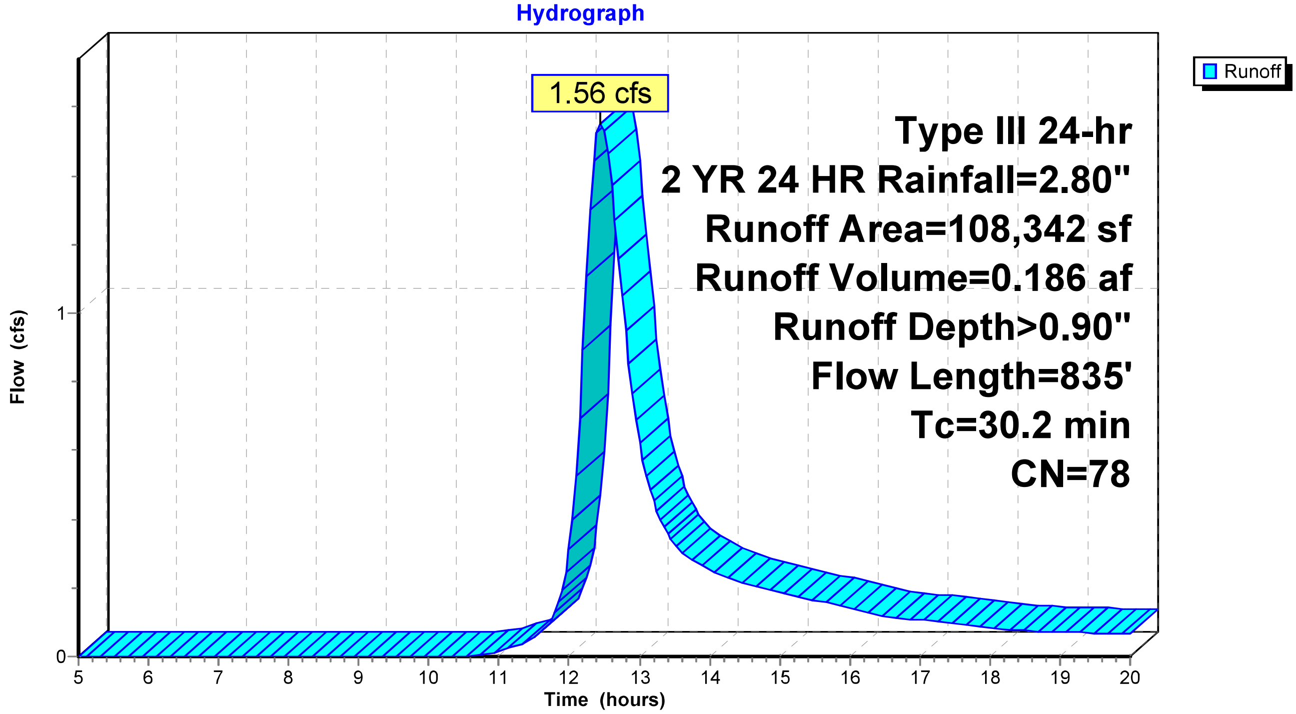
Runoff = 1.56 cfs @ 12.45 hrs, Volume= 0.186 af, Depth> 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR 24 HR Rainfall=2.80"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

Subcatchment 20S: Post SN006

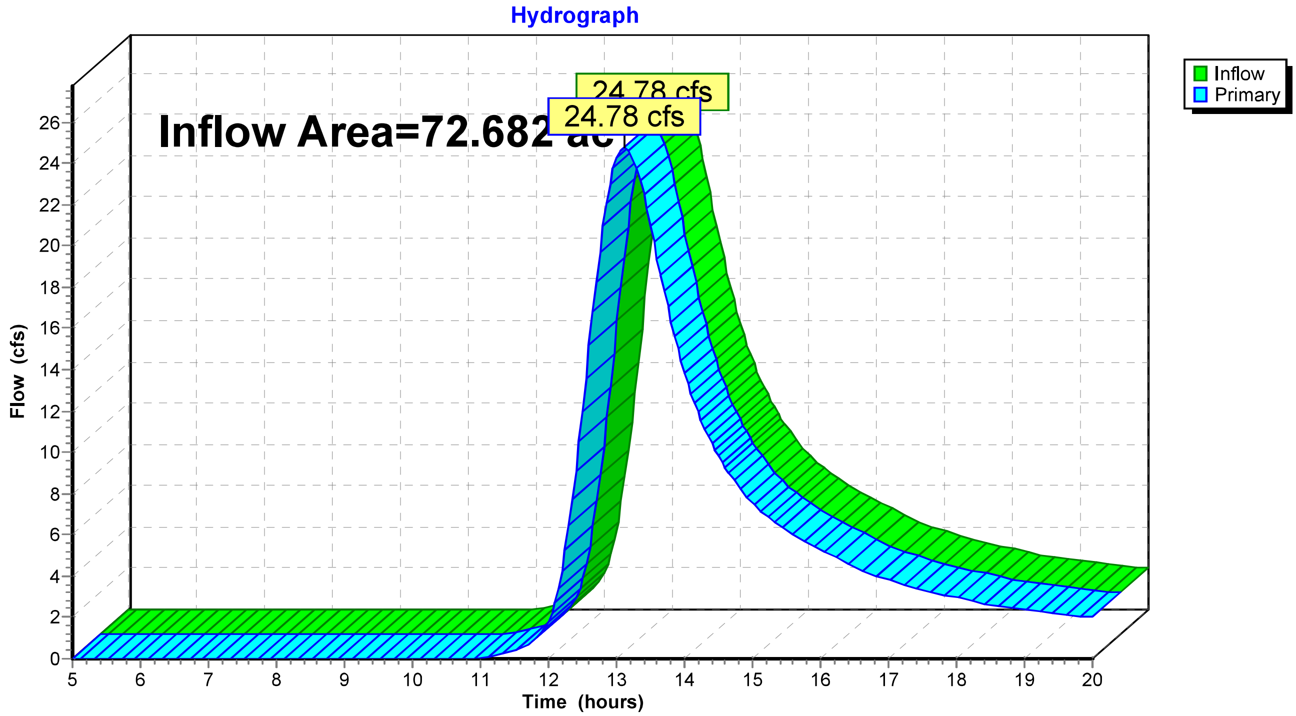


Summary for Link 7L: Pre

Inflow Area =	72.682 ac,	0.57% Impervious,	Inflow Depth > 0.85"	for 2 YR 24 HR event	
Inflow =	24.78 cfs @	13.12 hrs,	Volume=	5.168 af	
Primary =	24.78 cfs @	13.12 hrs,	Volume=	5.168 af,	Atten= 0%, Lag= 0.0 min

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

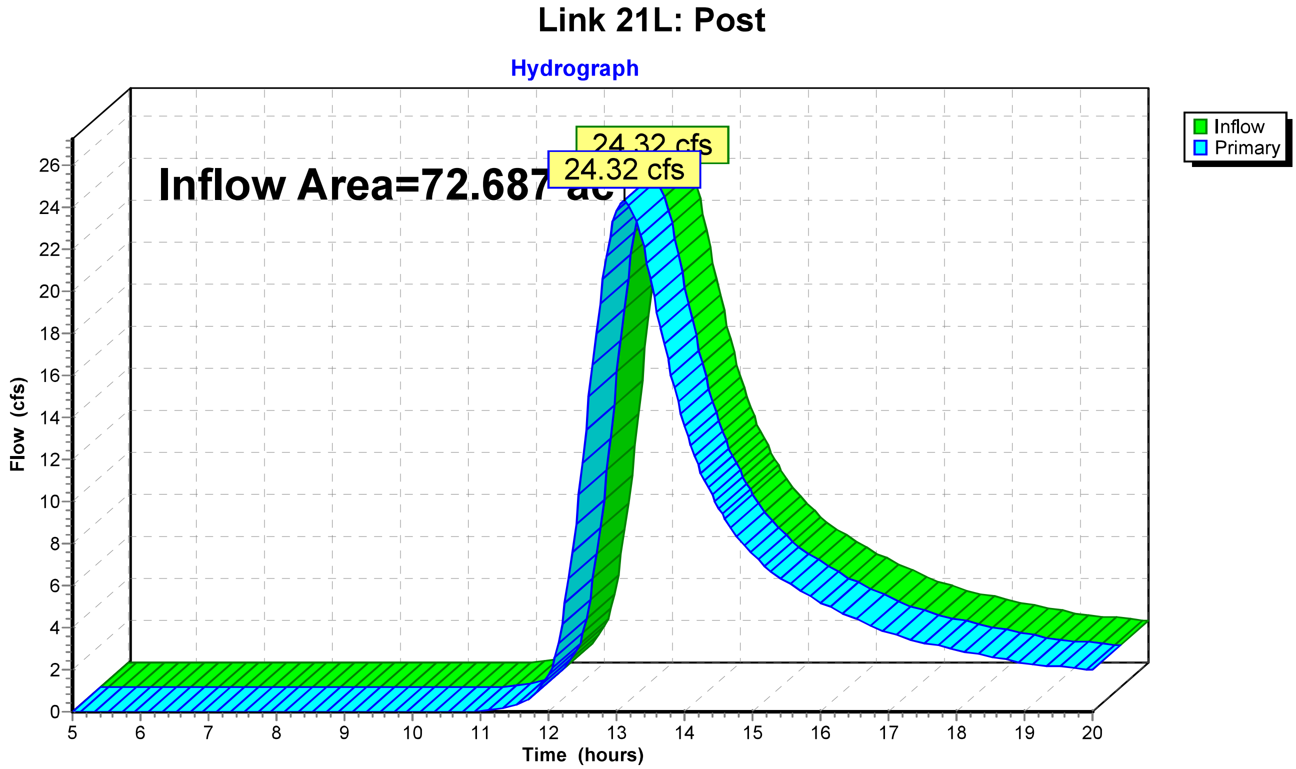
Link 7L: Pre



Summary for Link 21L: Post

Inflow Area =	72.687 ac,	0.48% Impervious,	Inflow Depth > 0.84"	for 2 YR 24 HR event
Inflow =	24.32 cfs @	13.11 hrs, Volume=	5.084 af	
Primary =	24.32 cfs @	13.11 hrs, Volume=	5.084 af,	Atten= 0%, Lag= 0.0 min

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



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 1S: Pre SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>1.77"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=8.59 cfs 1.725 af

Subcatchment 2S: Pre SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>1.85"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=14.24 cfs 2.770 af

Subcatchment 3S: Pre SN003 Runoff Area=855,947 sf 0.02% Impervious Runoff Depth>1.76"
Flow Length=3,053' Tc=89.7 min CN=77 Runoff=13.69 cfs 2.887 af

Subcatchment 4S: Pre SN004 Runoff Area=879,255 sf 1.50% Impervious Runoff Depth>1.85"
Flow Length=2,580' Tc=72.6 min CN=78 Runoff=16.86 cfs 3.113 af

Subcatchment 5S: Pre SN005 Runoff Area=28,335 sf 4.35% Impervious Runoff Depth>1.87"
Flow Length=328' Tc=40.9 min CN=78 Runoff=0.76 cfs 0.102 af

Subcatchment 6S: Pre SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>1.88"
Flow Length=835' Tc=30.2 min CN=78 Runoff=3.34 cfs 0.390 af

Subcatchment 15S: Post SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>1.77"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=8.59 cfs 1.725 af

Subcatchment 16S: Post SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>1.85"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=14.24 cfs 2.770 af

Subcatchment 17S: Post SN003 Runoff Area=855,947 sf 0.14% Impervious Runoff Depth>1.76"
Flow Length=3,052' Tc=90.0 min CN=77 Runoff=13.58 cfs 2.887 af

Subcatchment 18S: Post SN004 Runoff Area=879,453 sf 1.06% Impervious Runoff Depth>1.78"
Flow Length=2,579' Tc=71.5 min CN=77 Runoff=16.31 cfs 2.990 af

Subcatchment 19S: Post SN005 Runoff Area=28,335 sf 4.90% Impervious Runoff Depth>1.87"
Flow Length=328' Tc=40.9 min CN=78 Runoff=0.76 cfs 0.102 af

Subcatchment 20S: Post SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>1.88"
Flow Length=835' Tc=30.2 min CN=78 Runoff=3.34 cfs 0.390 af

Link 7L: Pre Inflow=54.14 cfs 10.987 af
Primary=54.14 cfs 10.987 af

Link 21L: Post Inflow=53.51 cfs 10.864 af
Primary=53.51 cfs 10.864 af

Total Runoff Area = 145.369 ac Runoff Volume = 21.851 af Average Runoff Depth = 1.80"
99.48% Pervious = 144.609 ac 0.52% Impervious = 0.760 ac

Summary for Subcatchment 1S: Pre SN001

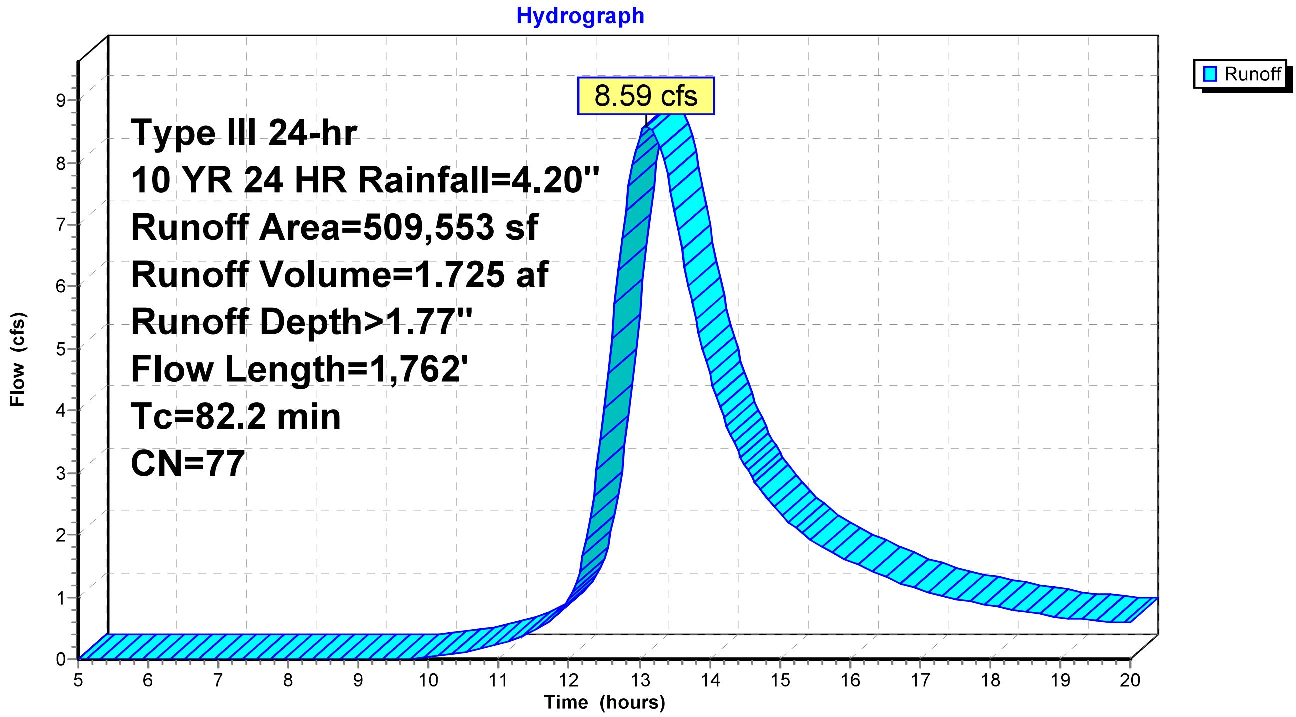
Runoff = 8.59 cfs @ 13.11 hrs, Volume= 1.725 af, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
509,553	77	Woods, Good, HSG D
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 1S: Pre SN001



Summary for Subcatchment 2S: Pre SN002

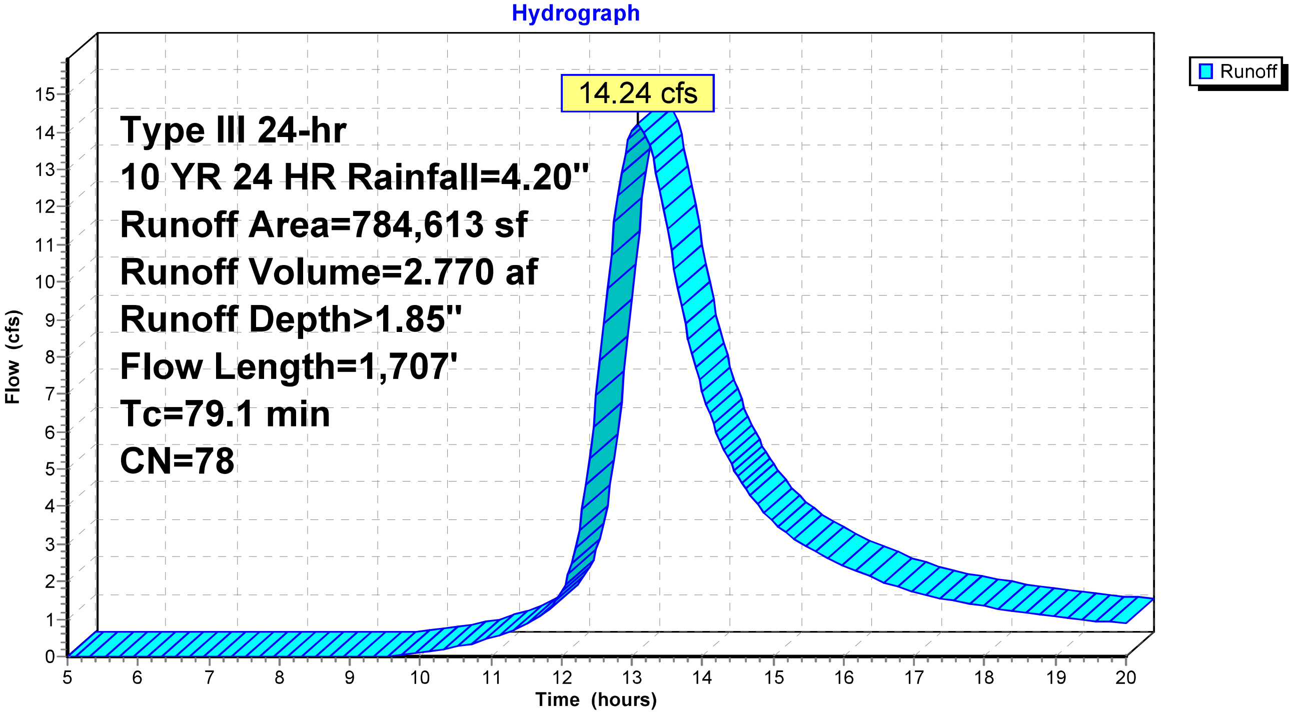
Runoff = 14.24 cfs @ 13.09 hrs, Volume= 2.770 af, Depth> 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
320,827	77	Woods, Good, HSG D
463,786	78	Meadow, non-grazed, HSG D
784,613	78	Weighted Average
784,613		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 2S: Pre SN002



Summary for Subcatchment 3S: Pre SN003

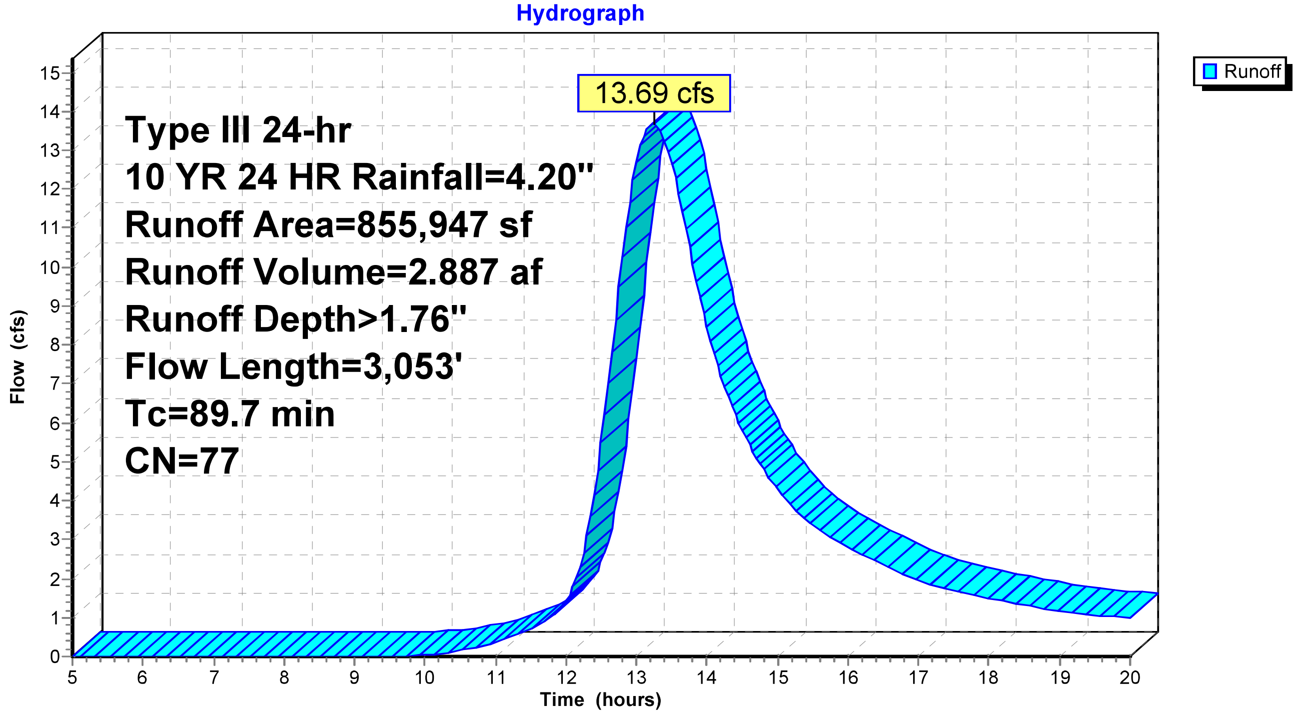
Runoff = 13.69 cfs @ 13.24 hrs, Volume= 2.887 af, Depth> 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
564,677	77	Woods, Good, HSG D
291,094	78	Meadow, non-grazed, HSG D
176	98	Paved parking, HSG D
855,947	77	Weighted Average
855,771		99.98% Pervious Area
176		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	297	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
89.7	3,053	Total			

Subcatchment 3S: Pre SN003



Summary for Subcatchment 4S: Pre SN004

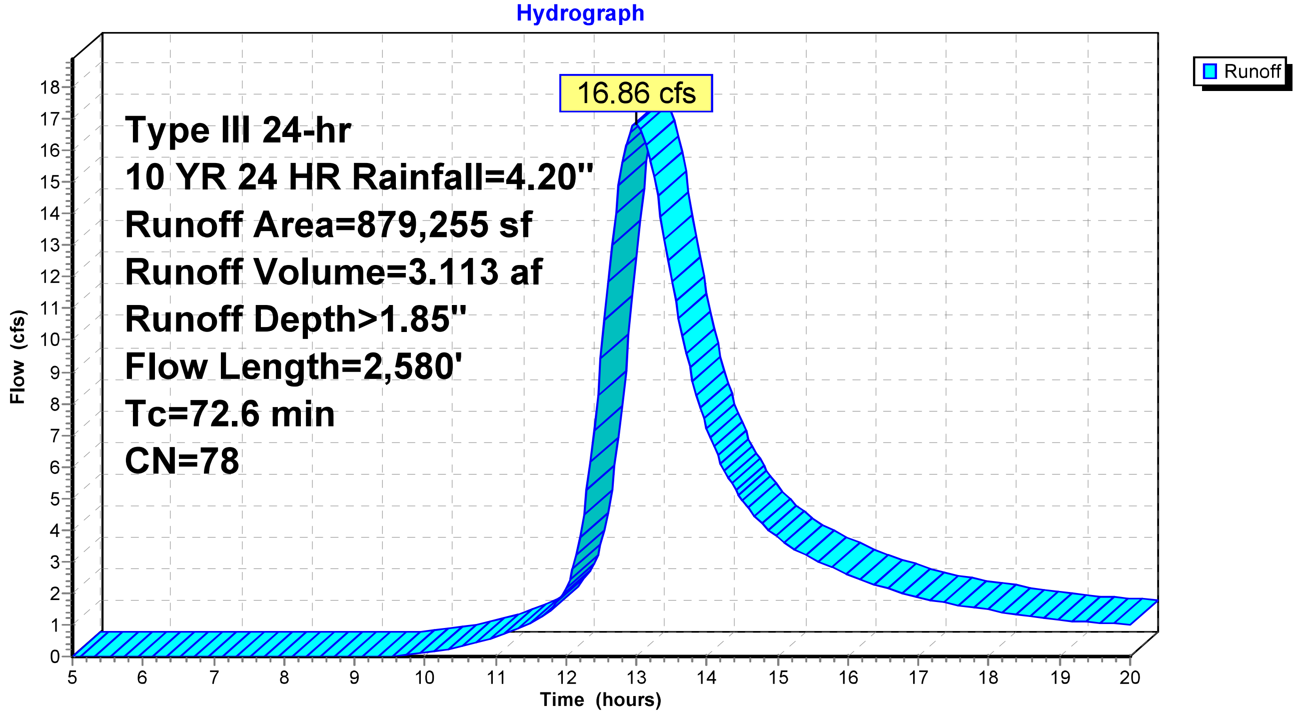
Runoff = 16.86 cfs @ 13.00 hrs, Volume= 3.113 af, Depth> 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
690,692	77	Woods, Good, HSG D
175,331	78	Meadow, non-grazed, HSG D
13,232	98	Paved parking, HSG D
879,255	78	Weighted Average
866,023		98.50% Pervious Area
13,232		1.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	135	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.3	15	0.0120	0.72		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
7.6	283	0.0078	0.62		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
72.6	2,580	Total			

Subcatchment 4S: Pre SN004



Summary for Subcatchment 5S: Pre SN005

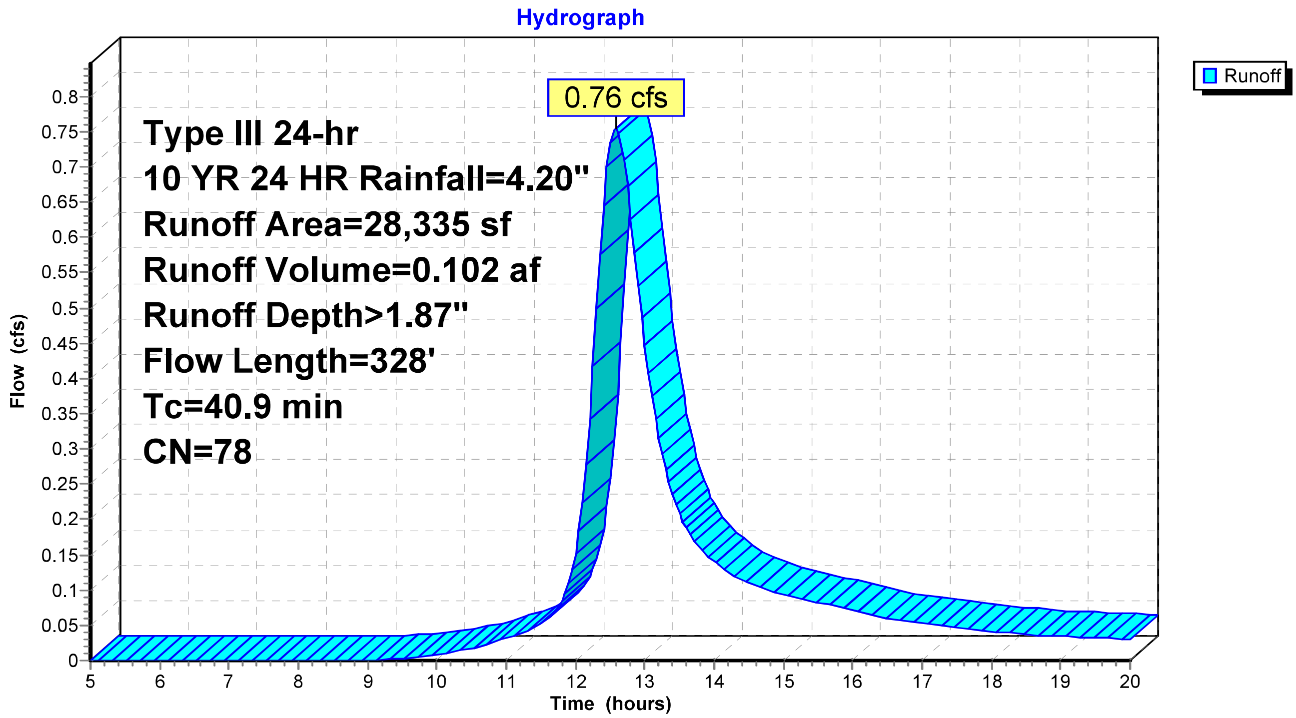
Runoff = 0.76 cfs @ 12.58 hrs, Volume= 0.102 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
14,244	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,233	98	Paved parking, HSG D
28,335	78	Weighted Average
27,102		95.65% Pervious Area
1,233		4.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 5S: Pre SN005



Summary for Subcatchment 6S: Pre SN006

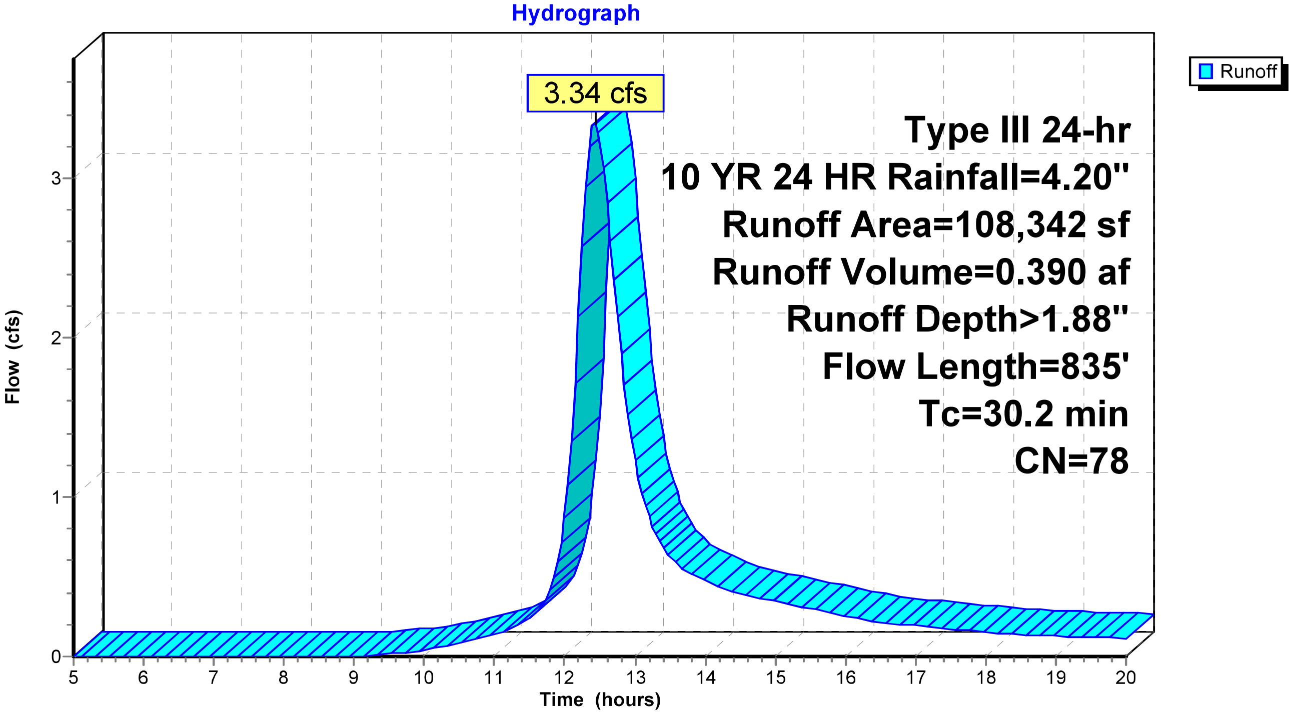
Runoff = 3.34 cfs @ 12.43 hrs, Volume= 0.390 af, Depth> 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

Subcatchment 6S: Pre SN006



Summary for Subcatchment 15S: Post SN001

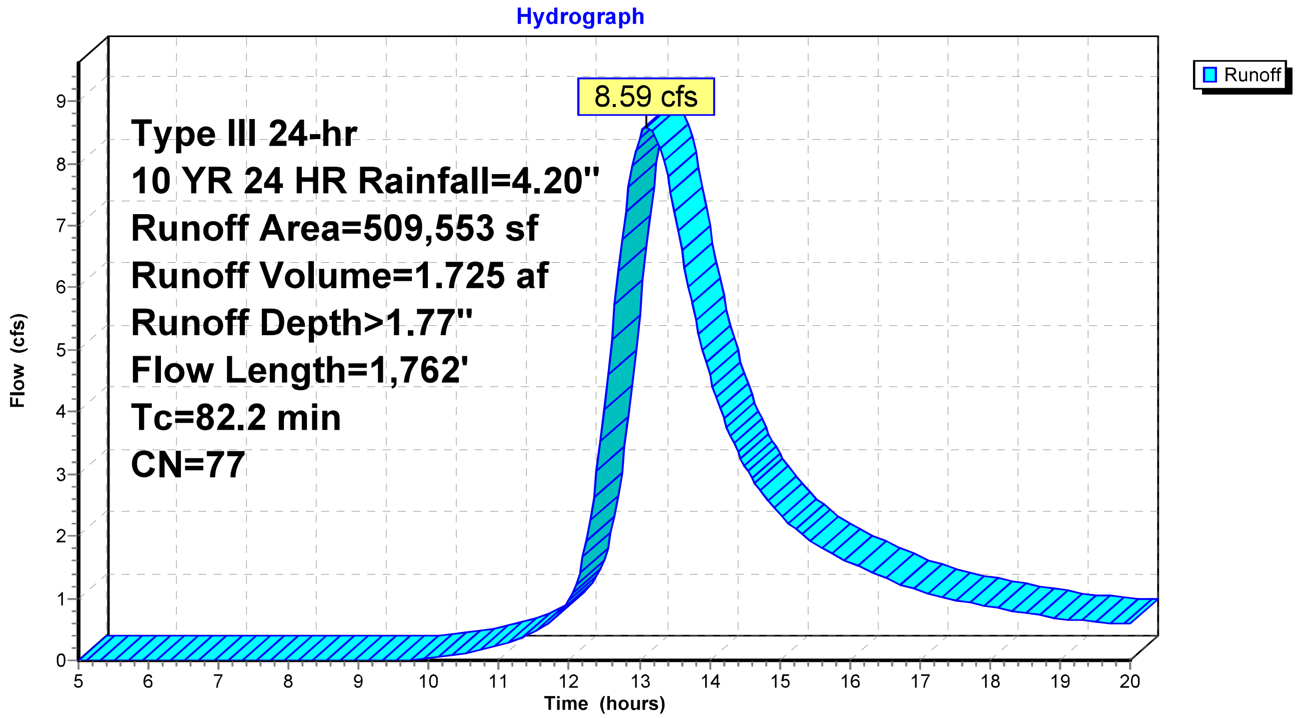
Runoff = 8.59 cfs @ 13.11 hrs, Volume= 1.725 af, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
468,109	77	Woods, Good, HSG D
41,444	78	Meadow, non-grazed, HSG D
509,553	77	Weighted Average
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 15S: Post SN001



Summary for Subcatchment 16S: Post SN002

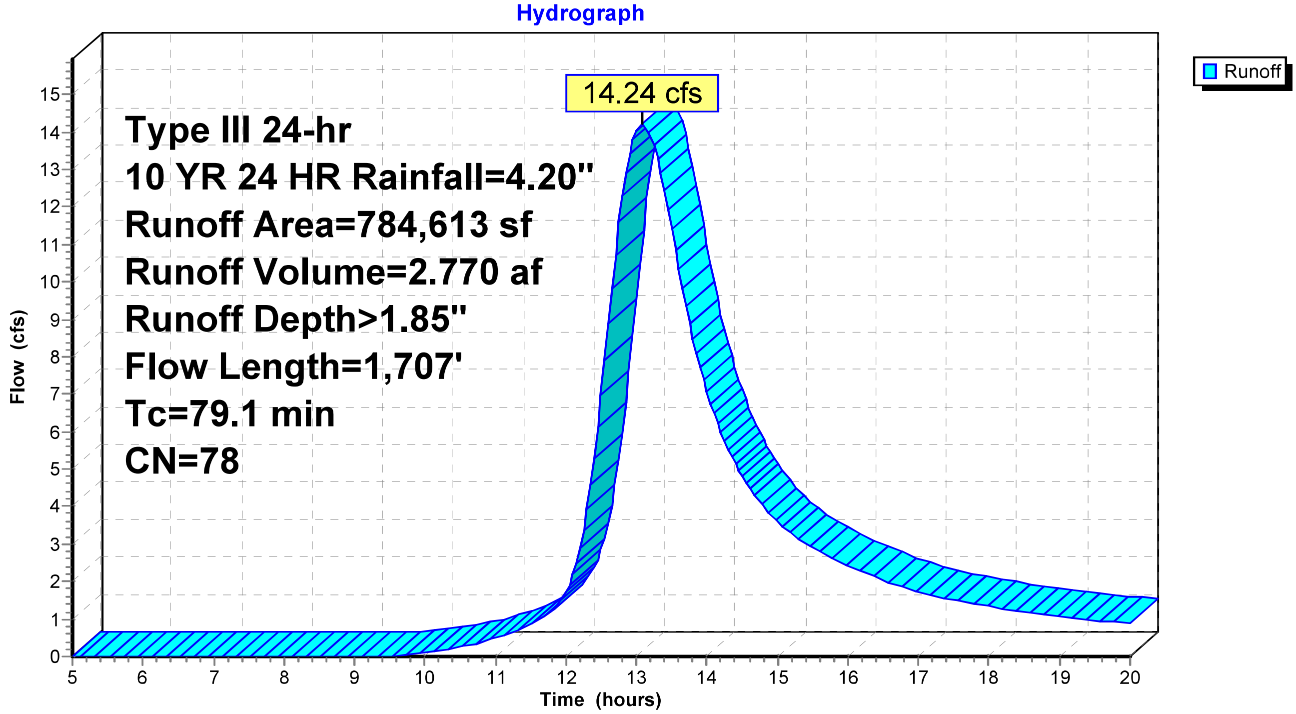
Runoff = 14.24 cfs @ 13.09 hrs, Volume= 2.770 af, Depth> 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
220,016	77	Woods, Good, HSG D
564,580	78	Meadow, non-grazed, HSG D
17	98	Paved parking, HSG D
784,613	78	Weighted Average
784,596		100.00% Pervious Area
17		0.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 16S: Post SN002



Summary for Subcatchment 17S: Post SN003

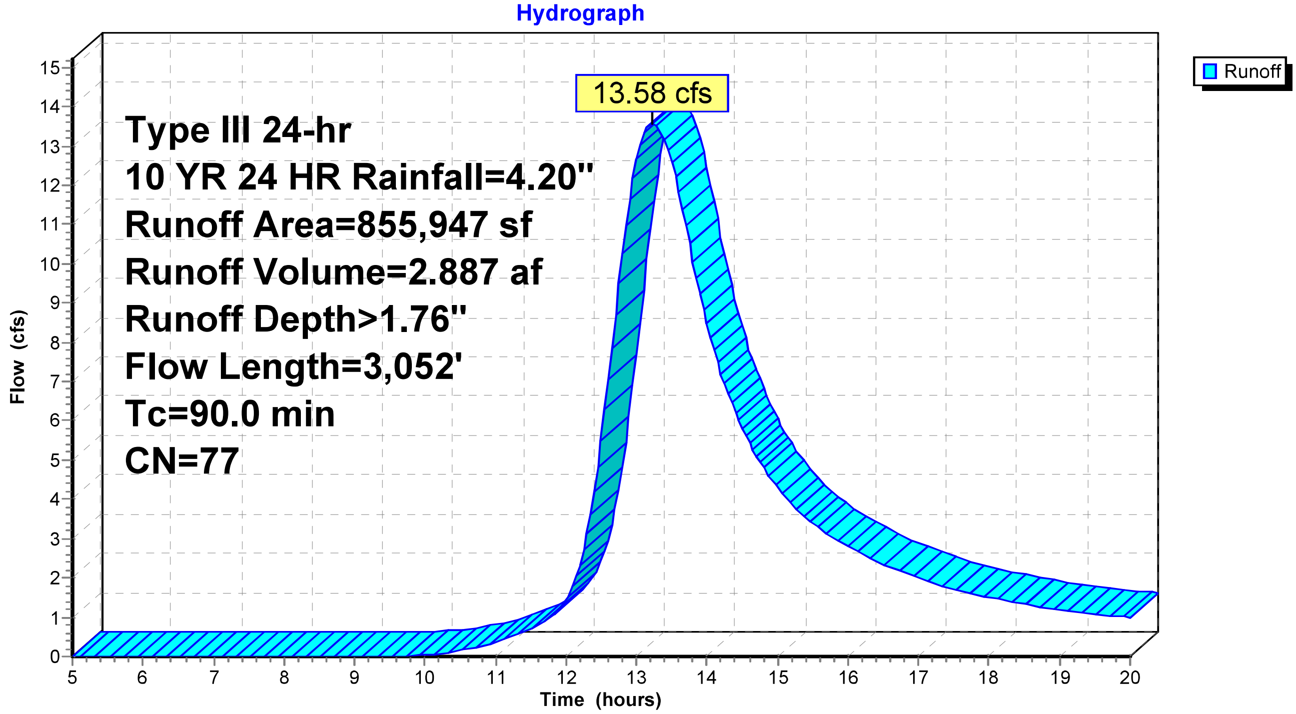
Runoff = 13.58 cfs @ 13.24 hrs, Volume= 2.887 af, Depth> 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
530,763	77	Woods, Good, HSG D
323,995	78	Meadow, non-grazed, HSG D
1,189	98	Paved parking, HSG D
855,947	77	Weighted Average
854,758		99.86% Pervious Area
1,189		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
5.1	161	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.5	135	0.0050	0.49		**Shallow Concentrated Flow, Shallow Conc. Meadow** Short Grass Pasture Kv= 7.0 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
90.0	3,052	Total			

Subcatchment 17S: Post SN003



Summary for Subcatchment 18S: Post SN004

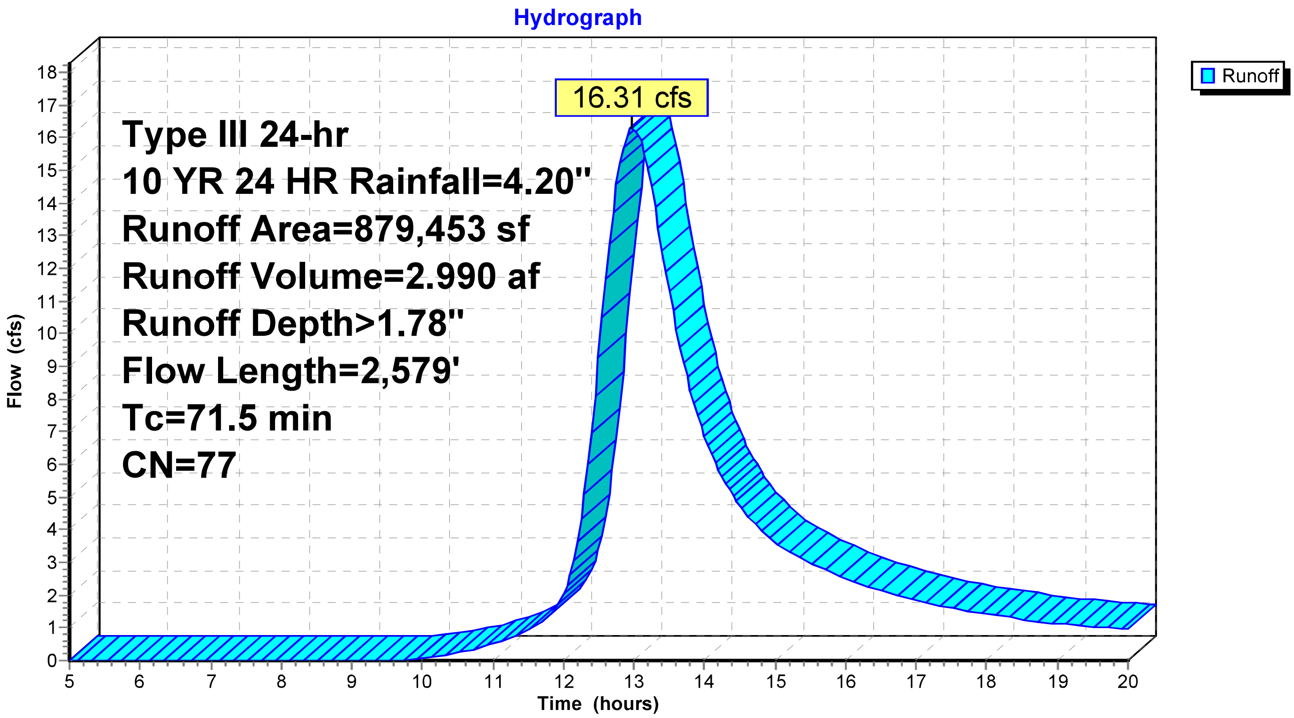
Runoff = 16.31 cfs @ 12.97 hrs, Volume= 2.990 af, Depth> 1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
637,001	77	Woods, Good, HSG D
222,209	78	Meadow, non-grazed, HSG D
9,321	98	Paved parking, HSG D
10,922	78	Meadow, non-grazed, HSG D
879,453	77	Weighted Average
870,132		98.94% Pervious Area
9,321		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.4	20	0.0120	0.76		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
0.1	14	0.0150	1.97		**Shallow Concentrated Flow, Shallow Conc. Gravel** Unpaved Kv= 16.1 fps
7.0	268	0.0082	0.63		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
71.5	2,579	Total			

Subcatchment 18S: Post SN004



Summary for Subcatchment 19S: Post SN005

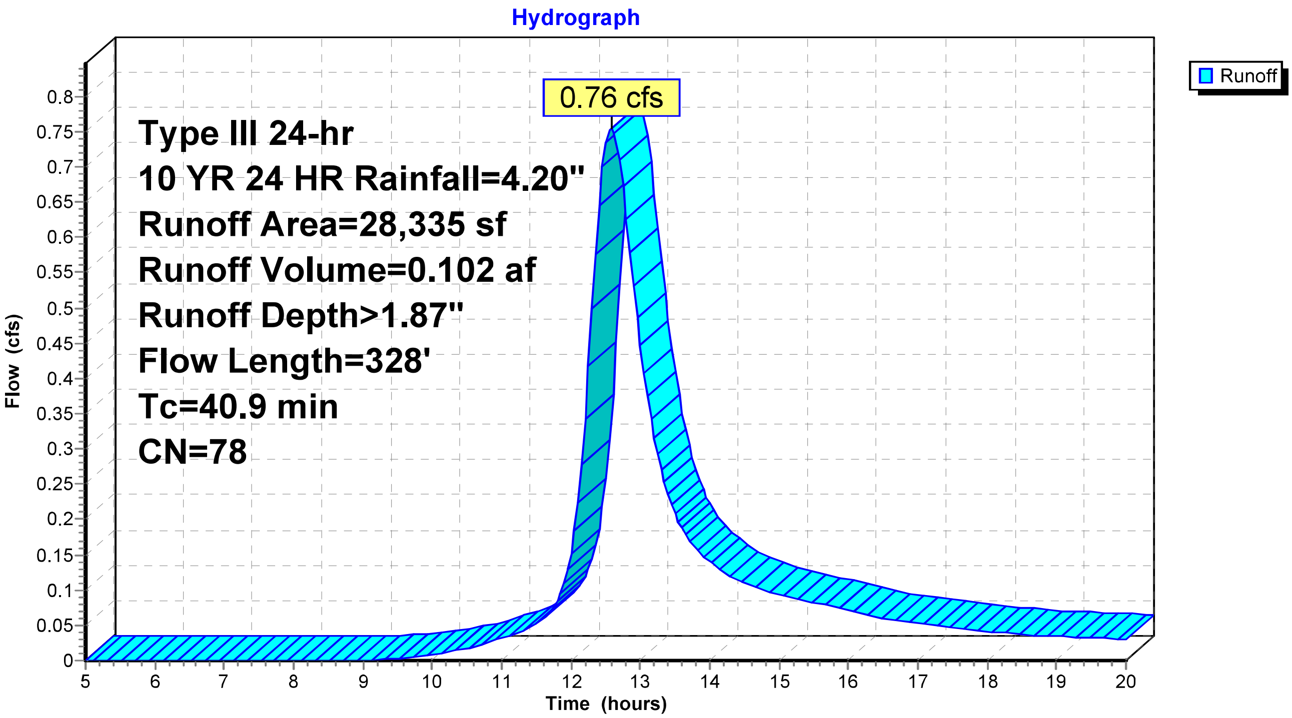
Runoff = 0.76 cfs @ 12.58 hrs, Volume= 0.102 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
14,090	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,387	98	Paved parking, HSG D
28,335	78	Weighted Average
26,948		95.10% Pervious Area
1,387		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 19S: Post SN005



Summary for Subcatchment 20S: Post SN006

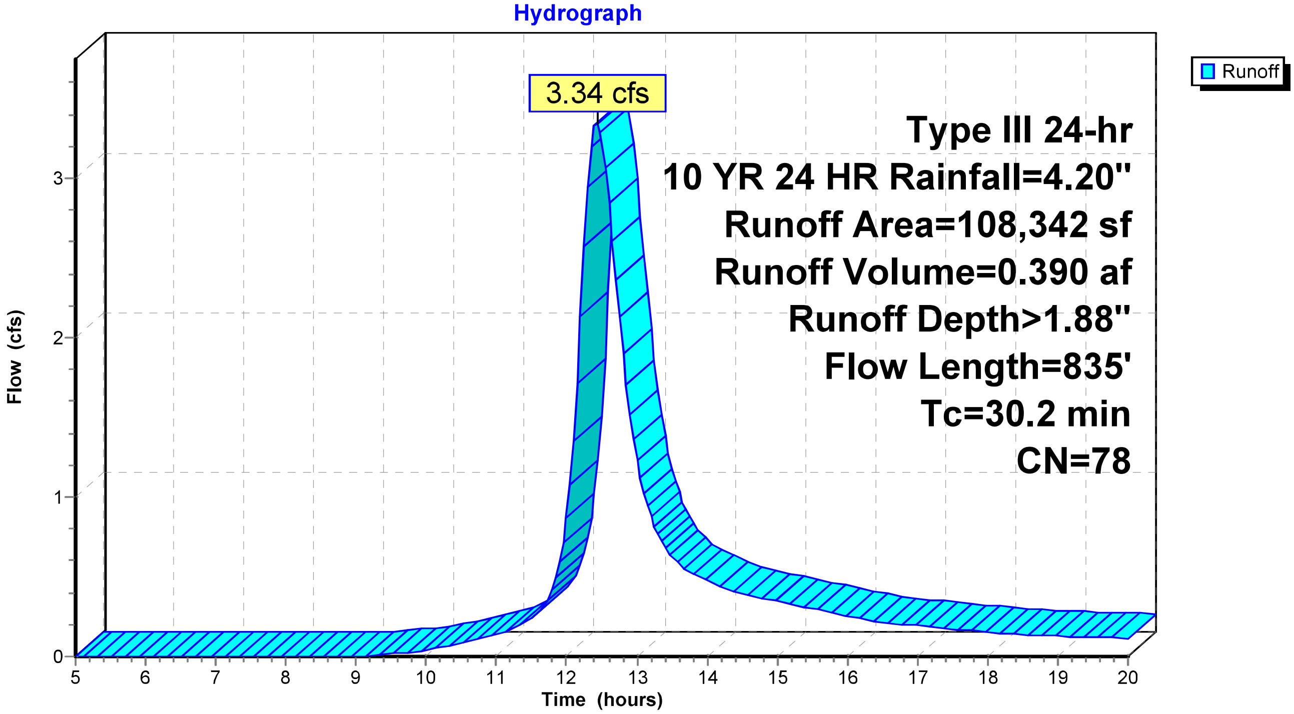
Runoff = 3.34 cfs @ 12.43 hrs, Volume= 0.390 af, Depth> 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 YR 24 HR Rainfall=4.20"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

Subcatchment 20S: Post SN006

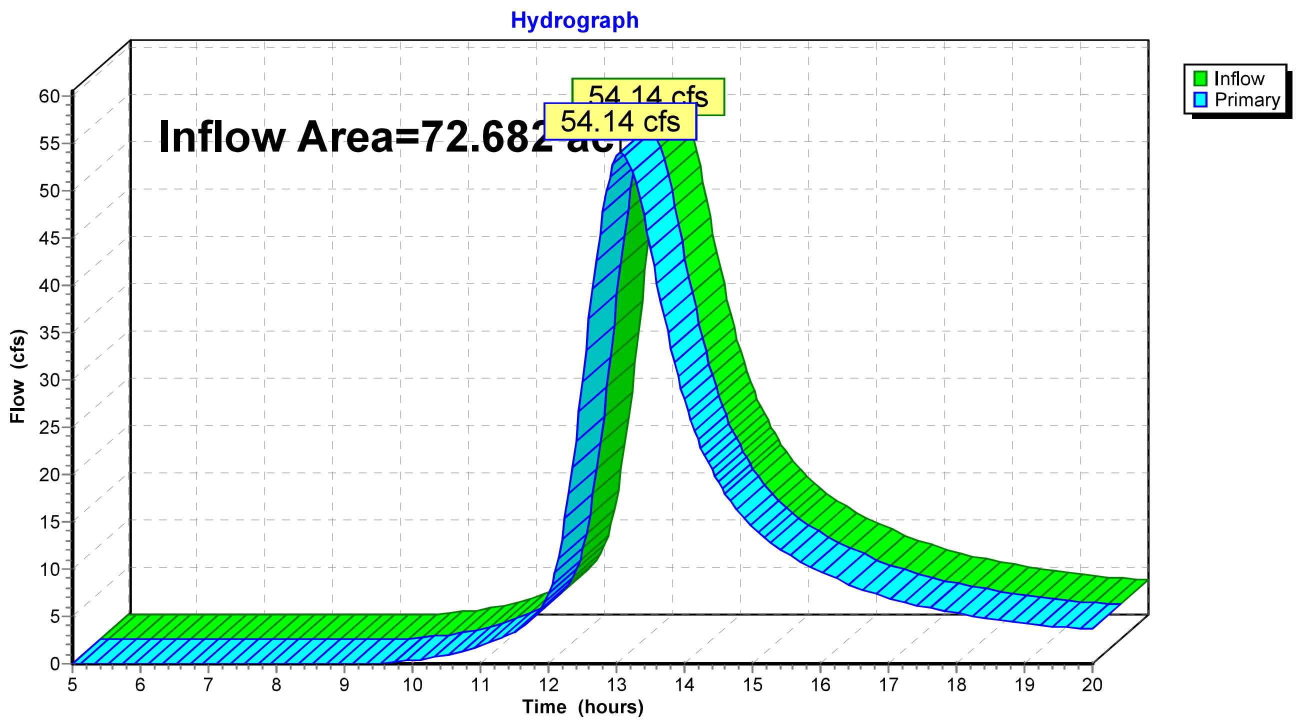


Summary for Link 7L: Pre

Inflow Area = 72.682 ac, 0.57% Impervious, Inflow Depth > 1.81" for 10 YR 24 HR event
Inflow = 54.14 cfs @ 13.07 hrs, Volume= 10.987 af
Primary = 54.14 cfs @ 13.07 hrs, Volume= 10.987 af, Atten= 0%, Lag= 0.0 min

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

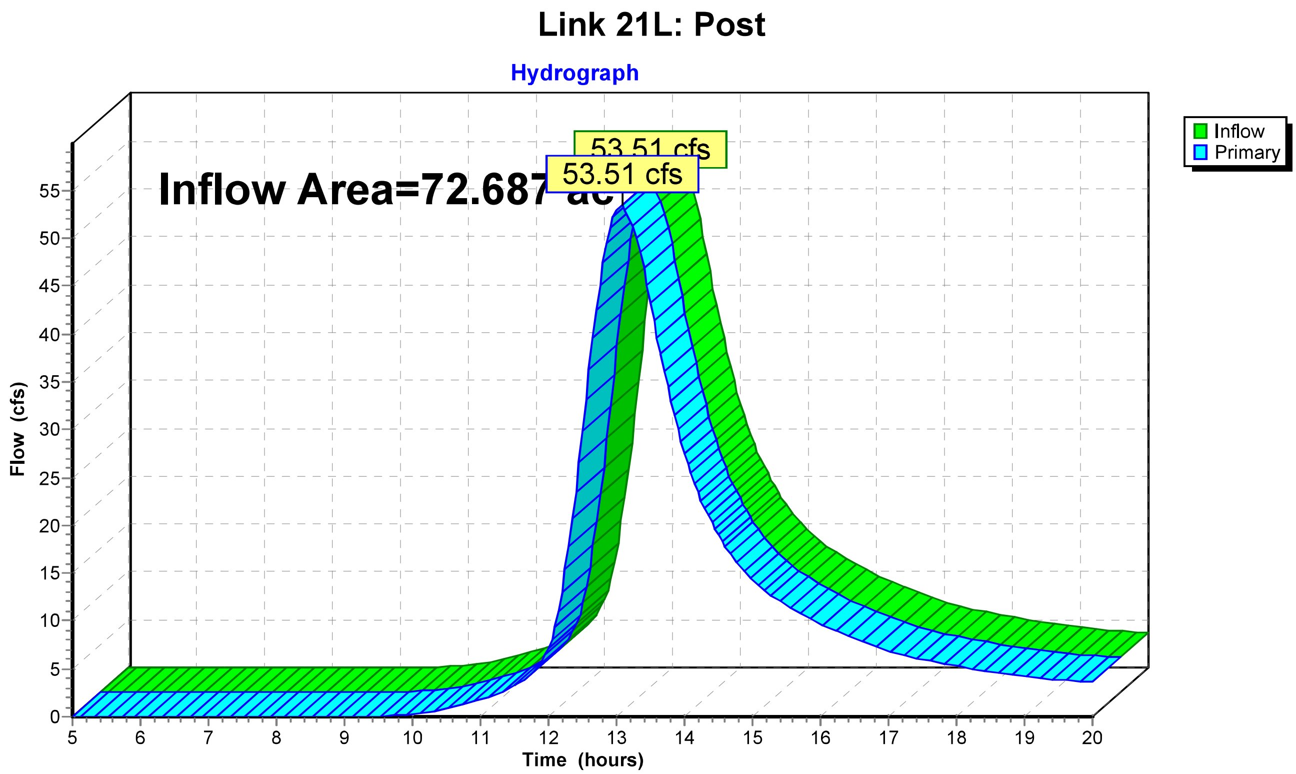
Link 7L: Pre



Summary for Link 21L: Post

Inflow Area = 72.687 ac, 0.48% Impervious, Inflow Depth > 1.79" for 10 YR 24 HR event
Inflow = 53.51 cfs @ 13.08 hrs, Volume= 10.864 af
Primary = 53.51 cfs @ 13.08 hrs, Volume= 10.864 af, Atten= 0%, Lag= 0.0 min

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



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 1S: Pre SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>2.53"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=12.31 cfs 2.463 af

Subcatchment 2S: Pre SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>2.62"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=20.19 cfs 3.928 af

Subcatchment 3S: Pre SN003 Runoff Area=855,947 sf 0.02% Impervious Runoff Depth>2.52"
Flow Length=3,053' Tc=89.7 min CN=77 Runoff=19.59 cfs 4.124 af

Subcatchment 4S: Pre SN004 Runoff Area=879,255 sf 1.50% Impervious Runoff Depth>2.62"
Flow Length=2,580' Tc=72.6 min CN=78 Runoff=23.91 cfs 4.413 af

Subcatchment 5S: Pre SN005 Runoff Area=28,335 sf 4.35% Impervious Runoff Depth>2.66"
Flow Length=328' Tc=40.9 min CN=78 Runoff=1.07 cfs 0.144 af

Subcatchment 6S: Pre SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>2.67"
Flow Length=835' Tc=30.2 min CN=78 Runoff=4.73 cfs 0.552 af

Subcatchment 15S: Post SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>2.53"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=12.31 cfs 2.463 af

Subcatchment 16S: Post SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>2.62"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=20.19 cfs 3.928 af

Subcatchment 17S: Post SN003 Runoff Area=855,947 sf 0.14% Impervious Runoff Depth>2.52"
Flow Length=3,052' Tc=90.0 min CN=77 Runoff=19.45 cfs 4.123 af

Subcatchment 18S: Post SN004 Runoff Area=879,453 sf 1.06% Impervious Runoff Depth>2.54"
Flow Length=2,579' Tc=71.5 min CN=77 Runoff=23.34 cfs 4.269 af

Subcatchment 19S: Post SN005 Runoff Area=28,335 sf 4.90% Impervious Runoff Depth>2.66"
Flow Length=328' Tc=40.9 min CN=78 Runoff=1.07 cfs 0.144 af

Subcatchment 20S: Post SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>2.67"
Flow Length=835' Tc=30.2 min CN=78 Runoff=4.73 cfs 0.552 af

Link 7L: Pre Inflow=77.08 cfs 15.625 af
Primary=77.08 cfs 15.625 af

Link 21L: Post Inflow=76.29 cfs 15.480 af
Primary=76.29 cfs 15.480 af

Total Runoff Area = 145.369 ac Runoff Volume = 31.105 af Average Runoff Depth = 2.57"
99.48% Pervious = 144.609 ac 0.52% Impervious = 0.760 ac

Summary for Subcatchment 1S: Pre SN001

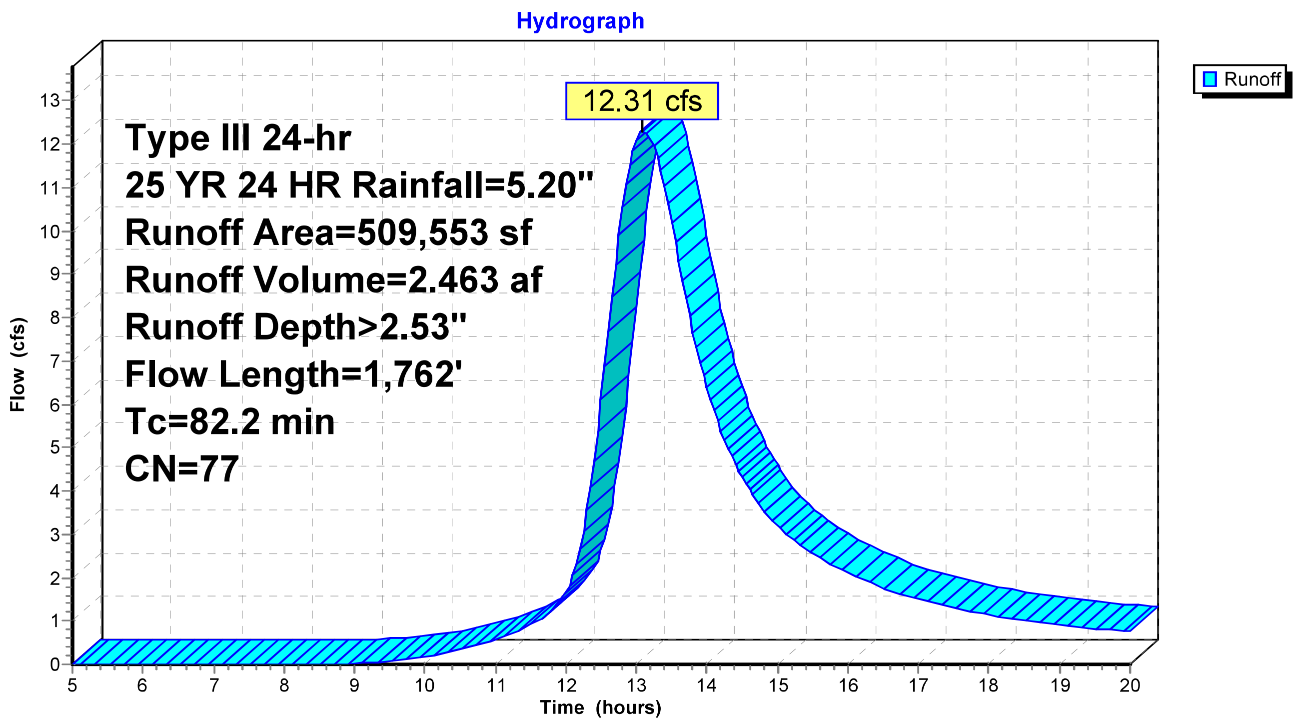
Runoff = 12.31 cfs @ 13.09 hrs, Volume= 2.463 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
509,553	77	Woods, Good, HSG D
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 1S: Pre SN001



Summary for Subcatchment 2S: Pre SN002

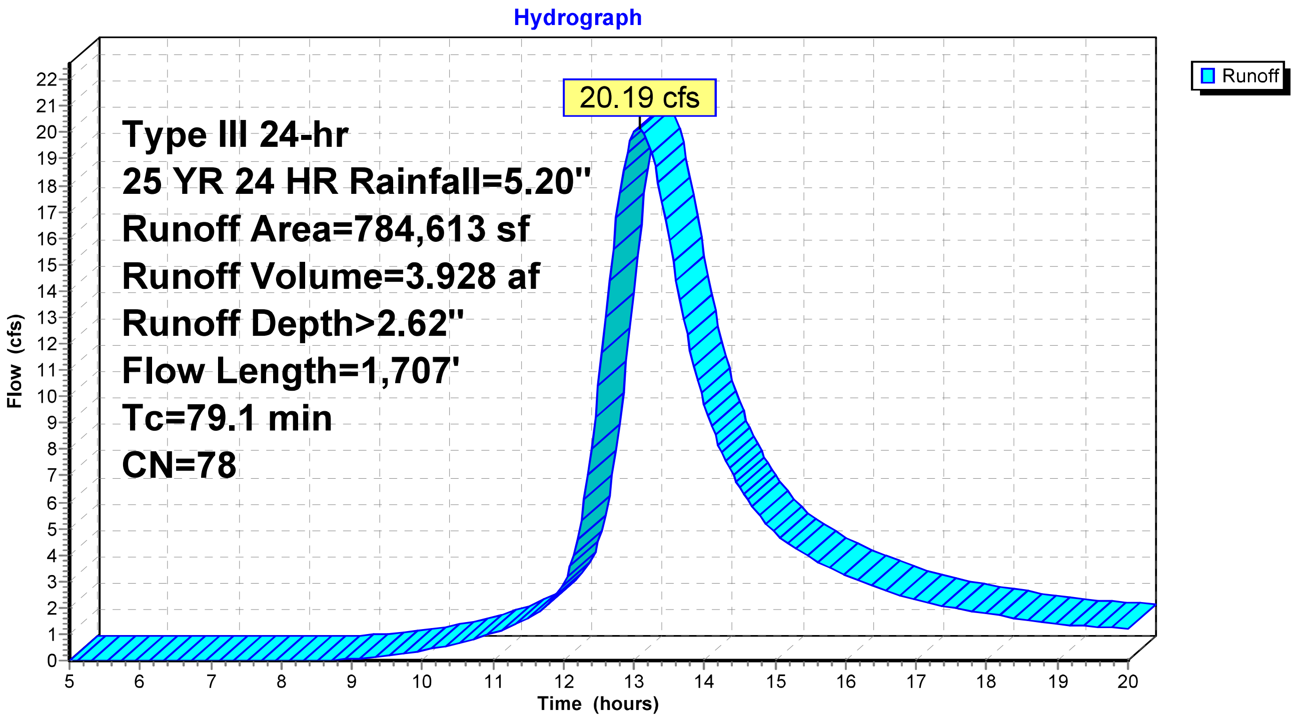
Runoff = 20.19 cfs @ 13.08 hrs, Volume= 3.928 af, Depth> 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
320,827	77	Woods, Good, HSG D
463,786	78	Meadow, non-grazed, HSG D
784,613	78	Weighted Average
784,613		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 2S: Pre SN002



Summary for Subcatchment 3S: Pre SN003

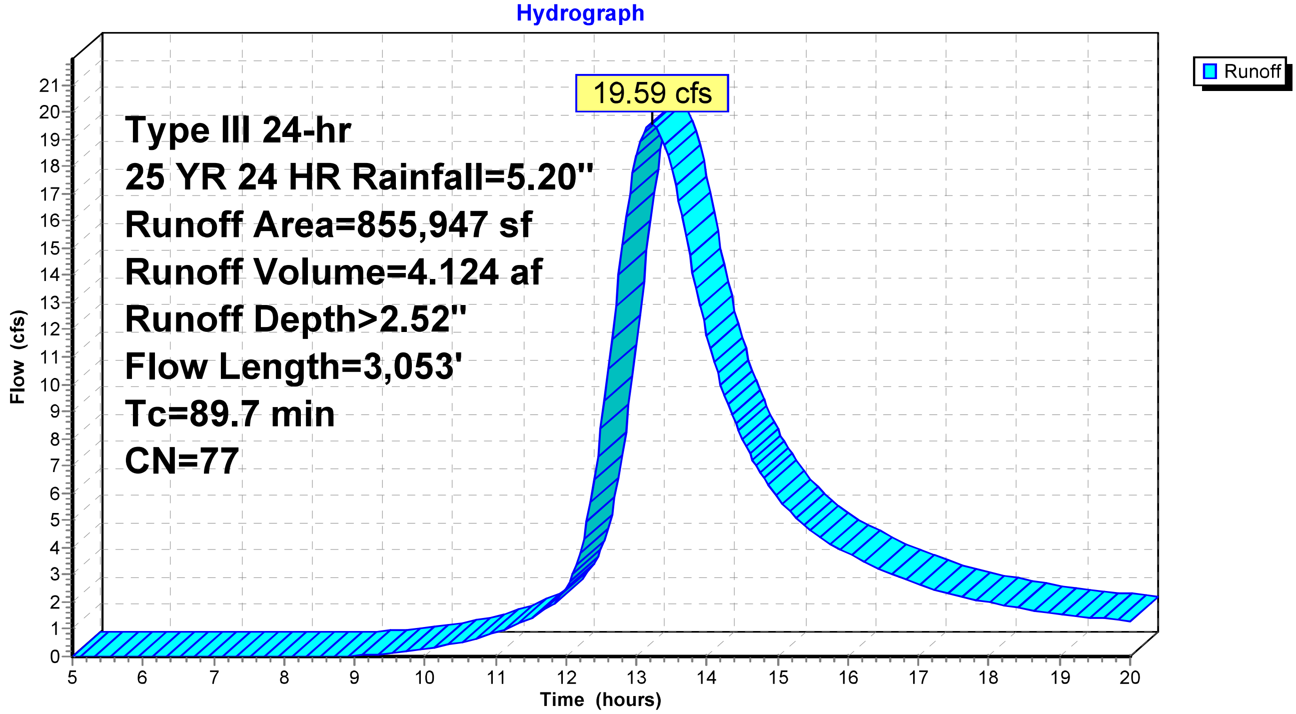
Runoff = 19.59 cfs @ 13.23 hrs, Volume= 4.124 af, Depth> 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
564,677	77	Woods, Good, HSG D
291,094	78	Meadow, non-grazed, HSG D
176	98	Paved parking, HSG D
855,947	77	Weighted Average
855,771		99.98% Pervious Area
176		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	297	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
89.7	3,053	Total			

Subcatchment 3S: Pre SN003



Summary for Subcatchment 4S: Pre SN004

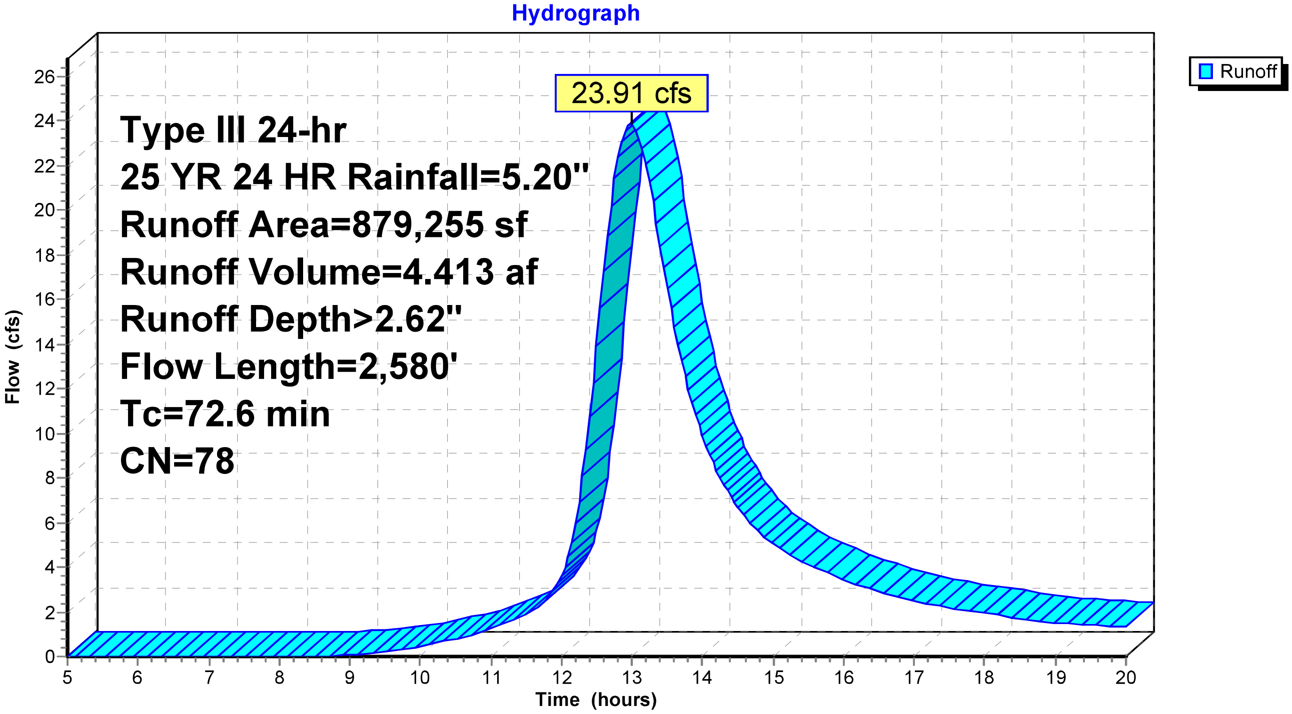
Runoff = 23.91 cfs @ 12.99 hrs, Volume= 4.413 af, Depth> 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
690,692	77	Woods, Good, HSG D
175,331	78	Meadow, non-grazed, HSG D
13,232	98	Paved parking, HSG D
879,255	78	Weighted Average
866,023		98.50% Pervious Area
13,232		1.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	135	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.3	15	0.0120	0.72		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
7.6	283	0.0078	0.62		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
72.6	2,580	Total			

Subcatchment 4S: Pre SN004



Summary for Subcatchment 5S: Pre SN005

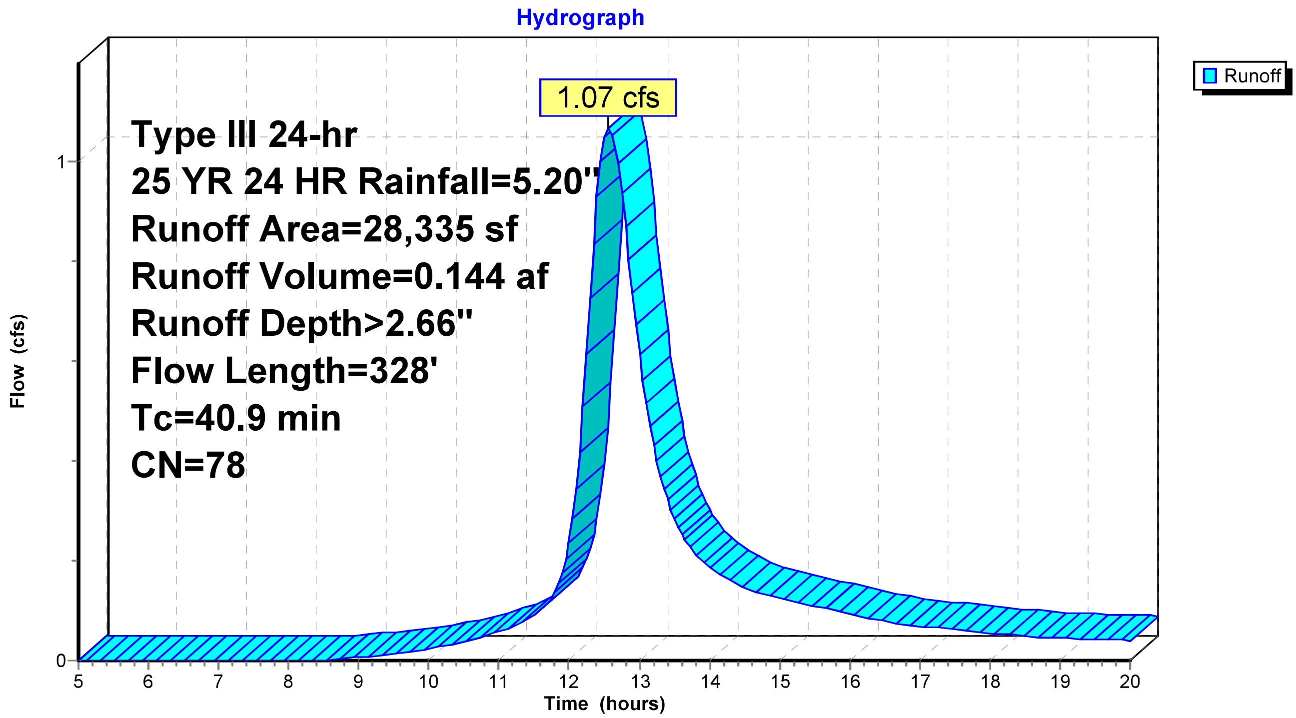
Runoff = 1.07 cfs @ 12.57 hrs, Volume= 0.144 af, Depth> 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
14,244	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,233	98	Paved parking, HSG D
28,335	78	Weighted Average
27,102		95.65% Pervious Area
1,233		4.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 5S: Pre SN005



Summary for Subcatchment 6S: Pre SN006

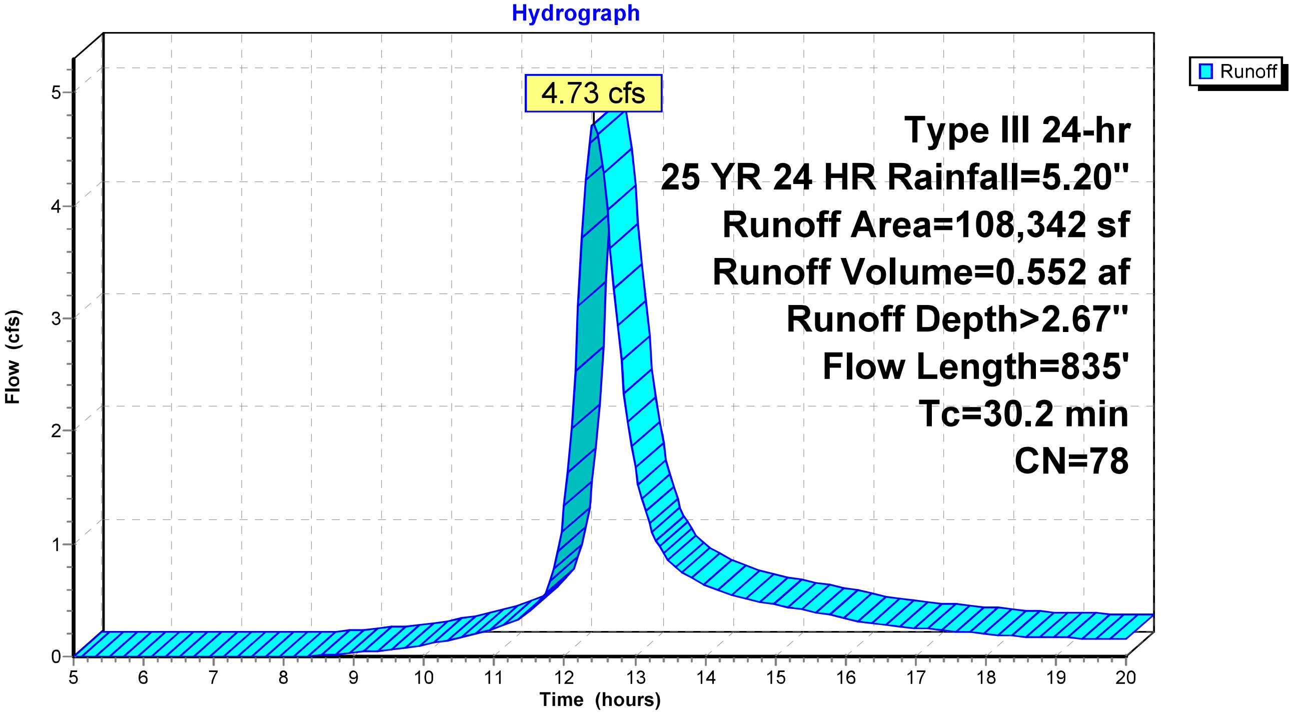
Runoff = 4.73 cfs @ 12.42 hrs, Volume= 0.552 af, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

Subcatchment 6S: Pre SN006



Summary for Subcatchment 15S: Post SN001

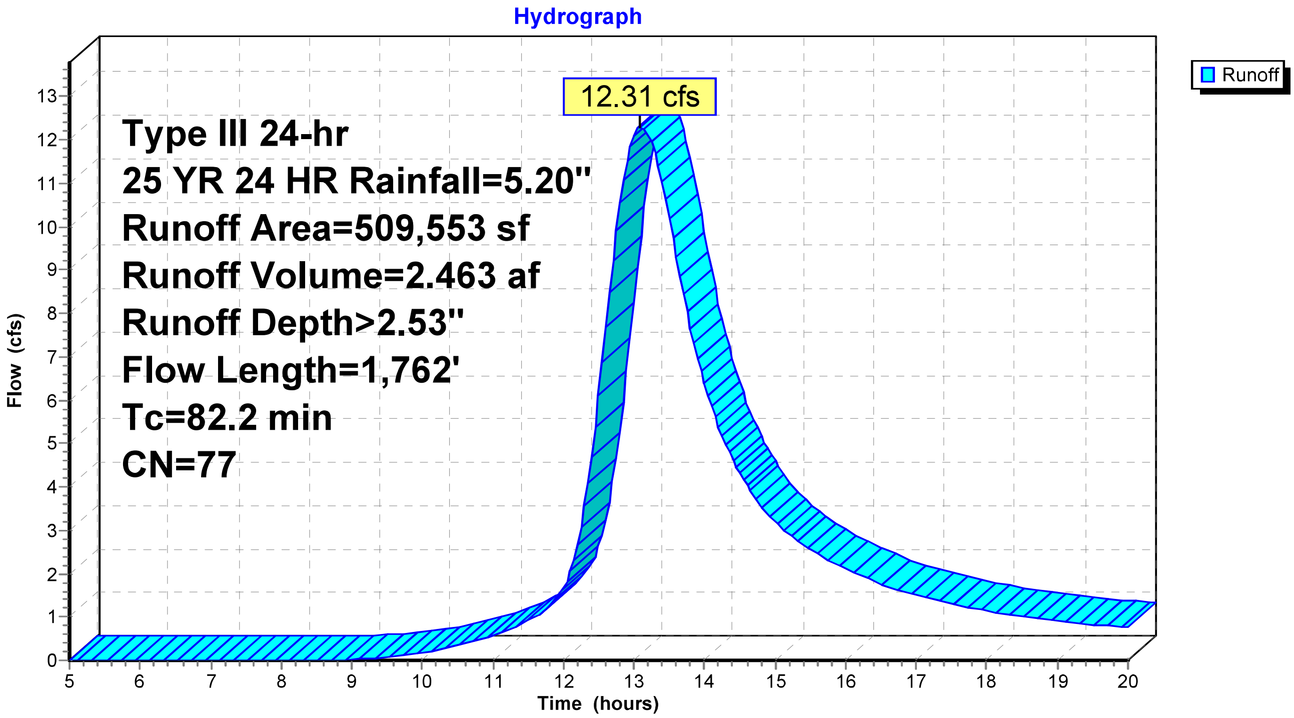
Runoff = 12.31 cfs @ 13.09 hrs, Volume= 2.463 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
468,109	77	Woods, Good, HSG D
41,444	78	Meadow, non-grazed, HSG D
509,553	77	Weighted Average
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 15S: Post SN001



Summary for Subcatchment 16S: Post SN002

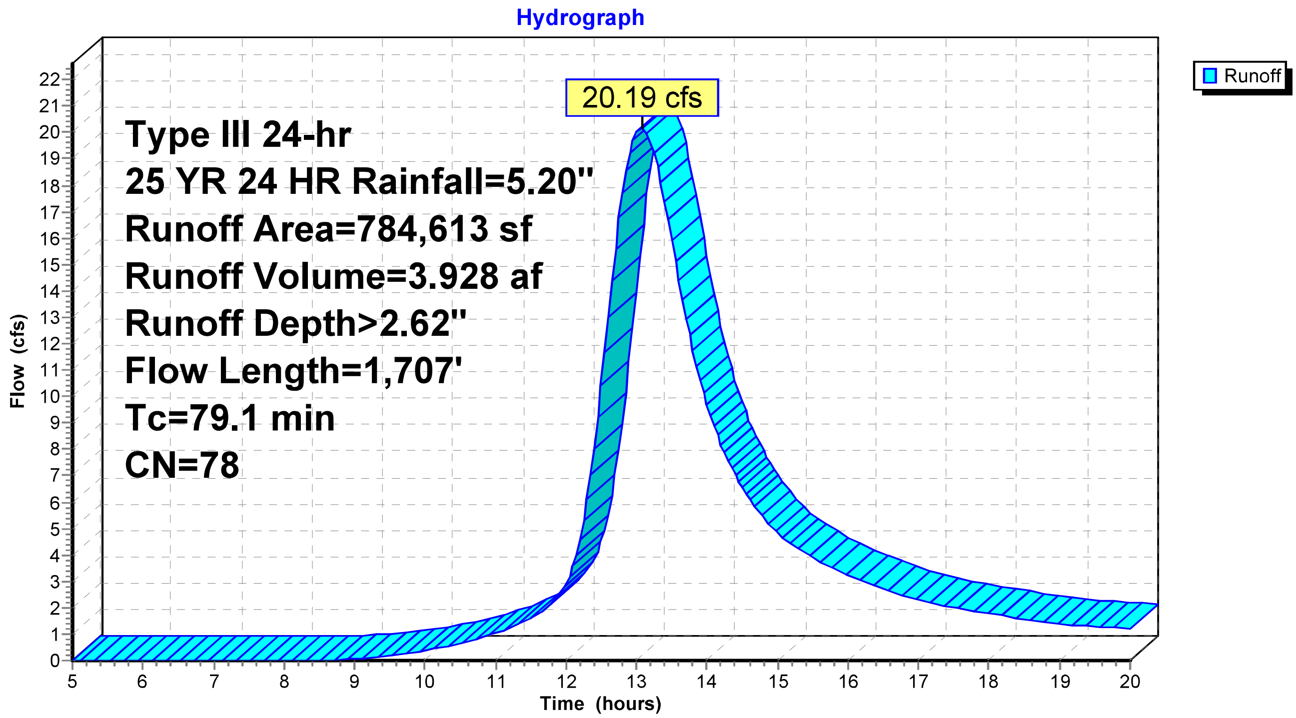
Runoff = 20.19 cfs @ 13.08 hrs, Volume= 3.928 af, Depth> 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
220,016	77	Woods, Good, HSG D
564,580	78	Meadow, non-grazed, HSG D
17	98	Paved parking, HSG D
784,613	78	Weighted Average
784,596		100.00% Pervious Area
17		0.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 16S: Post SN002



Summary for Subcatchment 17S: Post SN003

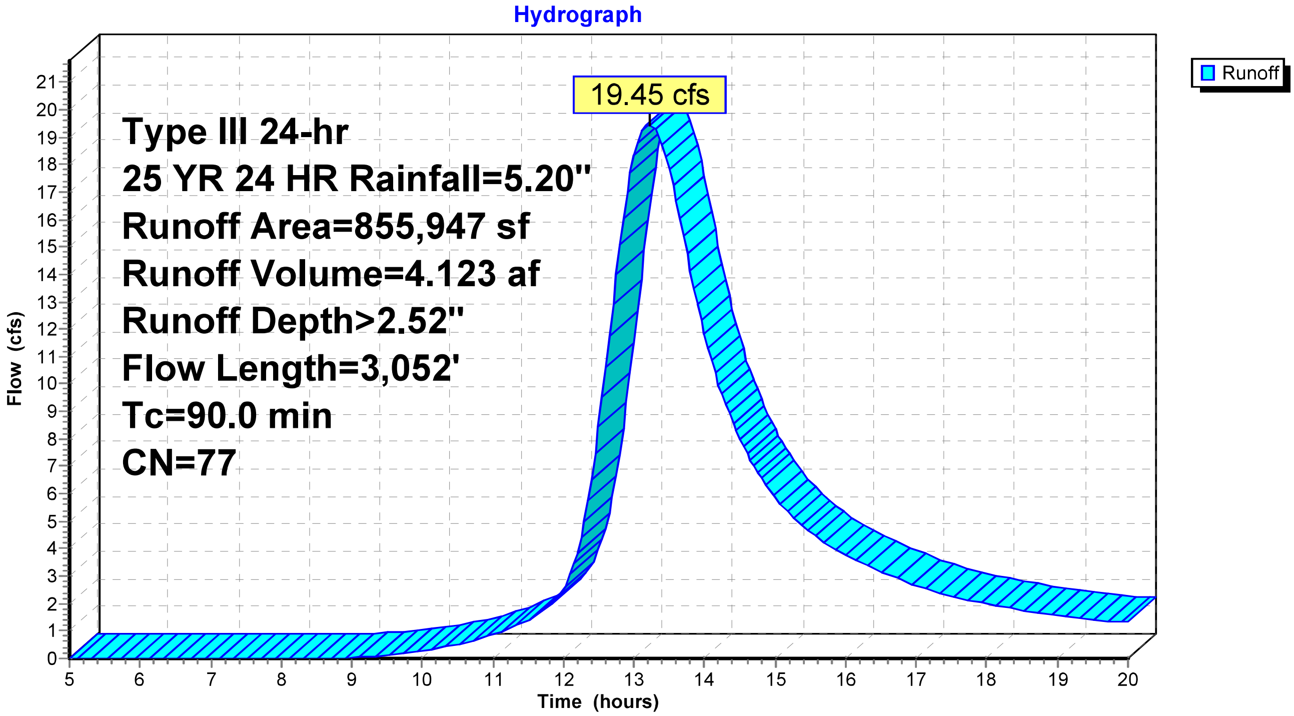
Runoff = 19.45 cfs @ 13.21 hrs, Volume= 4.123 af, Depth> 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
530,763	77	Woods, Good, HSG D
323,995	78	Meadow, non-grazed, HSG D
1,189	98	Paved parking, HSG D
855,947	77	Weighted Average
854,758		99.86% Pervious Area
1,189		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
5.1	161	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.5	135	0.0050	0.49		**Shallow Concentrated Flow, Shallow Conc. Meadow** Short Grass Pasture Kv= 7.0 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
90.0	3,052	Total			

Subcatchment 17S: Post SN003



Summary for Subcatchment 18S: Post SN004

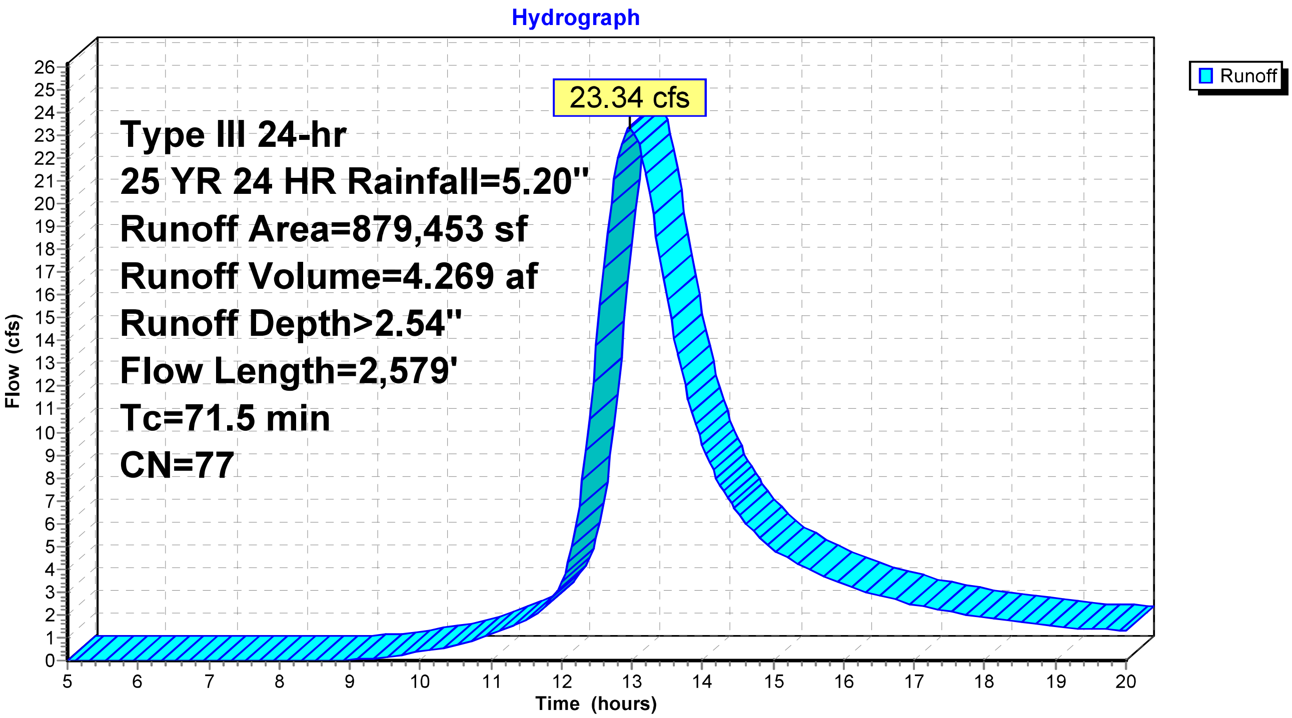
Runoff = 23.34 cfs @ 12.96 hrs, Volume= 4.269 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
637,001	77	Woods, Good, HSG D
222,209	78	Meadow, non-grazed, HSG D
9,321	98	Paved parking, HSG D
10,922	78	Meadow, non-grazed, HSG D
879,453	77	Weighted Average
870,132		98.94% Pervious Area
9,321		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.4	20	0.0120	0.76		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
0.1	14	0.0150	1.97		**Shallow Concentrated Flow, Shallow Conc. Gravel** Unpaved Kv= 16.1 fps
7.0	268	0.0082	0.63		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
71.5	2,579	Total			

Subcatchment 18S: Post SN004



Summary for Subcatchment 19S: Post SN005

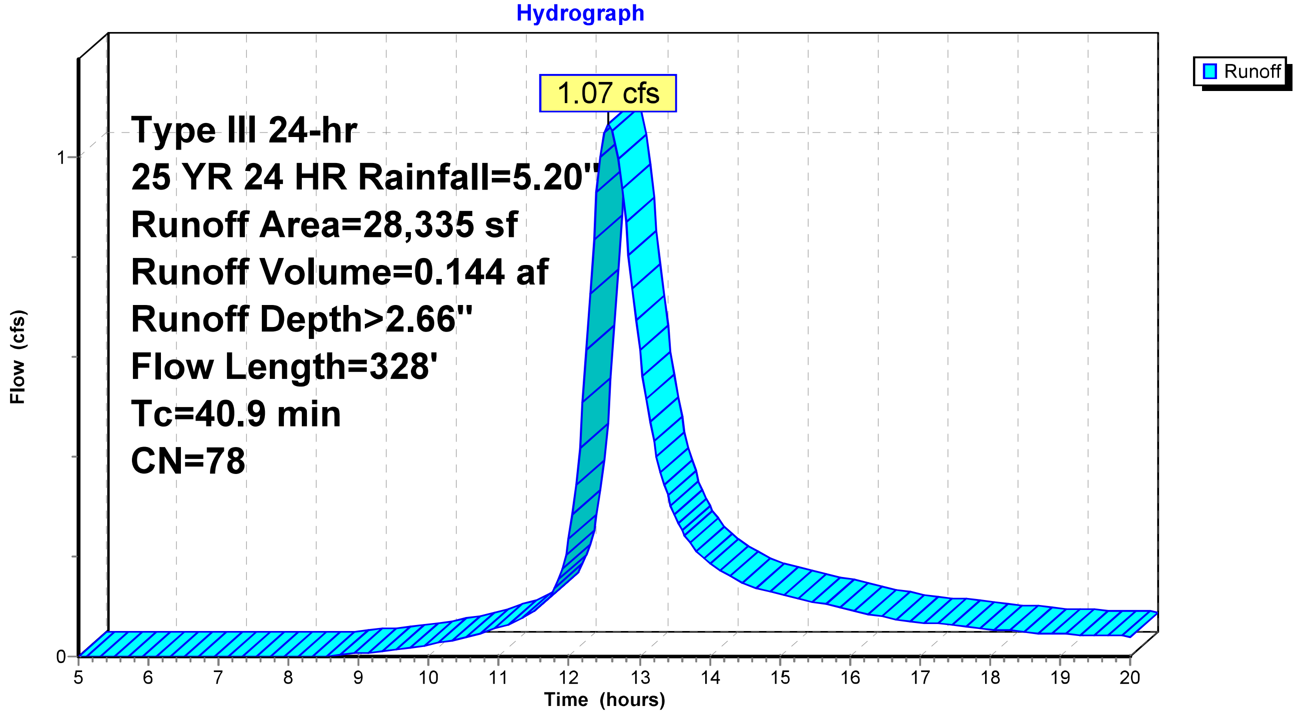
Runoff = 1.07 cfs @ 12.57 hrs, Volume= 0.144 af, Depth> 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
14,090	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,387	98	Paved parking, HSG D
28,335	78	Weighted Average
26,948		95.10% Pervious Area
1,387		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 19S: Post SN005



Summary for Subcatchment 20S: Post SN006

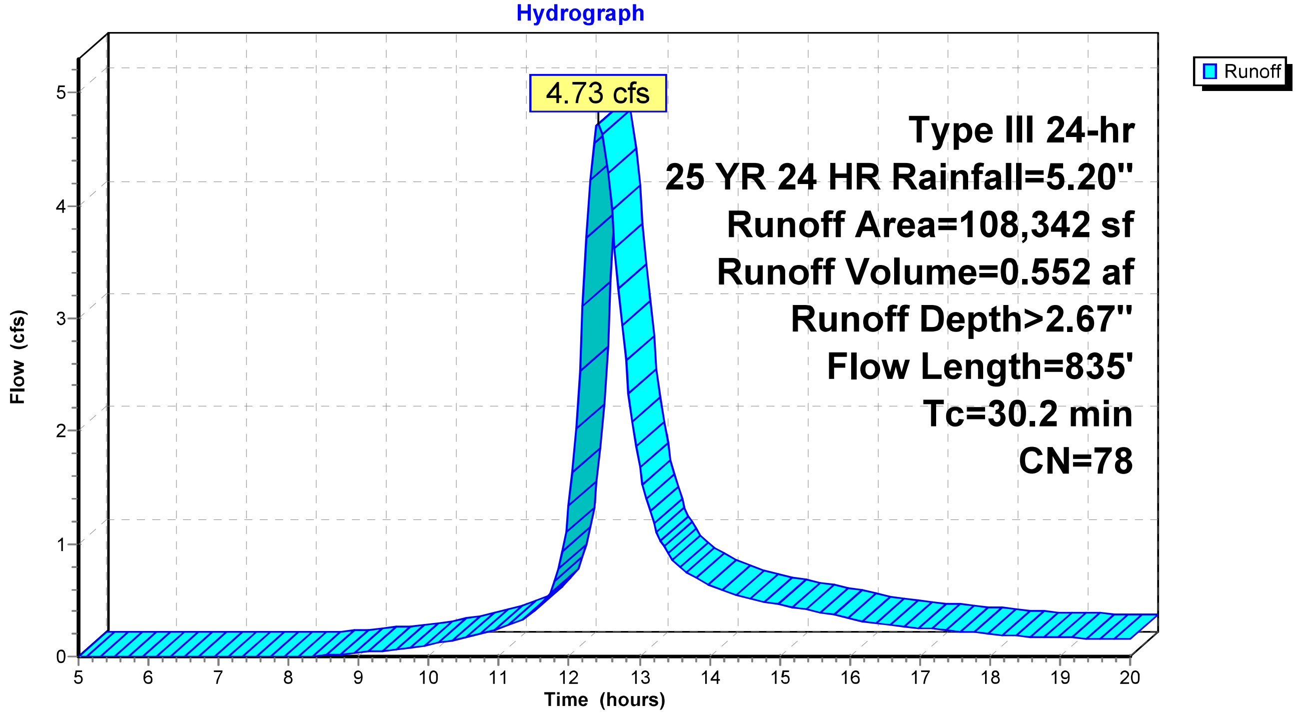
Runoff = 4.73 cfs @ 12.42 hrs, Volume= 0.552 af, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR 24 HR Rainfall=5.20"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

Subcatchment 20S: Post SN006

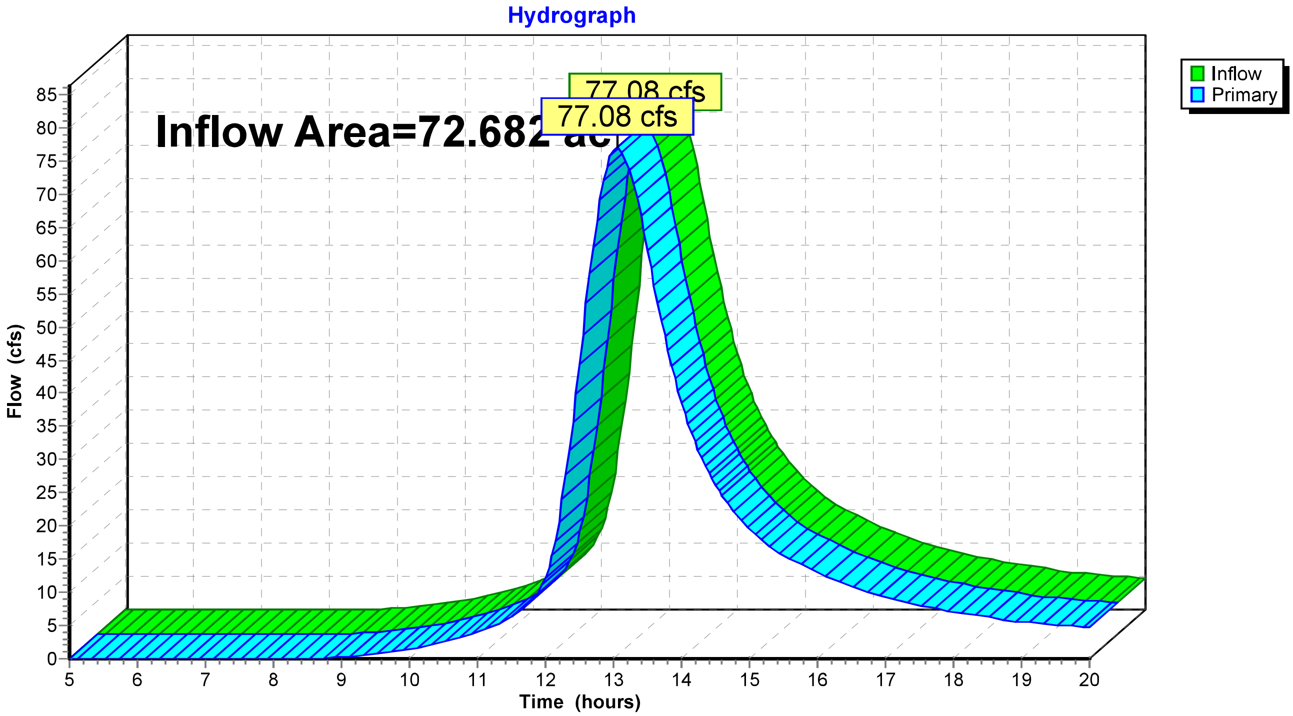


Summary for Link 7L: Pre

Inflow Area = 72.682 ac, 0.57% Impervious, Inflow Depth > 2.58" for 25 YR 24 HR event
Inflow = 77.08 cfs @ 13.06 hrs, Volume= 15.625 af
Primary = 77.08 cfs @ 13.06 hrs, Volume= 15.625 af, Atten= 0%, Lag= 0.0 min

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

Link 7L: Pre

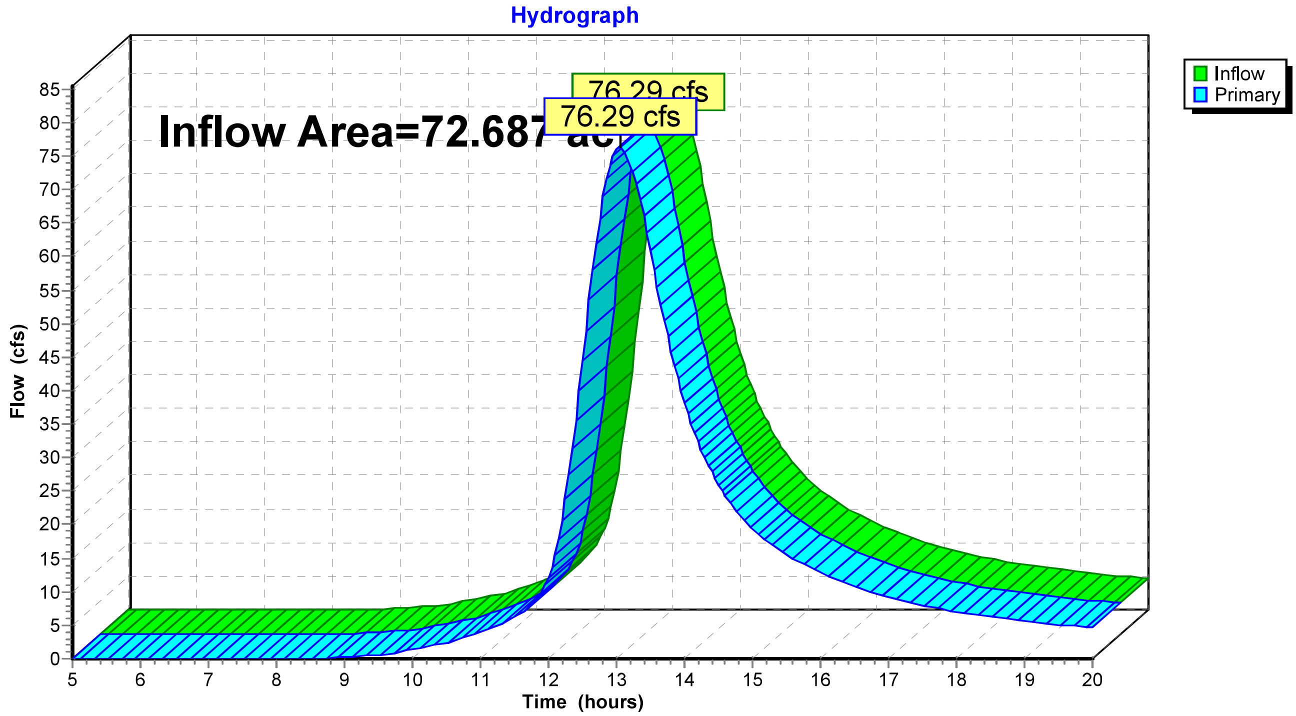


Summary for Link 21L: Post

Inflow Area =	72.687 ac,	0.48% Impervious, Inflow Depth > 2.56"	for 25 YR 24 HR event
Inflow =	76.29 cfs @	13.06 hrs, Volume=	15.480 af
Primary =	76.29 cfs @	13.06 hrs, Volume=	15.480 af, Atten= 0%, Lag= 0.0 min

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

Link 21L: Post



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 1S: Pre SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>3.24"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=15.78 cfs 3.162 af

Subcatchment 2S: Pre SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>3.35"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=25.71 cfs 5.021 af

Subcatchment 3S: Pre SN003 Runoff Area=855,947 sf 0.02% Impervious Runoff Depth>3.23"
Flow Length=3,053' Tc=89.7 min CN=77 Runoff=25.08 cfs 5.296 af

Subcatchment 4S: Pre SN004 Runoff Area=879,255 sf 1.50% Impervious Runoff Depth>3.35"
Flow Length=2,580' Tc=72.6 min CN=78 Runoff=30.45 cfs 5.641 af

Subcatchment 5S: Pre SN005 Runoff Area=28,335 sf 4.35% Impervious Runoff Depth>3.39"
Flow Length=328' Tc=40.9 min CN=78 Runoff=1.36 cfs 0.184 af

Subcatchment 6S: Pre SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>3.40"
Flow Length=835' Tc=30.2 min CN=78 Runoff=6.02 cfs 0.706 af

Subcatchment 15S: Post SN001 Runoff Area=509,553 sf 0.00% Impervious Runoff Depth>3.24"
Flow Length=1,762' Tc=82.2 min CN=77 Runoff=15.78 cfs 3.162 af

Subcatchment 16S: Post SN002 Runoff Area=784,613 sf 0.00% Impervious Runoff Depth>3.35"
Flow Length=1,707' Tc=79.1 min CN=78 Runoff=25.71 cfs 5.021 af

Subcatchment 17S: Post SN003 Runoff Area=855,947 sf 0.14% Impervious Runoff Depth>3.23"
Flow Length=3,052' Tc=90.0 min CN=77 Runoff=24.93 cfs 5.296 af

Subcatchment 18S: Post SN004 Runoff Area=879,453 sf 1.06% Impervious Runoff Depth>3.26"
Flow Length=2,579' Tc=71.5 min CN=77 Runoff=29.90 cfs 5.481 af

Subcatchment 19S: Post SN005 Runoff Area=28,335 sf 4.90% Impervious Runoff Depth>3.39"
Flow Length=328' Tc=40.9 min CN=78 Runoff=1.36 cfs 0.184 af

Subcatchment 20S: Post SN006 Runoff Area=108,342 sf 3.02% Impervious Runoff Depth>3.40"
Flow Length=835' Tc=30.2 min CN=78 Runoff=6.02 cfs 0.706 af

Link 7L: Pre Inflow=98.45 cfs 20.010 af
Primary=98.45 cfs 20.010 af

Link 21L: Post Inflow=97.58 cfs 19.849 af
Primary=97.58 cfs 19.849 af

Total Runoff Area = 145.369 ac Runoff Volume = 39.859 af Average Runoff Depth = 3.29"
99.48% Pervious = 144.609 ac 0.52% Impervious = 0.760 ac

Summary for Subcatchment 1S: Pre SN001

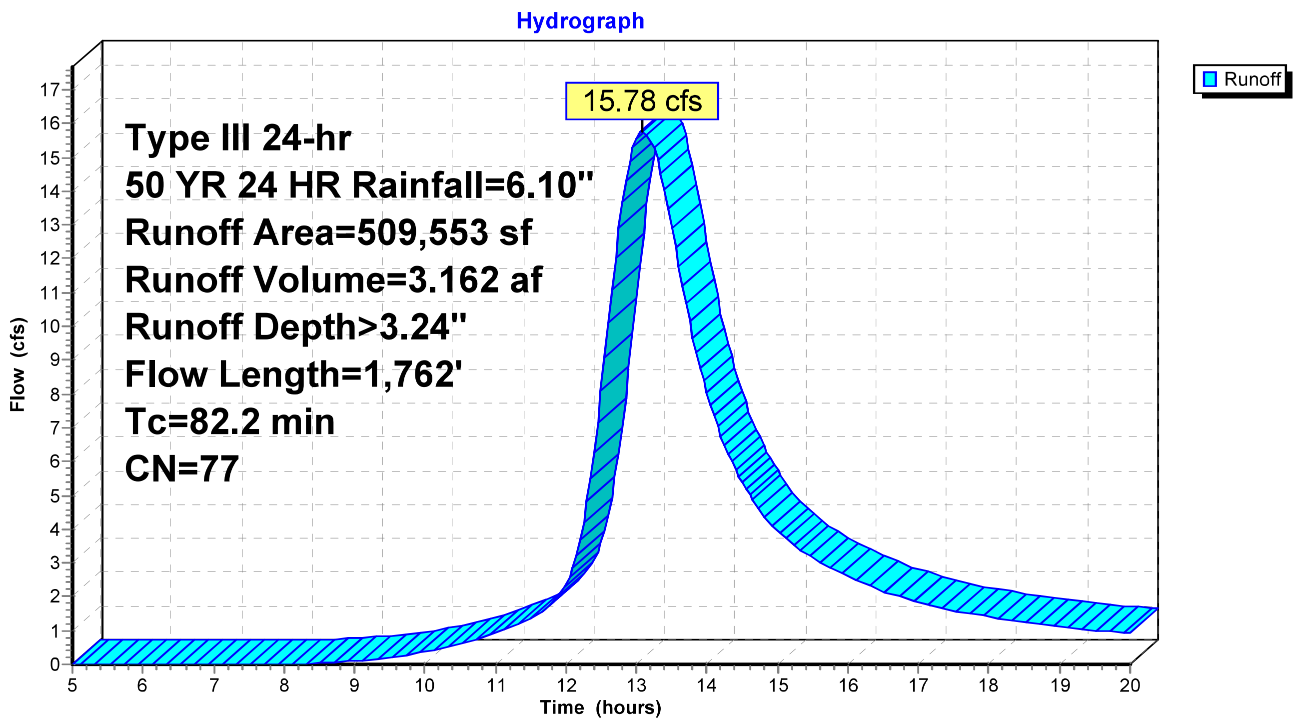
Runoff = 15.78 cfs @ 13.08 hrs, Volume= 3.162 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
509,553	77	Woods, Good, HSG D
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 1S: Pre SN001



Summary for Subcatchment 2S: Pre SN002

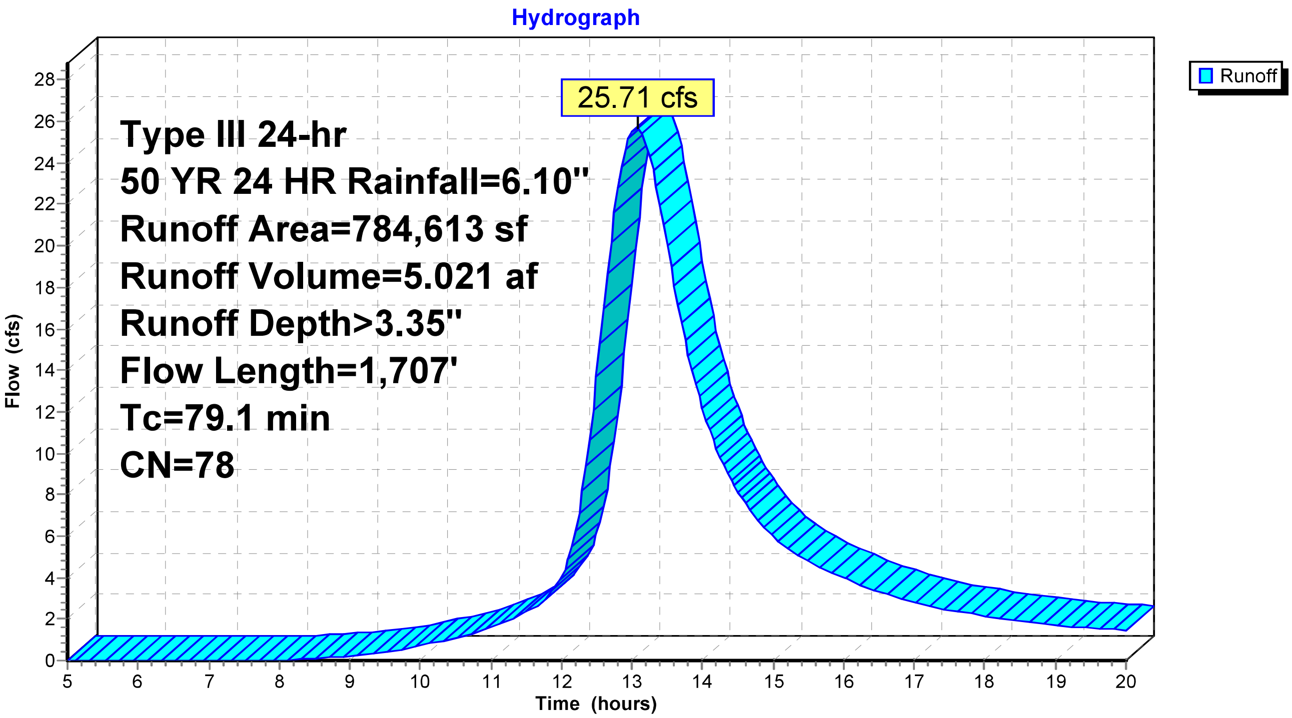
Runoff = 25.71 cfs @ 13.08 hrs, Volume= 5.021 af, Depth> 3.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
320,827	77	Woods, Good, HSG D
463,786	78	Meadow, non-grazed, HSG D
784,613	78	Weighted Average
784,613		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 2S: Pre SN002



Summary for Subcatchment 3S: Pre SN003

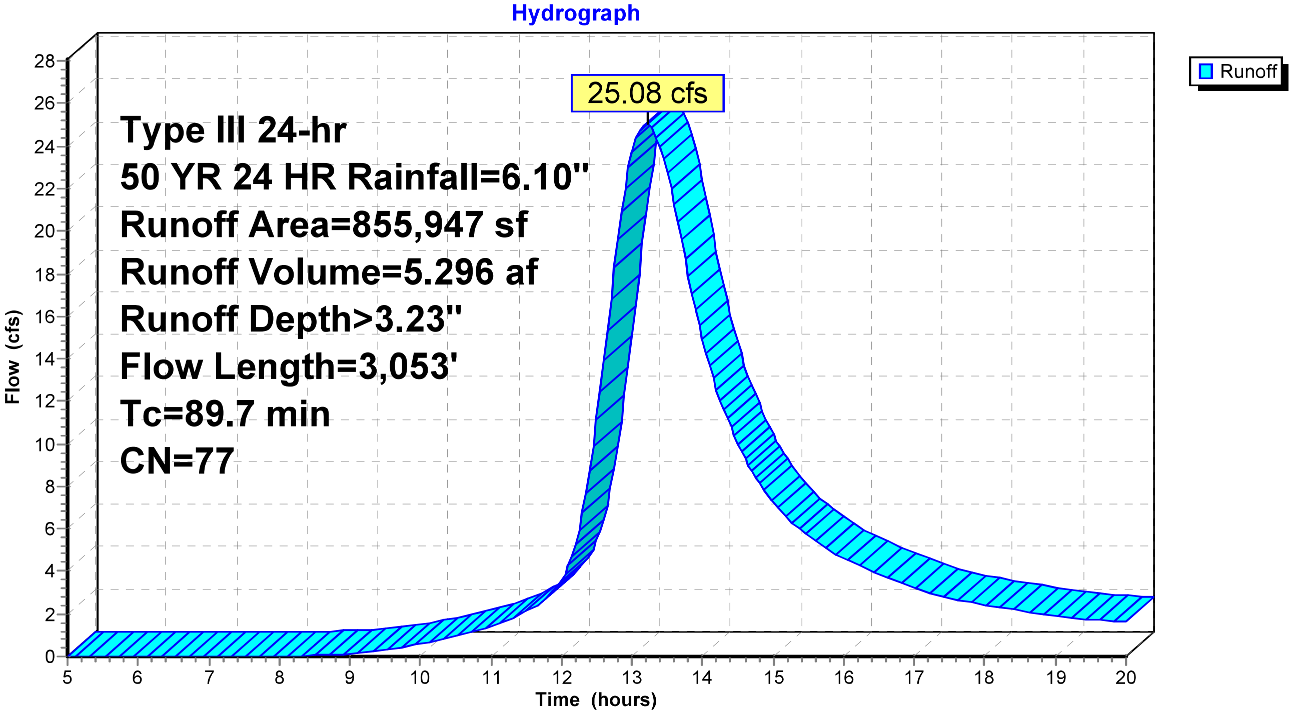
Runoff = 25.08 cfs @ 13.23 hrs, Volume= 5.296 af, Depth> 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
564,677	77	Woods, Good, HSG D
291,094	78	Meadow, non-grazed, HSG D
176	98	Paved parking, HSG D
855,947	77	Weighted Average
855,771		99.98% Pervious Area
176		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	297	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
89.7	3,053	Total			

Subcatchment 3S: Pre SN003



Summary for Subcatchment 4S: Pre SN004

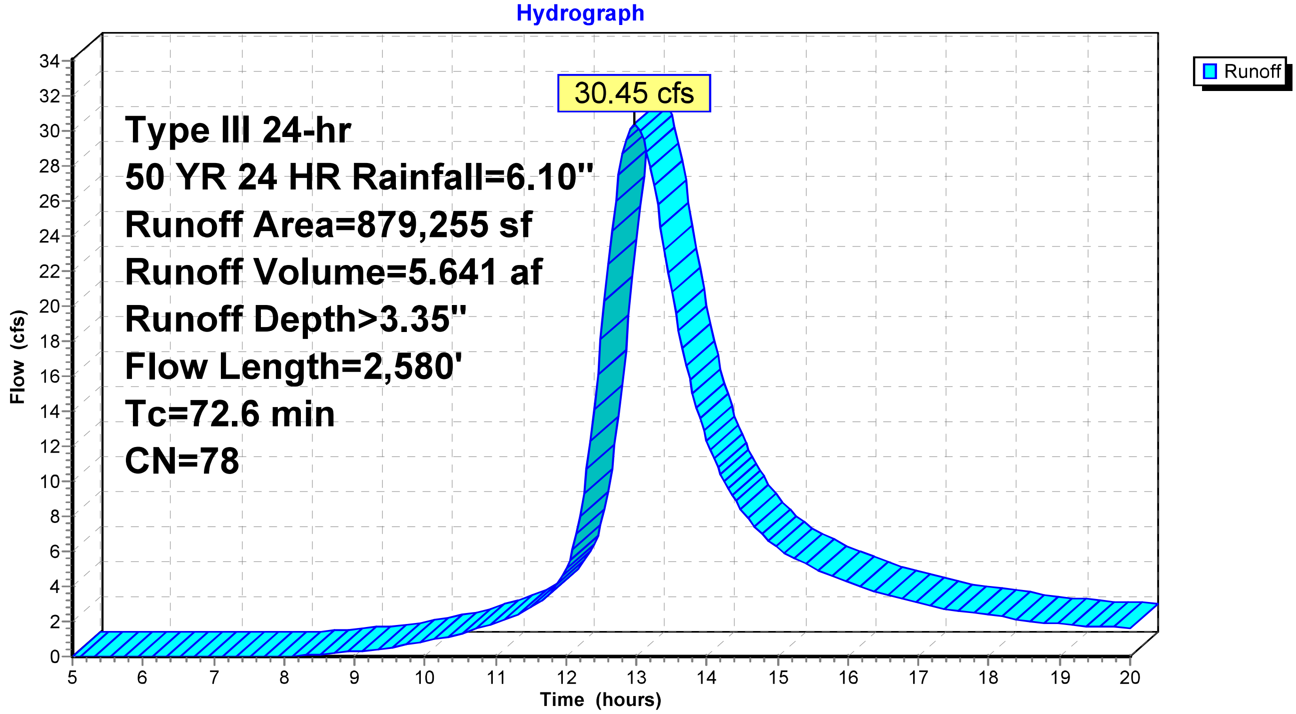
Runoff = 30.45 cfs @ 12.98 hrs, Volume= 5.641 af, Depth> 3.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
690,692	77	Woods, Good, HSG D
175,331	78	Meadow, non-grazed, HSG D
13,232	98	Paved parking, HSG D
879,255	78	Weighted Average
866,023		98.50% Pervious Area
13,232		1.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	135	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.3	15	0.0120	0.72		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
7.6	283	0.0078	0.62		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
72.6	2,580	Total			

Subcatchment 4S: Pre SN004



Summary for Subcatchment 5S: Pre SN005

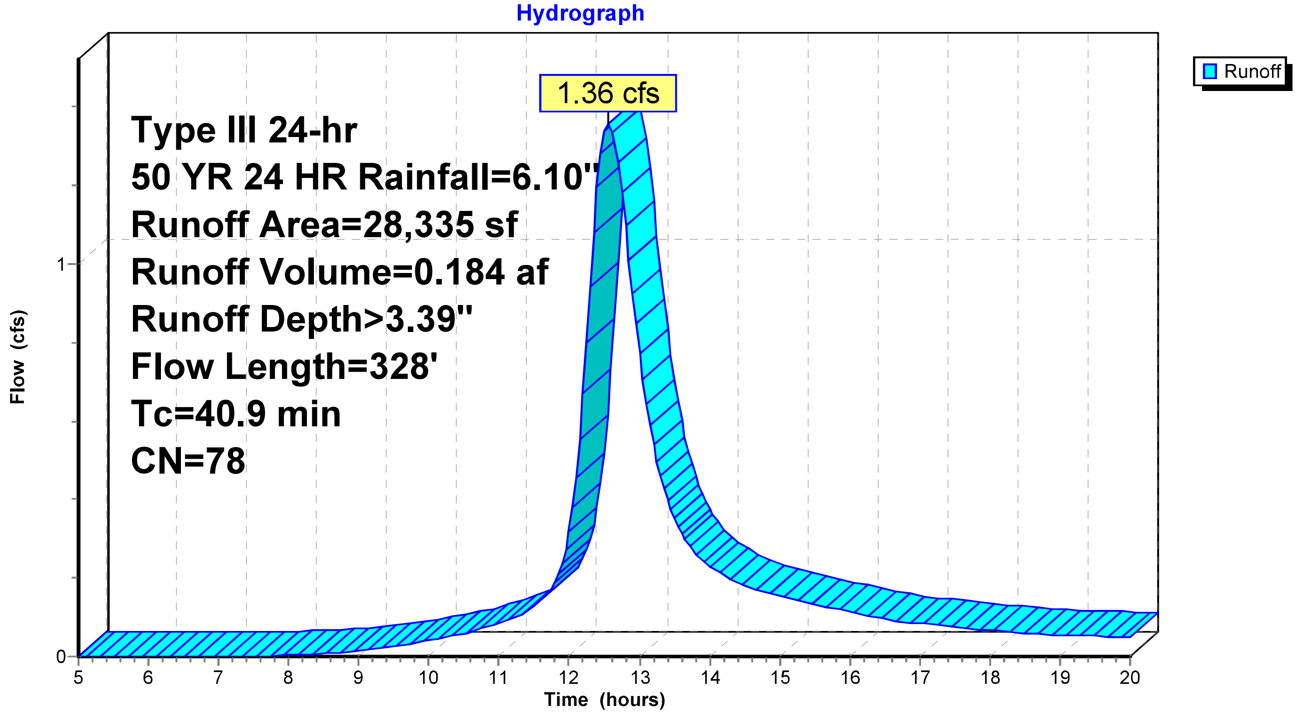
Runoff = 1.36 cfs @ 12.56 hrs, Volume= 0.184 af, Depth> 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
14,244	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,233	98	Paved parking, HSG D
28,335	78	Weighted Average
27,102		95.65% Pervious Area
1,233		4.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 5S: Pre SN005



Summary for Subcatchment 6S: Pre SN006

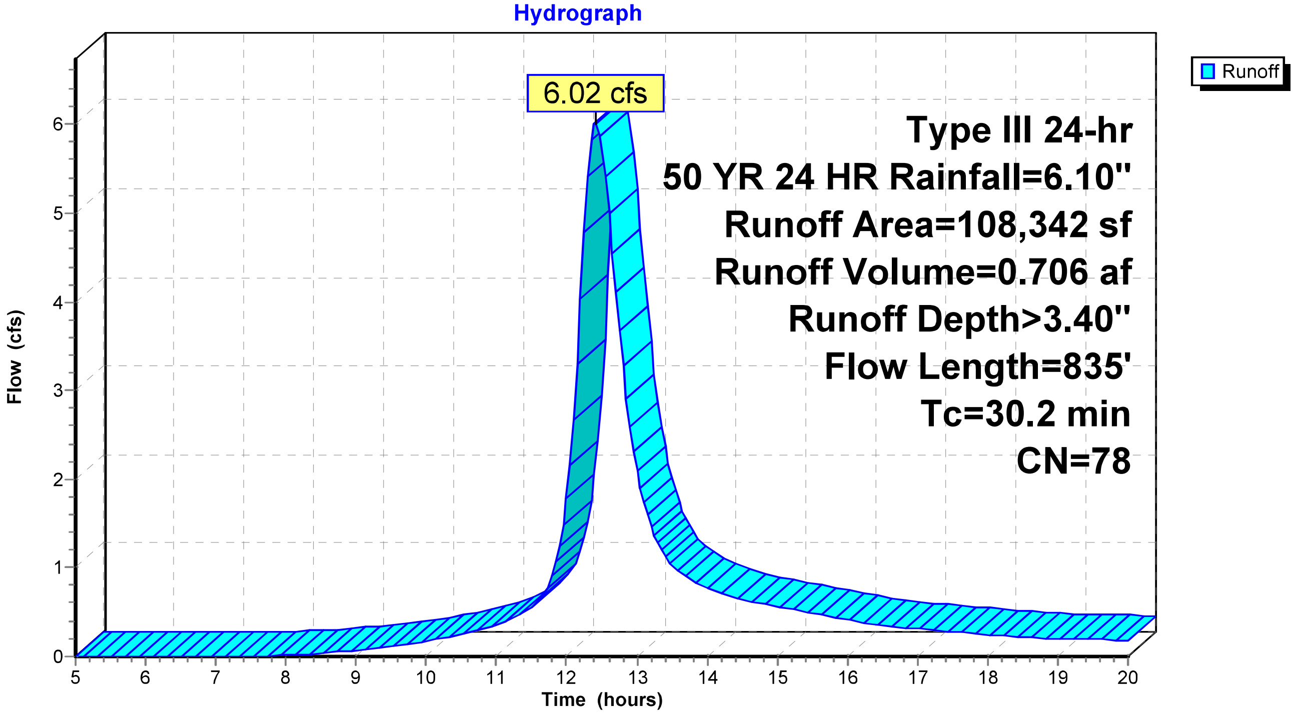
Runoff = 6.02 cfs @ 12.42 hrs, Volume= 0.706 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

Subcatchment 6S: Pre SN006



Summary for Subcatchment 15S: Post SN001

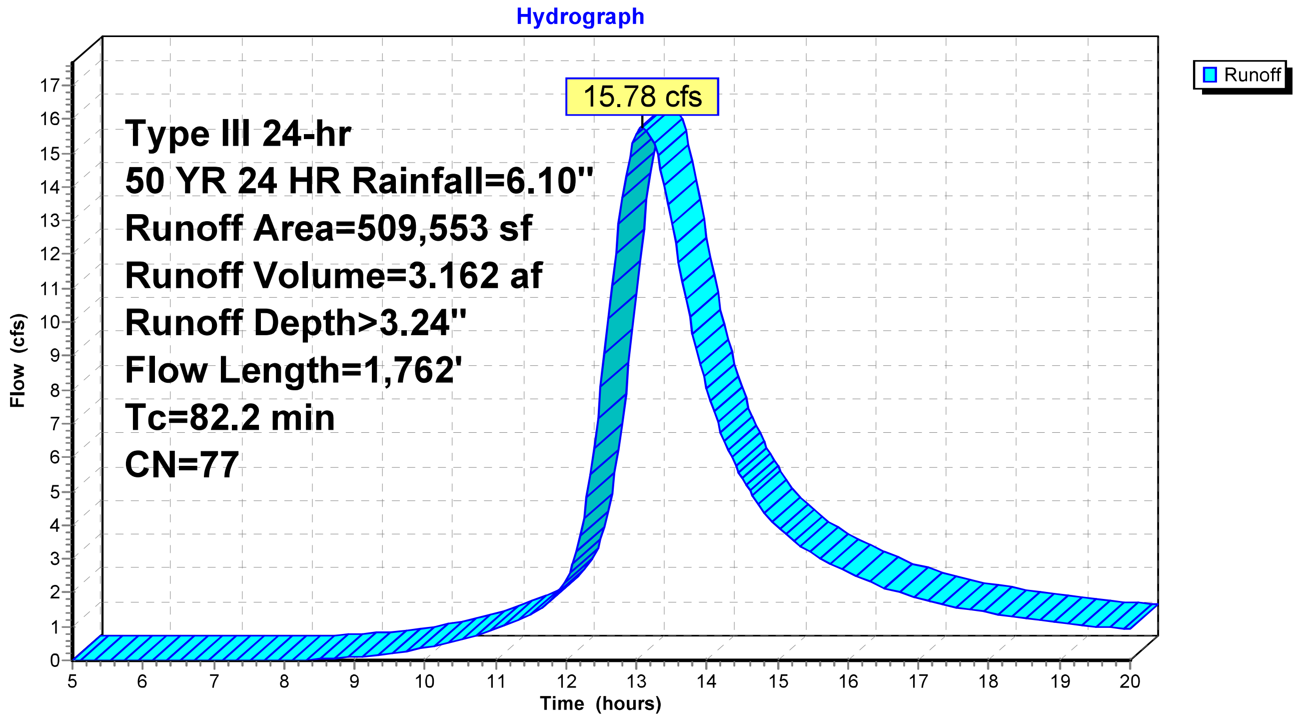
Runoff = 15.78 cfs @ 13.08 hrs, Volume= 3.162 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
468,109	77	Woods, Good, HSG D
41,444	78	Meadow, non-grazed, HSG D
509,553	77	Weighted Average
509,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.2	150	0.0350	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
38.0	1,612	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods** Forest w/Heavy Litter Kv= 2.5 fps
82.2	1,762	Total			

Subcatchment 15S: Post SN001



Summary for Subcatchment 16S: Post SN002

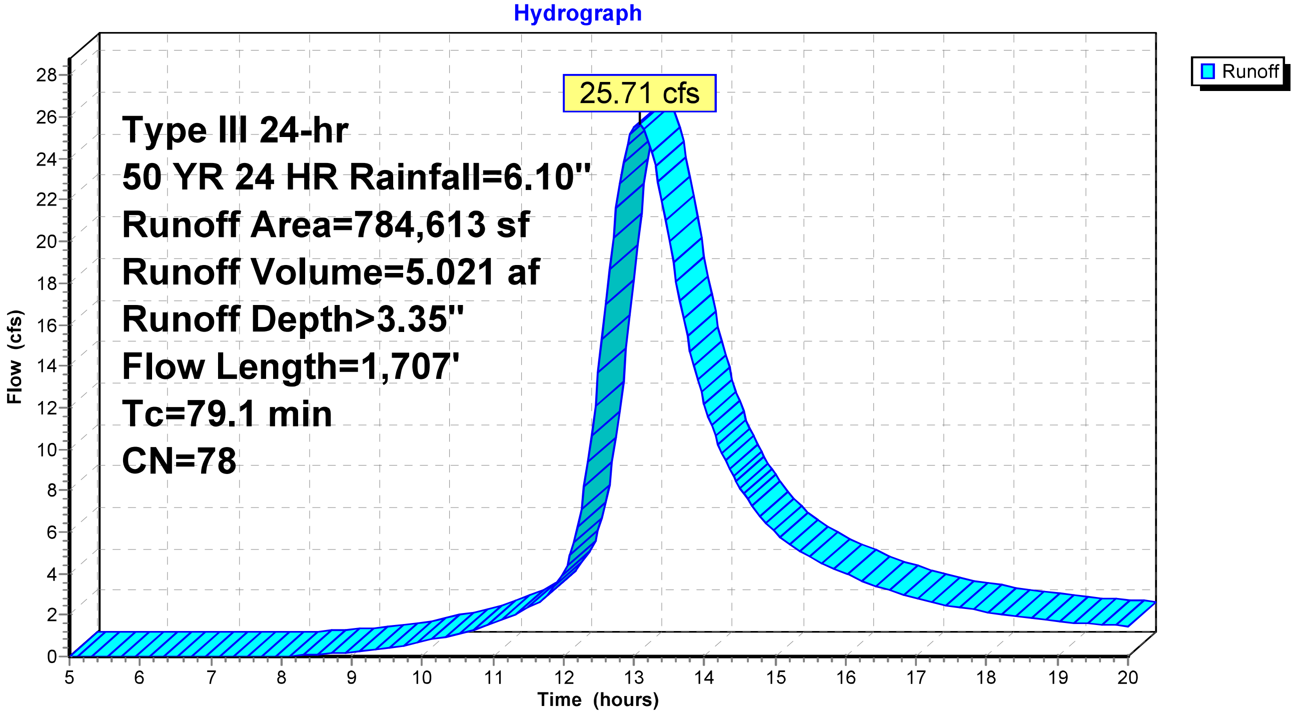
Runoff = 25.71 cfs @ 13.08 hrs, Volume= 5.021 af, Depth> 3.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
220,016	77	Woods, Good, HSG D
564,580	78	Meadow, non-grazed, HSG D
17	98	Paved parking, HSG D
784,613	78	Weighted Average
784,596		100.00% Pervious Area
17		0.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
41.9	150	0.0400	0.06		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
9.3	196	0.0199	0.35		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
9.7	258	0.0313	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
4.5	625	0.1091	2.31		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
6.1	277	0.0930	0.76		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
7.6	201	0.0307	0.44		**Shallow Concentrated Flow, Shallow Concentrated Woods 4** Forest w/Heavy Litter Kv= 2.5 fps
79.1	1,707	Total			

Subcatchment 16S: Post SN002



Summary for Subcatchment 17S: Post SN003

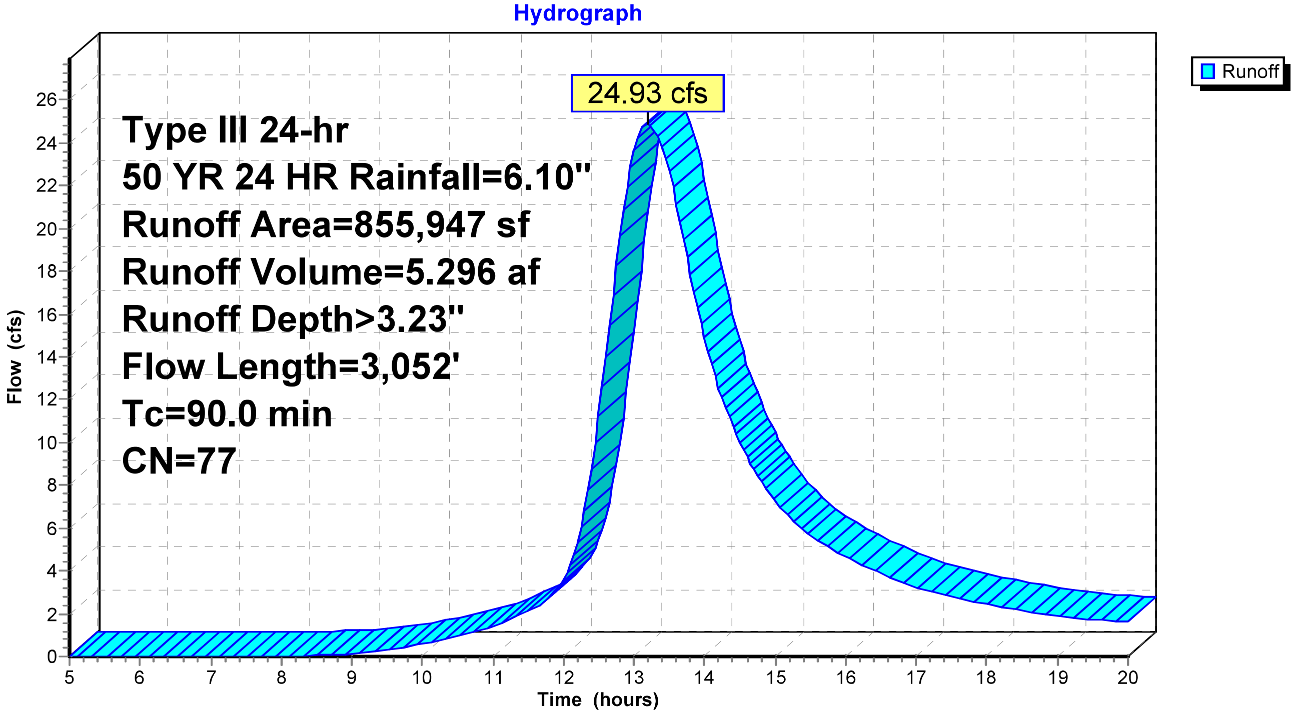
Runoff = 24.93 cfs @ 13.20 hrs, Volume= 5.296 af, Depth> 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
530,763	77	Woods, Good, HSG D
323,995	78	Meadow, non-grazed, HSG D
1,189	98	Paved parking, HSG D
855,947	77	Weighted Average
854,758		99.86% Pervious Area
1,189		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.0	150	0.0300	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
5.1	161	0.0450	0.53		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.5	135	0.0050	0.49		**Shallow Concentrated Flow, Shallow Conc. Meadow** Short Grass Pasture Kv= 7.0 fps
4.9	542	0.0690	1.84		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
16.6	705	0.0798	0.71		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
11.9	1,359	0.0710	1.90	1.90	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
90.0	3,052	Total			

Subcatchment 17S: Post SN003



Summary for Subcatchment 18S: Post SN004

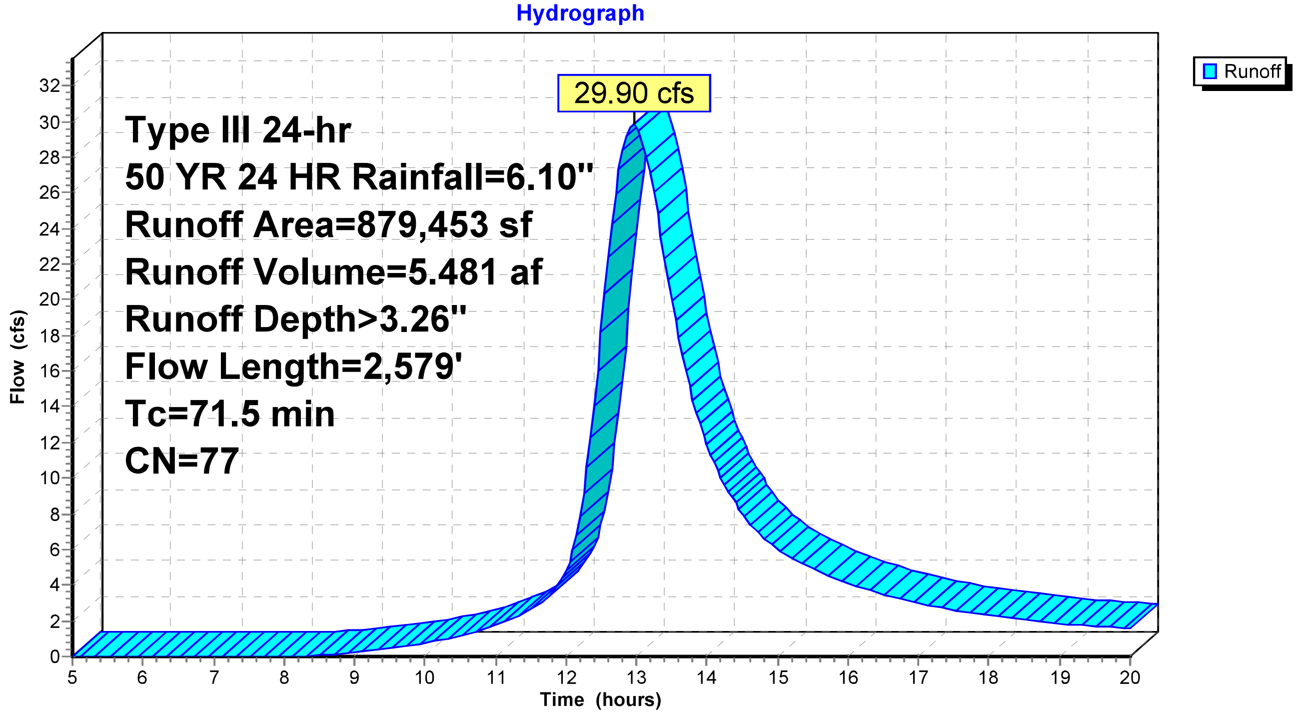
Runoff = 29.90 cfs @ 12.95 hrs, Volume= 5.481 af, Depth> 3.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
637,001	77	Woods, Good, HSG D
222,209	78	Meadow, non-grazed, HSG D
9,321	98	Paved parking, HSG D
10,922	78	Meadow, non-grazed, HSG D
879,453	77	Weighted Average
870,132		98.94% Pervious Area
9,321		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.7	130	0.0140	0.10		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
0.4	20	0.0120	0.76		**Sheet Flow, Sheet, Gravel** Smooth surfaces n= 0.011 P2= 2.80"
0.1	14	0.0150	1.97		**Shallow Concentrated Flow, Shallow Conc. Gravel** Unpaved Kv= 16.1 fps
7.0	268	0.0082	0.63		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
15.4	311	0.0181	0.34		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
4.8	490	0.0578	1.72	1.72	**Channel Flow, Channel Woods 1** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
5.0	176	0.0560	0.59		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
12.6	604	0.1028	0.80		**Shallow Concentrated Flow, Shallow Concentrated Woods 3** Forest w/Heavy Litter Kv= 2.5 fps
4.5	566	0.0848	2.08	2.08	**Channel Flow, Channel Woods** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.100 Earth, dense brush, high stage
71.5	2,579	Total			

Subcatchment 18S: Post SN004



Summary for Subcatchment 19S: Post SN005

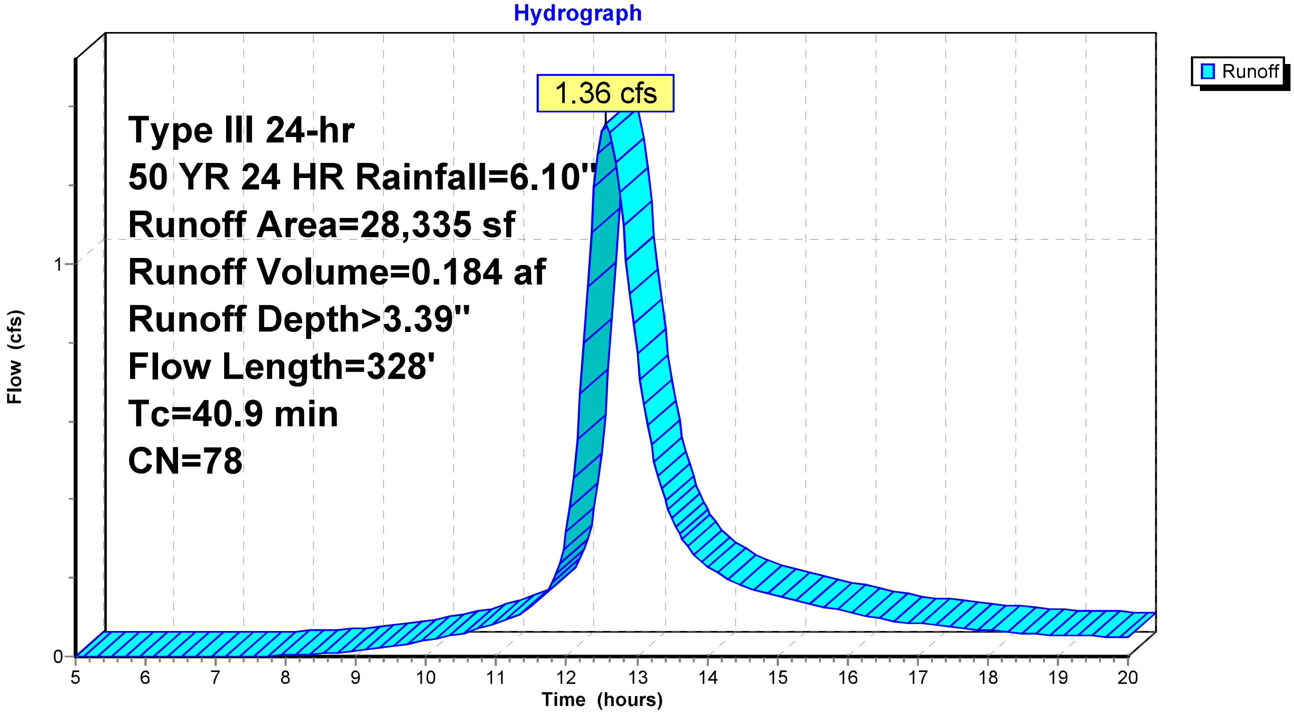
Runoff = 1.36 cfs @ 12.56 hrs, Volume= 0.184 af, Depth> 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
14,090	77	Woods, Good, HSG D
12,858	78	Meadow, non-grazed, HSG D
1,387	98	Paved parking, HSG D
28,335	78	Weighted Average
26,948		95.10% Pervious Area
1,387		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	67	0.0098	0.08		**Sheet Flow, Sheet Meadow 1** Grass: Dense n= 0.240 P2= 2.80"
25.0	78	0.0393	0.05		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 2.80"
0.6	5	0.1825	0.15		**Sheet Flow, Sheet Meadow 2** Grass: Dense n= 0.240 P2= 2.80"
0.1	15	0.1271	2.50		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
0.5	163	0.0580	5.73	5.73	**Channel Flow, Channel Meadow** Area= 1.0 sf Perim= 3.0' r= 0.33' n= 0.030 Earth, grassed & winding
40.9	328	Total			

Subcatchment 19S: Post SN005



Summary for Subcatchment 20S: Post SN006

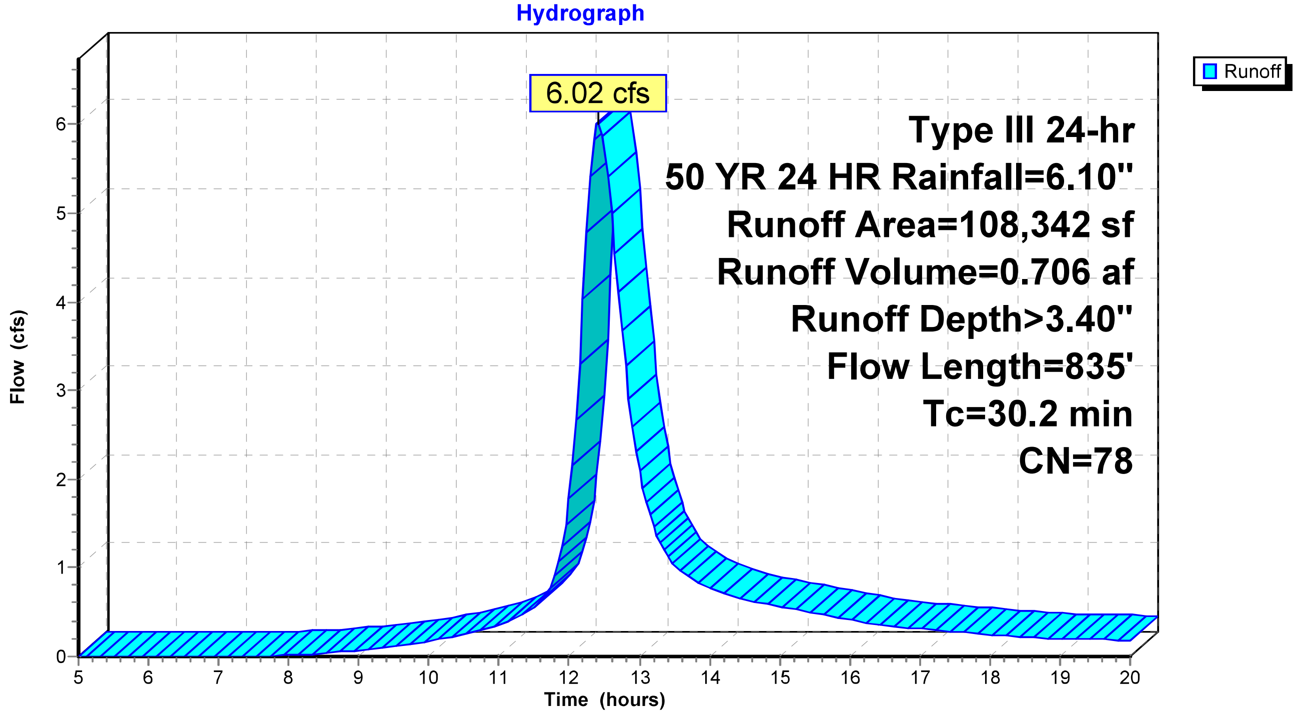
Runoff = 6.02 cfs @ 12.42 hrs, Volume= 0.706 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR 24 HR Rainfall=6.10"

Area (sf)	CN	Description
75,396	77	Woods, Good, HSG D
29,671	78	Meadow, non-grazed, HSG D
3,275	98	Paved parking, HSG D
108,342	78	Weighted Average
105,067		96.98% Pervious Area
3,275		3.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.1	150	0.0340	0.15		**Sheet Flow, Sheet Meadow** Grass: Dense n= 0.240 P2= 2.80"
1.2	89	0.0292	1.20		**Shallow Concentrated Flow, Shallow Concentrated Meadow** Short Grass Pasture Kv= 7.0 fps
8.4	381	0.0910	0.75		**Shallow Concentrated Flow, Shallow Concentrated Woods 1** Forest w/Heavy Litter Kv= 2.5 fps
0.1	15	0.0190	2.22		**Shallow Concentrated Flow, Shallow Conc., Gravel** Unpaved Kv= 16.1 fps
3.4	200	0.1518	0.97		**Shallow Concentrated Flow, Shallow Concentrated Woods 2** Forest w/Heavy Litter Kv= 2.5 fps
30.2	835	Total			

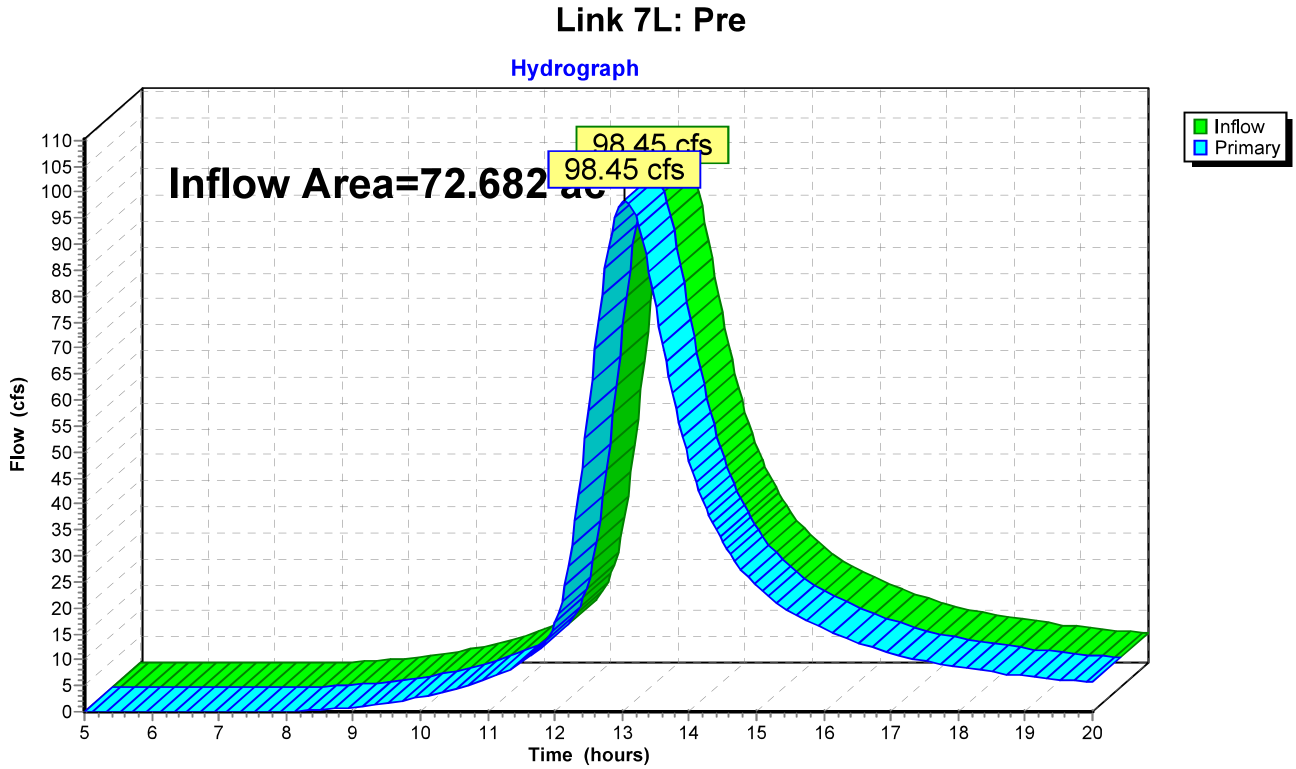
Subcatchment 20S: Post SN006



Summary for Link 7L: Pre

Inflow Area =	72.682 ac,	0.57% Impervious, Inflow Depth > 3.30"	for 50 YR 24 HR event
Inflow =	98.45 cfs @	13.05 hrs, Volume=	20.010 af
Primary =	98.45 cfs @	13.05 hrs, Volume=	20.010 af, Atten= 0%, Lag= 0.0 min

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

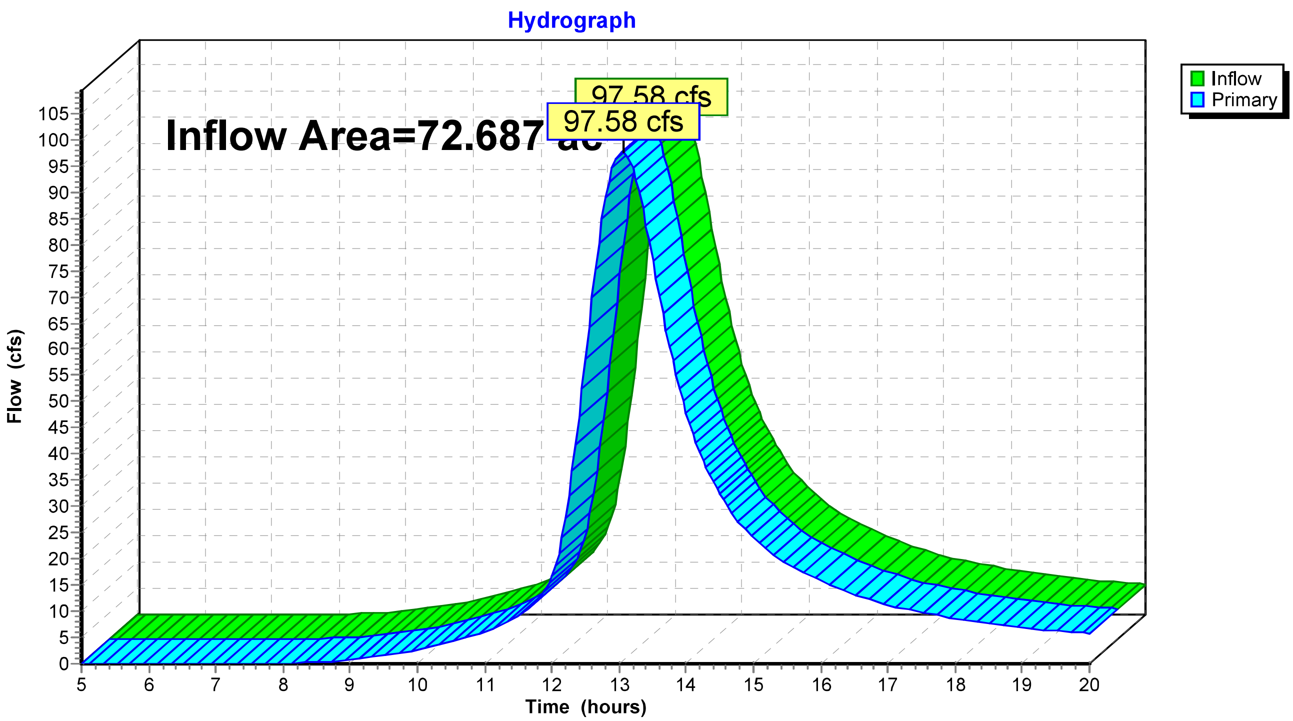


Summary for Link 21L: Post

Inflow Area = 72.687 ac, 0.48% Impervious, Inflow Depth > 3.28" for 50 YR 24 HR event
Inflow = 97.58 cfs @ 13.05 hrs, Volume= 19.849 af
Primary = 97.58 cfs @ 13.05 hrs, Volume= 19.849 af, Atten= 0%, Lag= 0.0 min

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

Link 21L: Post



ATTACHMENT F: AGENCY CORRESPONDENCE

Stantec

Stantec Consulting Services Inc.
30 Park Drive, Topsham ME 04086-1737

November 1, 2021
File: 195602046

Attention: Mr. Kirk F. Mohney, Director
Maine Historic Preservation Commission
65 State House Station
Augusta, ME 04333-0065

Reference: Significant Cultural / Historic Resources Information Request – Readfield, Maine

Dear Mr. Mohney,

The purpose of this letter is to request information on any significant cultural or historic resources associated with the location depicted on the attached project location map (Attachment 1). We are assisting Norwich Solar Technologies with evaluating this site for a proposed commercial solar energy project on Route 17 (Readfield Road) in Readfield, Maine (Project).

The Project is still in the design phase; therefore, a preliminary layout is not yet available. Please review the map in Attachment 1 and advise if there are any known or suspected cultural or historic resources associated with this potential development area. Adjacent parcels that contain buildings are depicted in relation to the Project area as numbered symbols on the figure in Attachment 2. None of the buildings identified were estimated to be greater than 50 years old based on the viewpoints obtained from Google Maps.[1] Details of each resource location and building age are included in Table 1 below and Attachment 2. Representative photographs of buildings locations are contained in Attachment 3.

Table 1. Project Adjacent Building Details, Readfield Project Site

Building Number on Attachment 2	Tax Map / Lot Number	Estimated Building Age > 50 years old[1]	Photo Number
1	143/013	N	1
2	143/002	N	2
3	143/015	N	3
4	143/016	N	4

[1] Google Maps. 2021. Street View. Available online at: https://www.google.com/maps. Accessed October 29, 2021.

Although a Project layout is not yet available, it is anticipated that there will be no Project visibility from any of the identified adjacent building locations due to the existing forested buffers between the building locations and the Project area.

[1] Google Maps. 2021. Street View. Available online at: https://www.google.com/maps. Accessed October 29, 2021.

Reference: **Significant Cultural / Historic Resources Information Request – Readfield, Maine**

Should you have any questions, please feel free to contact me. Thank you for your assistance in obtaining this information.

Regards,

Stantec Consulting Services Inc.

Eben Baker

Eben Baker PWS, Ecologist
Project Scientist
Phone: 207 747 9407
eben.baker@stantec.com

Attachments: Attachment 1 – Project Location Map
Attachment 2 – Building Locations
Attachment 3 – Representative Photographs

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney

Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

11/9/21
Date

MHPC 1796-21

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JANET T. MILLS
GOVERNOR

JUDITH CAMUSO
COMMISSIONER

December 2, 2021

Eben Baker
Stantec
30 Park Drive
Topsham, ME 04086

RE: Information Request – Norwich Solar Technologies Solar Project, Readfield

Dear Eben:

Per your request received on November 02, 2021, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *Norwich Solar Technologies Solar, Readfield* project. Note that as project details are lacking, our comments are non-specific and should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats - Of the eight species of bats that occur in Maine, the three *Myotis* species are afforded special protection under Maine's Endangered Species Act (MESA, 12 M.R.S §12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence, it is likely that several of these species occur within the project area during the fall/spring migration, the summer breeding season, and/or for overwintering. If the proposed project has a Federal nexus, either via funding or permitting, or if the project is not consistent with the USFWS "4(d) Rule", we recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, Wende_Mahaney@fws.gov, 207-902-1569) for further guidance on their perspective, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. The USFWS "4(d) Rule" provides guidance for protection of bat winter hibernacula and maternity roost trees for northern long-eared bats (see https://www.fws.gov/midwest/endangered/mammals/nleb/4drule.html). MDIFW Endangered Species Rules for bats (Chapter 8.06; see link at http://www.maine.gov/sos/cec/rules/09/137/137c008.docx) provide equivalent seasonal protection of maternity roost trees for any of the three state-listed bats, seasonally prohibits entry into subsurface winter hibernacula, and has additional protections for tree removal within ¼ mile of subsurface winter hibernacula. At present, no maternity roost trees have been designated for protection.

In addition to traditional hibernacula like caves and old mines, recent findings indicate that *Myotis* and big brown bats may also overwinter in exposed rocky features. To date, Maine talus and rocky outcrop studies have focused on relatively exposed slopes with minimal canopy cover, although ongoing research has shown that bats use rocky areas under the forest canopy. Occupied talus slopes in Maine have consisted of variable rock sizes, ranging in size from softball-sized to car-sized boulders. Rock piles, rock ledges, and small vertical cracks in rocks (>1/2-inch-wide) create crevices that allow bats to access deeper cavities that provide protection for predators and suitable temperature and humidity conditions. Some species of bat, like the eastern small-footed bat, use rocky features year-round. A desktop GIS analysis does not indicate the presence of these features in your project area; however, not all talus and rocky features have been mapped statewide. Therefore, we advise that all areas of talus and rocky features of approximately 1,000 square feet or greater in size be documented on and within 250 feet of your project area, including smaller areas of rock piles and tailings (i.e., quarry spoils). See attached photographs for representative features—these photographs are not all-inclusive and should be used for guidance purposes only. Detailed photographs and coordinates should be submitted to MDIFW for review, and acoustic monitoring may be recommended to document occupancy. Alternatively, these features should be appropriately buffered commensurate with the size and layout of the project. If these features are not present in the project area, our Agency does not anticipate significant impacts to any of the bat species as a result of this project based on currently best available science.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We generally recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide for full aquatic passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis. Undersized crossings may inhibit these functions and become a frequent maintenance problem that causes reoccurring damage to the resource. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in providing habitat connectivity for fish and other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic life, and their habitats. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

Wildlife Permeable Fencing

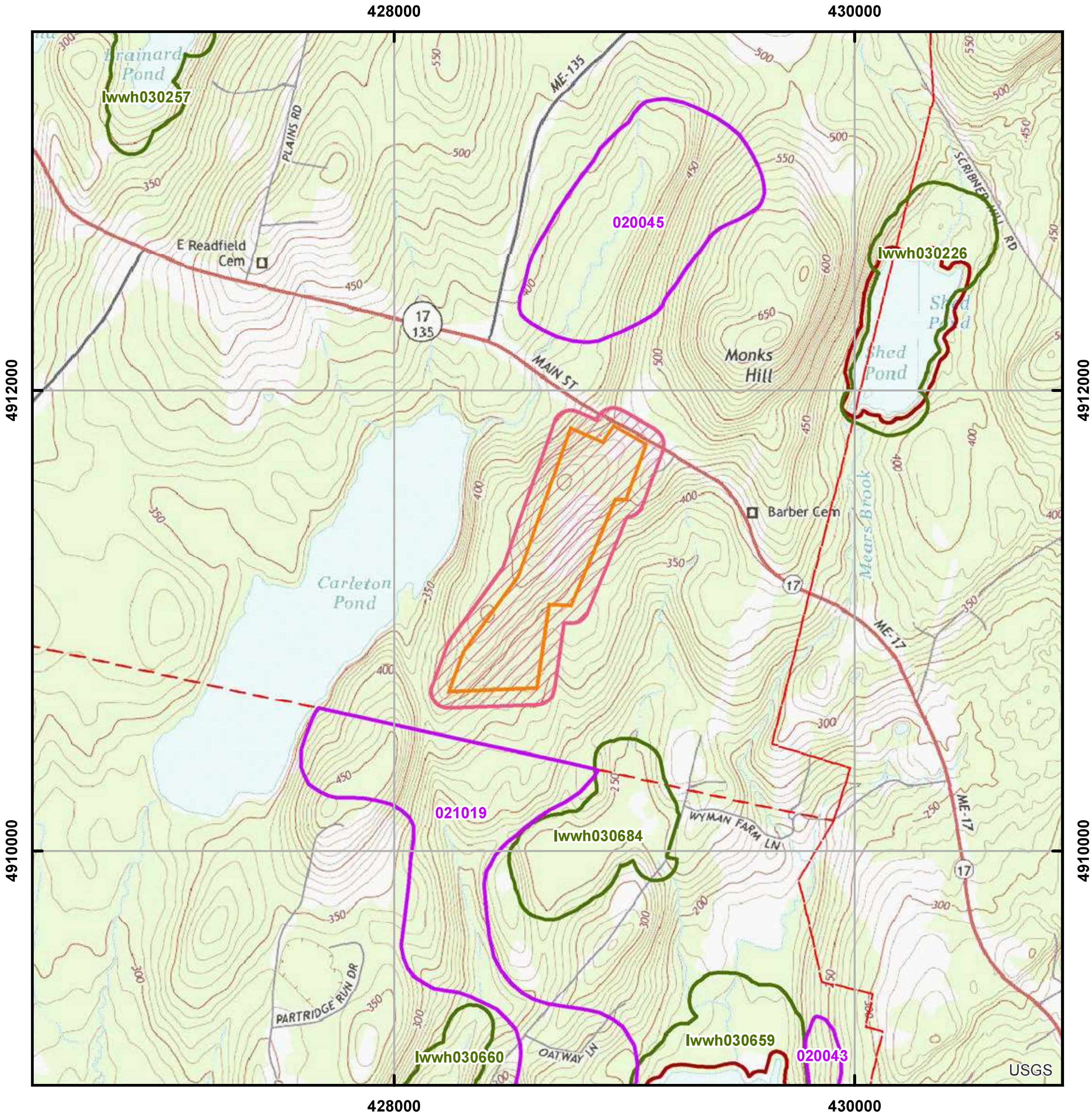
To enhance the use of the project area by smaller animals, and in consideration of the need for site safety and security, we recommend the use of wildlife-permeable fencing. Options for wildlife-permeable fencing includes the use of larger mesh fencing, similar to typical highway right-of-way fencing, with large (12-in. x 12-in.) holes along the bottom of the fence, spaced evenly along the entire perimeter of the fence line every 20-25 feet. Alternatively, the fence can be installed so that there is at least 12 inches of clearance along the entire perimeter bottom.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Norwich Solar Technologies Solar, Readfield (Version 1)

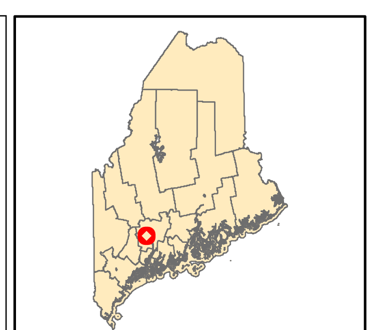
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 11/2/2021

- ProjectSearchAreas - All Versions
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 Iwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



<u>Representative Photographs of Suitable Bat Rock-Roosting Sites</u>

Prepared by the Maine Department of Inland Fisheries and Wildlife

Photographs are for guidance only and should not be considered all-inclusive.

Arrows indicate sites of rock-roosting bats.

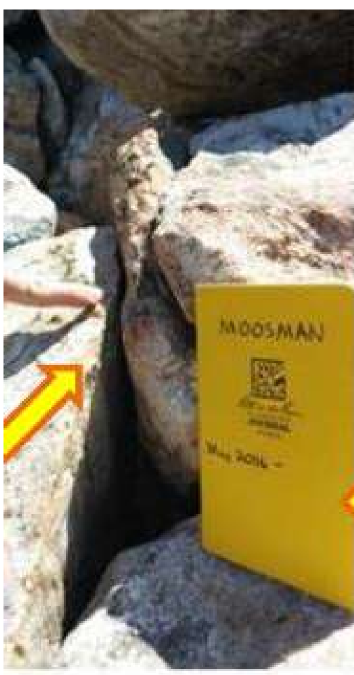
Photographs used by permission: Paul R. Moosman, Jr., Department of Biology, Virginia Military Institute

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE


JOURNAL
May 2016 -






MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

November 5, 2021

Eben Baker
Stantec
30 Park Drive
Topsham, ME 04086

Via email: eben.baker@stantec.com

Re: Rare and exemplary botanical features in proximity to: #195602046, Norwich Solar Technologies, Route 17, Readfield, Maine

Dear Mr. Baker:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received November 1, 2021 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Readfield, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Krist Purye

Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

Rare and Exemplary Botanical Features within 4 miles of
Project: #195602046, Norwich Solar, Readfield, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Adder's Tongue Fern						
	SC	S1	G5	1924-07	8	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)
American Ginseng						
	E	S3	G3G4	1907-07-28	18	Hardwood to mixed forest (forest, upland)
Blunt-lobed Woodsia						
	T	S1	G5	1932	5	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Broad Beech Fern						
	SC	S2	G5	1998-06-25	1	Hardwood to mixed forest (forest, upland)
	SC	S2	G5	1895-08-17	12	Hardwood to mixed forest (forest, upland)
Columbia Water-meal						
	SC	S2	G5	2020-08-25	10	Open water (non-forested, wetland)
Ebony Spleenwort						
	SC	S2	G5	1987-08-07	4	Rocky summits and outcrops (non-forested, upland),Hardwood to mixed forest (forest, upland)
Fragrant Wood Fern						
	SC	S3	G5	1932	29	Rocky summits and outcrops (non-forested, upland),Alpine or subalpine (non-forested, upland)
Indian Grass						
	E	S1	G5	1933-07-12	9	Non-tidal rivershore (non-forested, seasonally wet)
Mountain Honeysuckle						
	E	S2	G5	1975-pre	1	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Northern Hardwoods Forest						
	<null>	S5	G3G5	1998-06-25	4	Hardwood to mixed forest (forest, upland)

Rare and Exemplary Botanical Features within 4 miles of
Project: #195602046, Norwich Solar, Readfield, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Showy Lady's-slipper						
	SC	S3	G4G5	1903-06	33	Forested wetland,Open wetland, not coastal nor rivershore (non-forested, wetland)
	SC	S3	G4G5	1874-07-04	36	Forested wetland,Open wetland, not coastal nor rivershore (non-forested, wetland)
Stiff Arrowhead						
	SC	S2	G5	2016-08-29	12	Tidal wetland (non-forested, wetland)
Water Stargrass						
	SC	S3	G5	2020-07-19	7	Open water (non-forested, wetland)
White Adder's-mouth						
	E	S1	G5T4T5	1878-06	15	Forested wetland

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of 1 to 5. Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk or extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

ATTACHMENT G: WETLAND AND WATERCOURSE DELIENATION AND VERNAL POOL SURVEY REPORT

Wetland and Watercourse Delineation and Vernal Pool Survey Report

Potential Solar Development Site – Readfield, Maine

September 2022

Prepared for:

Norwich Solar Technologies
14 Maine Street, Suite 305C-1
Brunswick, ME 04011

Prepared by:

Stantec Consulting Services Inc.
30 Park Drive
Topsham, ME 04086

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1.0 INTRODUCTION

Norwich Solar Technologies contracted Stantec Consulting Services Inc. (Stantec) to perform a wetland and watercourse delineation and vernal pool survey on a parcel in Readfield, Maine (Project Site). The Project Site (Tax Map 143, Lot 43) is located on Main Street (Appendix A: Figure 1. Wetland and Watercourse Delineation Map).

On October 25, 2021, Stantec performed on-site wetland delineation and mapping services at the Project Site. This report includes descriptions of the wetland and watercourse delineation and vernal pool survey methods, results, and an overview of relevant federal and state regulations.

2.0 METHODS

2.1 WETLAND AND WATERCOURSE DELINEATION

Wetlands and watercourses within the Project Site were identified in accordance with the definitions detailed in Maine State Statute 38 M.R.S.A. Sec. 480-B of the Natural Resources Protection Act (NRPA).[1] Wetland boundaries were determined using the technical criteria described in the United States Army Corps of Engineers (Corps) *Corps of Engineers Wetlands Delineation Manual*[2] and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0).*[3] Wetland communities were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States.*[4] Hydric soil determinations were made in accordance with the Corps wetland delineation manuals and the *Field Indicators for Identifying Hydric Soils in New England (Version 4).*[5] Wetlands of Special Significance (WoSS) were identified based on criteria in Chapter 310 of the NRPA[6] and Chapter 335 Significant Wildlife Habitat.[7] Identification of WoSS was limited to observable conditions within the Project Site. Wetland delineations were conducted under seasonally appropriate conditions.

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[1] Title 38: Waters and Navigation, Chapter 3: Protection and Improvement of Waters, Subchapter 1: Environmental Protection Board, Article 5-a: Natural Resources Protection Act

[2] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

[3] U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0),* ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[4] *Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.*

[5] New England Hydric Soils Technical Committee. 2017. Field Indicators for Identifying Hydric Soils in New England (Version 4).

[6] Maine Department of Environmental Protection. 26 January 2009. Natural Resources Protection Act Chapter 310: Wetlands and Waterbodies Protection Rules. Bureau of Land and Water Quality, DEPLW0297-D2009.

[7] Maine Department of Environmental Protection. 7 January 2014. Natural Resources Protection Act Chapter 335: Significant Wildlife Habitat.

Mapped watercourses (e.g., river, stream, or brook) were identified based on the technical guidance available from the Corps on the identification of an Ordinary High Water Mark,[8] definition of a tributary as described in the Clean Water Act,[9] and as detailed in the Maine Department of Environmental Protection (MDEP) watercourse identification guidance document.[10] Data was collected on flow regime, bankfull and Ordinary High Water Mark width, dominant substrates, and evidence of biological use.

Each delineated resource was assigned a unique alpha-numeric code. Wetland boundaries and watercourses were not marked in the field. A Global Positioning System (GPS) receiver capable of sub-meter accuracy was used to locate the wetland and watercourse boundaries. Representative photographs were taken of each wetland and watercourse and are included in Appendix B.

2.2 VERNAL POOL SURVEY

Stantec conducted a vernal pool survey on May 19, 2022, in accordance with the Maine Association of Wetland Scientists' 2014 Vernal Pool Survey Protocol,[11] as well as the definitions set forth in Chapter 335, Significant Wildlife Habitat, of the NRPA and the Corps General Permit.

Vernal pools are dynamic habitats that vary in water level, vegetative cover, and other physical characteristics during the course of a year, as well as from year to year. In addition, the breeding activity of amphibians, particularly the initiation of breeding, depends upon seasonal environmental parameters, such as temperature and precipitation. Due to this variability, the presence and number of egg masses may differ between breeding seasons and during a given breeding season. Based on observed field conditions, Stantec determined that the field survey in 2022 was conducted at an appropriate time of year and coincided with the obligate vernal pool species respective breeding periods.

The survey involved searching for amphibian breeding activity, primarily the presence of egg masses, and use by other vernal pool-dependent species. If present, information was collected on the physical characteristics of each pool such as the likely hydro-period (i.e., how long surface water will remain in the pool) and the presence and/or type of inlet and outlet. Information on the biological and physical characteristics of each pool was used to determine if the vernal pool met the criteria of a Significant Vernal Pool, as defined in Chapter 335 of the NRPA. According to this rule, a vernal pool is a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanently flowing inlet or outlet and no viable populations of predatory fish. In addition, a Significant Vernal Pool contains one or any combination of the following:

- 40 or more wood frog (*Lithobates sylvaticus*) egg masses;
- 20 or more spotted salamander (*Ambystoma maculatum*) egg masses;
- 10 or more blue-spotted salamander (*Ambystoma laterale*) egg masses;

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[8] U.S. Army Corps of Engineers. 2005. Regulatory Guidance Letter: Ordinary High Water Mark Identification. December 8, 2005. No. 05-05.
[9] U.S. Army Corps of Engineers. 2020. *85 Code of Federal Regulations 22250, "Waters of the United States"*. April 21, 2020.
[10] Danielson, T. J. 2018. Natural Resource Protection Act Streams, Rivers, and Brooks. Maine Department of Environmental Protection, Augusta, ME.
[11] Maine Association of Wetland Scientists Vernal Pool Technical Committee. 2014. Vernal Pool Survey Protocol. April 2014.

- Fairy shrimp (*Eubranchipus* spp.); and/or
- Documented use by a state-listed rare, threatened, or endangered species that commonly requires a vernal pool to complete a critical portion of their life-history, such as Blanding's turtle (*Emydoidea blandingii*), spotted turtle (*Clemmys guttata*), wood turtle (*Clemmys insculpta*), eastern ribbon snake (*Thamnophis sauritus*), ringed boghaunter (*Williamsonia lintneri*), swamp darner (*Epiaeschna heros*), and comet darner (*Anax longipes*).

If present, the characteristics of the pools were also compared to the regulatory definition of a vernal pool used by the Corps. In Maine, vernal pools are regulated by the Corps according to the Maine General Permit, which provides the following definition for vernal pools:

> *A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish.*
>
> *A vernal pool may provide the primary breeding habitat for wood frogs (Lithobates [sylvatica] sylvaticus), spotted salamanders (Ambystoma maculatum), blue-spotted salamanders (Ambystoma laterale), and fairy shrimp (Eubranchipus spp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue-spotted salamanders, spotted salamanders, or wood frogs.*

3.0 SURVEY RESULTS

3.1 GENERAL SITE DESCRIPTION

The Project Site is approximately 85 acres and is located on the south side of Main Street (Route 17) in Readfield. The proposed access to the Project Site is from Main Street. The northern end of the Project Site abuts private residences to the east and west. There is a gravel pull-off lot in the northeast corner of the Project Site along Main Street that contains piles of debris. The Project Site is dominated by two upland fields and forested uplands. A farm road traverses the northern field, continues through upland forest dominated by eastern white pine (*Pinus strobus*), and terminates at the southern field. Both fields were mowed at the time of the delineation. An informal trail system connects hunting stands and shacks in the southern end of the property.

The topography slopes to the east and southeast from the high point in the northwest corner. Fields within the Project Site were characterized as disturbed, tilled, upland soil. Tree species in the upland forested areas include eastern white pine, eastern hemlock (*Tsuga canadensis*), red maple (*Acer rubrum*), gray birch (*Betula populifolia*), paper birch (*Betula papyrifera*), balsam fir (*Abies balsamea*), northern red oak (*Quercus rubra*), and American beech (*Fagus grandifolia*). The upland sapling and shrub layer is dominated by regenerating species present in the forest canopy interspersed with invasive species including multiflora rose (*Rosa multiflora*) and Japanese honeysuckle (*Lonicera* *japonica*). The upland herbaceous layer is dominated by bracken fern (*Pteridium aquilinum*) and Canadian goldenrod (*Solidago canadensis*).

The U.S. Department of Agriculture Soil Survey of Kennebec County, Maine,[12] depicts four major soil types within the Project Site: Lyman – Tunbridge complex, Paxton very stony fine sandy loam, Woodbridge very stony fine sandy loam, and Paxton – Charlton fine sandy loam. The Lyman – Turnbridge complex comprises the majority of the northern field as well as both the eastern and western edges of the southern field and is somewhat excessively drained. The Paxton very stony fine sandy loam is a well-drained soil and is located in the southern area of the Project Site, south of the southern field. The Woodbridge very stony fine sandy loam is a moderately well-drained soil found in the southeast corner of the Project Site. The Paxton – Charlton fine sandy loam is a well-drained soil comprising the majority of the southern field.

3.2 WETLAND AND WATERCOURSE DELINEATION AND VERNAL POOL SURVEY

During the on-site fieldwork conducted on October 25 and 26, 2021, and May 19, 2022, five wetlands and one watercourse were identified within the Project Site. The resources were GPS-located and are depicted on Figure 1 (Appendix A). These results are characterized in Table 1. Summary of Delineated Wetlands and Table 2. Summary of Delineated Watercourses. Representative photographs of identified natural resources are included in Appendix B. Representative Corps wetland determination data forms were prepared at one location and are included in Appendix C. Additionally, a vernal pool survey was conducted on May 19, 2022, which coincided with obligate vernal pool species respective breeding periods. No vernal pools were identified during the survey.

[12] Web Soil Survey, Natural Resources Conservation Service, United States Department of Agriculture. Available at: http://websoilsurvey.nrcs.usda.gov/. Accessed March 2022.

Table 1. Summary of Delineated Wetlands

Wetland Resource Identifier	Wetland Classification[1]	Dominant Vegetation	Hydric Soil Criteria and Indicator	Evidence of Hydrology	Wetland of Special Significance (WoSS)	Additional Comments
W01GPA	PEM/PSS	**Trees:** none **Saplings / Shrubs:** red raspberry (*Rubus idaeus*) **Herbs:** narrow-leaf cattail (*Typha angustifolia*), cottongrass bulrush (*Scirpus cyperinus*), sensitive fern (*Onoclea sensibilis*), reed canary grass (*Phalaris arundinacea*), wrinkleleaf goldenrod (*Solidago rugosa*), flat-top goldentop *(Euthamia graminifolia*)	A11: Depleted Below Dark Surface	High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9)	Yes, portions within 25 feet of a stream	Stream S01GP flows north along northeastern edge of the Project Site. Feature extends offsite to the east.
W01GPB	PFO	**Trees:** black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), eastern white pine, American beech **Saplings / Shrubs:** balsam fir, black ash, green ash, red raspberry, red maple, eastern hemlock **Herbs:** cinnamon fern (*Osmundastrum cinnamomeum*), sensitive fern, fringed sedge (*Carex crinita*), ostrich fern *(Matteuccia struthiopteris*), cottongrass bulrush	A2: Histic Epipedon	High Water Table (A2) Water-stained Leaves (B9) Stunted or Stressed Plants (D1)	No	Portion of larger wetland complex outside Project Site to the east. Eastern white pine and American beech growing on hummocks show wetland adaptations including shallow roots.
W01GPC	PFO	**Trees:** black ash, green ash, red maple, balsam fir, eastern hemlock, gray birch **Saplings / Shrubs:** red maple, balsam fir **Herbs:** fringed sedge, royal fern (*Osmunda* regalis), sensitive fern, three-leaf goldthread (*Coptis trifolia*), cottongrass bulrush, Christmas fern (*Polystichum acrostichoides*)	A11: Depleted Below Dark Surface	Water-stained Leaves (B9) Stunted or Stressed Plants (D1) Microtopographic Relief (D4)	No	Forested wetland is located on the southern end of the Project Site and extends offsite to the south.
W01GPD	PEM/PFO	**Trees:** black ash **Saplings / Shrubs:** eastern white pine, red raspberry **Herbs:** sensitive fern, royal fern, narrow-leaf cattail, wrinkleleaf goldenrod	A2: Histic Epipedon	High Water Table (A2) Saturation (A3)	No	Isolated wetland.
W01GPE	PEM	**Trees:** black ash **Saplings / Shrubs:** eastern white pine, red raspberry **Herbs:** sensitive fern, royal fern, narrow-leaf cattail, wrinkleleaf goldenrod	A2: Histic Epipedon	High Water Table (A2) Saturation (A3) Stunted or Stressed Plants (D1)	No	Isolated wetland.

[1] Wetland classification follows Federal Geographic Data Committee. (2013):

PFO = Palustrine Forested

PSS = Palustrine Scrub Shrub

PEM = Palustrine Emergent

Table 2. Summary of Delineated Watercourses

Stream Identifier	Flow Type	Bankfull Width (ft)	Ordinary High Water Mark Width (ft)	Dominant Substrates	NRPA Stream	Additional notes
S01GP	Ephemeral	1–6	1–6	Boulder, cobble, silt	No	Flows north into wetland W01GPA. Ephemeral stream does not contain aquatic vegetation or aquatic animals and is not depicted on a USGS 7.5' topographic map.

4.0 WETLAND REGULATIONS

4.1 STATE AND FEDERAL REGULATIONS

The Corps and MDEP regulate the wetlands and waterbodies (e.g., streams) identified within the Project Site. Under the provisions of Section 404 of the Clean Water Act, the Corps regulates dredging or filling within Waters of the United States, which include navigable waters and all their tributaries, adjacent wetlands, and other waters or wetlands where degradation or destruction could affect interstate or foreign commerce. The Corps has recently reissued a General Permit for the State of Maine (October 13, 2020) that merges the federal and state permit review process for many projects.

In Maine, wetlands and waterbodies, as well as other protected natural resources, are regulated under 38 M.R.S.A. §§ 480-A – 480-JJ, the NRPA. Projects that do not impact a wetland or projects that impact less than 4,300 square feet of wetland are usually exempt from state NRPA Tier permitting requirements. This exemption does not apply if the impact is:

1. in, on, or over a coastal wetland, great pond, river, stream, or brook;
2. within 25 feet of those resources identified above, or is more than 25 feet and no erosion control is used;
3. in a shoreland zone or a wetland protected by the shoreland zone;
4. part of a wetland with more than 20,000 square feet of open water or emergent vegetation, except artificial impoundments;
5. in a peatland;
6. part of a larger project; or
7. in Significant Wildlife Habitat.

Typically, projects with cumulative impacts to freshwater wetlands between 4,300 but less 15,000 square feet are eligible for review under the Tier 1 NRPA permitting process. Wetland alterations between 0 and 15,000 square feet require a Corps Self Verification Form submittal, assuming the project meets the thresholds for activities for this level of review. Alterations that affect between 15,000 and 43,560 square feet (1 acre) of freshwater wetlands are eligible for the NRPA Tier 2 review process and Corps Pre-Construction Notification. Cumulative freshwater wetland impacts that exceed 1 acre typically require a NRPA Tier 3 review. Impacts to WoSS, rivers, streams and brooks, great ponds, and Significant Wildlife Habitat typically require an Individual Corps Permit. Specifics of how the agencies will regulate this Project can be determined with preliminary plans and consultation with the agencies.

Stream S01GP (Photo 4) does not meet the MDEP definition of a stream because it is not depicted on a USGS 7.5-minute series topographic map, does not contain flowing water continuously for a period of at least 6 months of the year, and does not contain aquatic vegetation or aquatic insects. Due to S01GP not meeting the MDEP definition of a stream the portions of wetland W01GPA that are located within 25 feet of a stream are not considered WoSS.

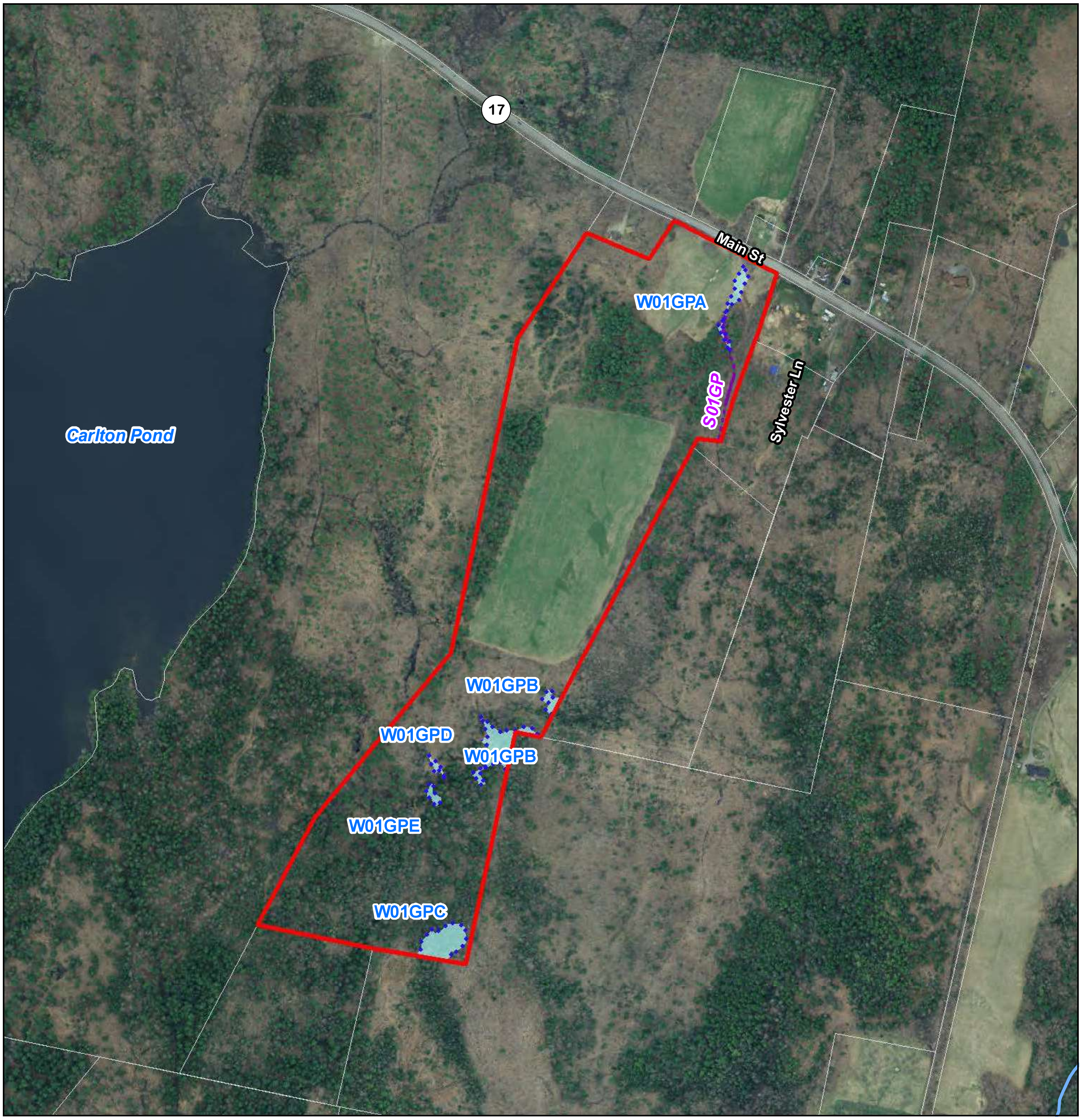
Full identification of WoSS involves contacting natural resource agencies such as the Maine Natural Areas Program, Maine Department of Inland Fisheries and Wildlife, and MDEP to determine if there are any documented occurrences of rare, threatened, or endangered species and communities within or in the vicinity of the Project Site. Stantec initiated consultation with the Maine Natural Areas Program, Maine Department of Inland Fisheries and Wildlife, and MDEP for the Project Site in November 2021. Responses have been received from all three agencies. The agency responses did not identify any endangered, threatened, or special concern species, rare or unique botanical features, or Essential and Significant Wildlife Habitats within the Project Site.

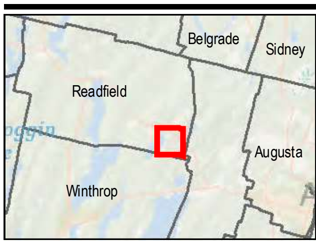
4.2 LOCAL REGULATIONS

According to the Town of Readfield Zoning Maps, the southwestern portion of the Project Site includes an area mapped as Resource Protection Zoning District. Although Stantec identified wetlands and streams within the Project Site, they are not specifically identified on the Town Zoning Map. Stantec recommends contacting the Town Code Enforcement Officer regarding any local zoning requirements for the Project Site.

APPENDICES

Appendix A FIGURES





Legend

- Delineated Ephemeral Stream
- Delineated Wetland Area
- Approximate Delineation Limits
- Tax Parcel

0 800 Feet

(At original document size of 8.5x11)
1:500,000

N

Stantec

Project Location
Readfield, Maine

Prepared by PWB on 2022-02-15
TR Review by KWH on 2022-02-15
IR Review by KM on 2022-02-15

Client/Project
195602046

Norwich Solar Technologies
Norwich Solar Maine - Readfield

Figure No.
1

Title
Wetland and Watercourse Delineation Map

Notes
1. Wetland boundaries delineated in accordance with USACE Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Regional Supplement (Version 2.0).
2. Wetland boundaries and streams were located utilizing a Trimble GeoExplorer Series Receiver. Expected accuracy of GPS data is within 1 meter of actual position.
3. Coordinate System: NAD 1983 UTM Zone 19N
4. Data Sources: MEGIS.
5. Background:Maine Orthoimagery Regional, 2018.

V:\1956\active\195602046\03_data\gis_cad\gis\MXDs\Readfield\195602046_01_Readfield_WetDelin.mxd Revised: 2022-09-07 By: pbarbera

Appendix B REPRESENTATIVE PHOTOGRAPHS

Photo 1. PEM/PSS wetland 01GPA, facing north.
Stantec, October 25, 2021.

Photo 2. Debris pile near PEM/PSS wetland 01GPA, facing southwest.
Stantec, October 25, 2021.

Photo 3. PFO wetland 01GPC.
Stantec, October 25, 2021.

Photo 4. Ephemeral stream S01GP, view south from upstream.
Stantec, October 25, 2021.

Appendix C CORPS WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Readfield Delineation	Stantec Project #: 195602046	Date:	10/25/21
Applicant: Norwich Solar		County:	Kennebec
Investigator #1: G. Pelletier	Investigator #2: L. Pelletier	State:	ME
Soil Unit:	NWI/WWI Classification:	Wetland ID:	01GPA
Landform: Depression	Local Relief: Concave	Sample Point:	Wetland
Slope (%): 0-3 Latitude: 44.355598	Longitude: -69.890318 Datum: NAD83	Community ID:	PEM/PSS

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are normal circumstances present?

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes ☐ No	Is This Sampling Point Within A Wetland?	☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:

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

Secondary:

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

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 6	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: associated with ephemeral stream 01GP

SOILS

Map Unit Name: 0 Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top	Bottom		Matrix			Mottles					Texture
Depth	Depth	Horizon	Color (Moist)		%	Color (Moist)		%	Type	Location	(e.g. clay, sand, loam)
0	3	1	10YR	2/1	100						loam
4	7	2	10YR	3/2	90	10YR	4/6	10	C		silt loam
8	10	3	10YR	4/2	90	10YR	4/6	10	C		silt loam
11	14	4	10YR	4/1	90	10YR	4/6	10	C	--	loam
15	20	5	10YR	6/1	90	10YR	4/6	10	C	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐

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

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Readfield Delineation   Wetland ID: 01GPA   Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Rubus idaeus*		--	
2.	--		--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Typha angustifolia*	25	Y	OBL
2.	*Scirpus cyperinus*	1	N	OBL
3.	*Solidago rugosa*	5	N	FAC
4.	*Onoclea sensibilis*	20	N	FACW
5.	*Phalaris arundinacea*	3	N	FACW
6	*Euthamia graminifolia*	3	N	FAC
7.	*Lythrum salicaria*	25	Y	OBL
8.	--			--
9.	--			--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	82		

Woody Vine Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	51	x 1 =	51
FACW spp.	23	x 2 =	46
FAC spp.	8	x 3 =	24
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	82 (A)		121 (B)

Prevalence Index = B/A = ***1.476***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Readfield Delineation	Stantec Project #: 195602046
Applicant: Norwich Solar	
Investigator #1: G. Pelletier	Investigator #2: L. Pelletier
Soil Unit:	NWI/WWI Classification:
Landform: Depression	Local Relief: Concave
Slope (%): 0-3	Latitude: 44.349675 Longitude: -69.894076 Datum: NAD83

Date: 10/25/21
County: Kennebec
State: ME
Wetland ID: 01GPB
Sample Point: Wetland
Community ID: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes ☐ No	Is This Sampling Point Within A Wetland?	☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

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

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

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth:	3	(in.)
Water Table Present?	☑ Yes	☐ No	Depth:	6	(in.)
Saturation Present?	☑ Yes	☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: 0 Series Drainage Class:

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Type	Location	Texture (e.g. clay, sand, loam)
0	12	1	10YR	4/1	100						loam
13	20	2	5Y	4/1	100						sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐

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

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed)	Type:	Depth:	**Hydric Soil Present?** ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Readfield Delineation   Wetland ID: 01GPB   Sample Point ***Wetland***

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus nigra*	5	Y	FACW
2.	*Fraxinus pennsylvanica*	2	N	FACW
3.	*Pinus strobus*	2	N	FACU
4.	*Fagus grandifolia*	1	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	2	N	FAC
2.	*Fraxinus nigra*	5	N	FACW
3.	*Fraxinus pennsylvanica*	3	N	FACW
4.	*Rubus idaeus*	10	N	FACU
5.	*Acer rubrum*	5	N	FAC
6.	*Tsuga canadensis*	2	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	27		

Herb Stratum (Plot size: 2 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Osmundastrum cinnamomeum*	2	N	FACW
2.	*Scirpus cyperinus*	5	N	OBL
3.	*Carex crinita*	5	N	OBL
4.	*Onoclea sensibilis*	5	N	FACW
5.	*Matteuccia struthiopteris*	2	N	FAC
6	*Solidago rugosa*	2	N	FAC
7.				
8.				
9.	--			--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	21		

Woody Vine Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	22	x 2 =	44
FAC spp.	11	x 3 =	33
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	58 (A)		147 (B)

Prevalence Index = B/A = ***2.534***

Hydrophytic Vegetation Indicators:

☑ Yes	☐ No	Rapid Test for Hydrophytic Vegetation
☑ Yes	☐ No	Dominance Test is > 50%
☑ Yes	☐ No	Prevalence Index is ≤ 3.0 *
☐ Yes	☑ No	Morphological Adaptations (Explain) *
☐ Yes	☑ No	Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Readfield Delineation | Stantec Project #: 195602046 | Date: 10/25/21
Applicant: Norwich Solar | County: Kennebec
Investigator #1: G. Pelletier | Investigator #2: L. Pelletier | State: ME
Soil Unit: | NWI/WWI Classification: | Wetland ID: 01GPC
Landform: Depression | Local Relief: Concave | Sample Point: **Wetland**
Slope (%): 0-3 | Latitude: 44.346054 | Longitude: -69.89616 | Datum: NAD83 | Community ID: PFO

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?
Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

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

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

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth:	3	(in.)
Water Table Present?	☑ Yes	☐ No	Depth:	6	(in.)
Saturation Present?	☑ Yes	☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: 0 | Series Drainage Class:
Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top	Bottom		Matrix			Mottles					Texture
Depth	Depth	Horizon	Color (Moist)		%	Color (Moist)		%	Type	Location	(e.g. clay, sand, loam)
0	4	1	10YR	3/1	100						loam
5	6	2	10YR	4/1	100						loam
10	12	3	5YR	5/2	100						loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐

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

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Readfield Delineation | Wetland ID: 01GPC | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus nigra*	10	N	FACW
2.	*Acer rubrum*	10	N	FAC
3.	*Fraxinus pennsylvanica*	10	N	FACW
4.	*Fagus grandifolia*	5	N	FACU
5.	*Thuja occidentalis*	10	N	FACW
6.	*Abies balsamea*	20	Y	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	2	N	FAC
2.	*Acer rubrum*	2	N	FAC
3.	*Fraxinus pennsylvanica*	1	N	FACW
4.				
5.				
6.				
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 2 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Osmundastrum cinnamomeum*	10	N	FACW
2.	*Scirpus cyperinus*	5	N	OBL
3.	*Dryopteris intermedia*	3	N	FAC
4.	*Onoclea sensibilis*	2	N	FACW
5.	*Typha angustifolia*	2	N	OBL
6				
7.				
8.				
9.	--			--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	22		

Woody Vine Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	7	x 1 =	7
FACW spp.	43	x 2 =	86
FAC spp.	37	x 3 =	111
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	92 (A)		224 (B)

Prevalence Index = B/A = ***2.435***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Readfield Delineation	Stantec Project #:	195602046
Applicant:	Norwich Solar		
Investigator #1:	G. Pelletier	Investigator #2:	L. Pelletier
Soil Unit:		NWI/WWI Classification:	
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.348649 Longitude: -69.896281	Datum: NAD83

Date:	10/25/21
County:	Kennebec
State:	ME
Wetland ID:	01GPD
Sample Point:	**Wetland**
Community ID:	PEM/PFO

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:

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

Secondary:

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

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 3	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 6	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: 0
Series Drainage Class:
Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top	Bottom		Matrix			Mottles					Texture
Depth	Depth	Horizon	Color (Moist)		%	Color (Moist)		%	Type	Location	(e.g. clay, sand, loam)
0	12	1	10YR	2/1	100						loam
2	12	2	10YR	3/2	90	10YR	4/6	10	C		loam
											--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐

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

Indicators for Problematic Soils [1]

☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
☐ A16 - Coast Prairie Redox (LRR K, L, R)
☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
☐ S7 - Dark Surface (LRR K, L, M)
☐ S8 - Polyvalue Below Surface (LRR K, L)
☐ S9 - Thin Dark Surface (LRR K, L)
☐ F12 - Iron-Manganese Masses (LRR K, L, R)
☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
☐ TF2 - Red Parent Material
☐ TF12 - Very Shallow Dark Surface
☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: rock Depth:12'

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Rock refusal at 12"

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Readfield Delineation | Wetland ID: 01GPD | Sample Point Netlanc

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus nigra*	10	N	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Pinus strobus*	2	N	FAC
2.	*Rubus idaeus*	10	N	FACU
3.		--	--	--
4.		--	--	--
5.		--	--	--
6.		--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	12		

Herb Stratum (Plot size: 2 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Onoclea sensibilis*	10	Y	FACW
2.	*Solidago rugosa*	5	N	FAC
3.	*Osmunda spectabilis*	2	N	OBL
4.	*Typha angustifolia*	3	N	OBL
5.	--			
6				
7.				
8.				
9.	--			--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	5	x 1 =	5
FACW spp.	20	x 2 =	40
FAC spp.	7	x 3 =	21
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	42 (A)		106 (B)

Prevalence Index = B/A = *2.524*

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Readfield Delineation | Stantec Project #: 195602046 | Date: 10/25/21
Applicant: Norwich Solar | County: Kennebec
Investigator #1: G. Pelletier | Investigator #2: L. Pelletier | State: ME
Soil Unit: | NWI/WWI Classification: | Wetland ID: 01GPE
Landform: Depression | Local Relief: Concave | Sample Point: **Wetland**
Slope (%): 0-3 | Latitude: 44.348289 | Longitude: -69.896383 | Datum: NAD83 | Community ID: PEM

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?
Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

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

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

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth:	3	(in.)
Water Table Present?	☑ Yes	☐ No	Depth:	6	(in.)
Saturation Present?	☑ Yes	☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: 0 | Series Drainage Class:
Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Type	Location	Texture (e.g. clay, sand, loam)
0	11	1	10YR	4/1	100						loam
12	14	2	2.5Y	5/2	100						--
											--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐

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

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: rock Depth:14'

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Rock refusal at 14"

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Readfield Delineation | Wetland ID: 01GPE | Sample Point Netland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	Fraxinus nigra	10	N	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	Pinus strobus	2	N	FAC
2.	Rubus idaeus	10	N	FACU
3.		--	--	--
4.		--	--	--
5.		--	--	--
6.		--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	12		

Herb Stratum (Plot size: 2 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	Onoclea sensibilis	10	Y	FACW
2.	Solidago rugosa	5	N	FAC
3.	Osmunda spectabilis	2	N	OBL
4.	Typha latifolia	3	N	OBL
5.	--			
6				
7.				
8.				
9.	--			--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	5	x 1 =	5
FACW spp.	20	x 2 =	40
FAC spp.	7	x 3 =	21
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	42 (A)		106 (B)

Prevalence Index = B/A = 2.524

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

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

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

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

ATTACHMENT H: FINANCIAL SUPPORT LETTER

July 21, 2023

To Whom It May Concern:

My Name is Cailin McMurdo-Minnich, and I am a Vice President, Commercial Lender at Mascoma Bank. I am also Norwich Solar Technology's (NST) chief representative for our bank.

NST has been doing business with Mascoma for over 4 years. They are an outstanding client with a strong operating history and credit profile.

Mascoma currently extends NST a $4,000,000 line of credit, a $500,000 guidance line of credit, and has partnered with NST on financing several solar projects worth over $5,060,000 in aggregate.

Please feel free to reach out to me anytime with questions.

Sincerely,

Cailin McMurdo-Minnich
VP, Commercial Loan Officer
Mascoma Bank
180 Battery St Suite 120
Burlington, VT 05401

ATTACHMENT I: SOUND ASSESSMENT

INVERTER AND TRANSFORMER NOISE ANALYSIS
Readfield Main Solar LLC
Readfield, Maine

15 RAILROAD ROW, SUITE 101
WHITE RIVER JUNCTION, VT 05001

The table shows the noise level of each component at a 3, 200, and 600-foot distance:

Component	Capacity	Noise Level (dBA) @ 3.3ft	dBA @ 200ft	dBA @ 600ft
Inverter 001	100 kW	65	29.3	19.8
Inverter 002	100 kW	65	29.3	19.8
Inverter 003	100 kW	65	29.3	19.8
Inverter 004	100 kW	65	29.3	19.8
Inverter 005	100 kW	65	29.3	19.8
Inverter 006	100 kW	65	29.3	19.8
Inverter 007	125 kW	65	29.3	19.8
Inverter 008	125 kW	65	29.3	19.8
Inverter 009	125 kW	65	29.3	19.8
Transformer 001	1000 kVa	64	28.3	18.8
Transformer 002	30 kVa	45	9.3	0.0

Component	Dist to Boundary (ft)	dBA @ Dist
Inverter 001	420	22.9
Inverter 002	420	22.9
Inverter 003	420	22.9
Inverter 004	420	22.9
Inverter 005	420	22.9
Inverter 006	420	22.9
Inverter 007	415	23.0
Inverter 008	415	23.0
Inverter 009	415	23.0
Transformer 001	425	21.8
Transformer 002	425	2.8
	Total Impact (dBA)	**32.8**

Commercial	Industrial	Residential	dB Level
Threshold For Hearing			0
Good Recording Studio		Breathing	10
		Rustling Leaves	15
		Whisper, Mosquito	20
Library		Living / Dining Room	30
Refrigerator Hum		Kitchen / Bathroom	40
Quiet Office	Power Lawn Mower	Home Office	50
		Birds at 10'	55
Conversational Speech			60
Piano Practice		Electric Shaver	60
Business Office		Piano Practice	65
Noisy Restaurant	Inplant Office	Street Traffic	70
Chamber Music		Barking Dog	75
Classroom		Alarm Clock	75
		Television / Dishwasher	75

Relevant equations:

FT-M conversion: 1 foot = 0.3048 meter

Sound level of individual components:

R2 = R1-20*LOG(D)

Where:

R2 = sound level at user-specified distance

R1 = sound level at one meter distance

D = user-specified distance, in meters

Combined sound level:

RN = 10*LOG(Σ(10^[R2/10])

Where:

RN = sound level of combined components

R2 = sound level at user-specified distance

[1] Ambient sound level for Readfield, Maine from USGS CONUS Summer Day map L50 dB(A) https://www.nps.gov/subjects/sound/upload/CONUS_Natural_L50dBA_SummerDay_Legend.png

[2] Noise level CPS 100kW/125kW inverter online datasheet https://www.chintpowersystems.com/wp-content/uploads/2022/08/CPS-SCH100-125KTL-DO-US-600-Datasheet-August-10-2022.pdf

[3] Transformer noise level from National Electrical Manufacturers Association (NEMA) Standard ST-20 for sound level based on transformer kVA (701-1000 kVa <> 64 dBA)

[4] Transformer noise level from National Electrical Manufacturers Association (NEMA) Standard ST-20 for sound level based on transformer kVA (10-50 kVa <> 45 dBA)

[5] Decibel chart from NetWell Noise Control and Soundproofing *http://www.controlnoise.com/decibel-chart*

Prepared 8/1/2023

ATTACHMENT J: NRCS SOIL RESOURCE REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for

Kennebec County, Maine

July 11, 2023

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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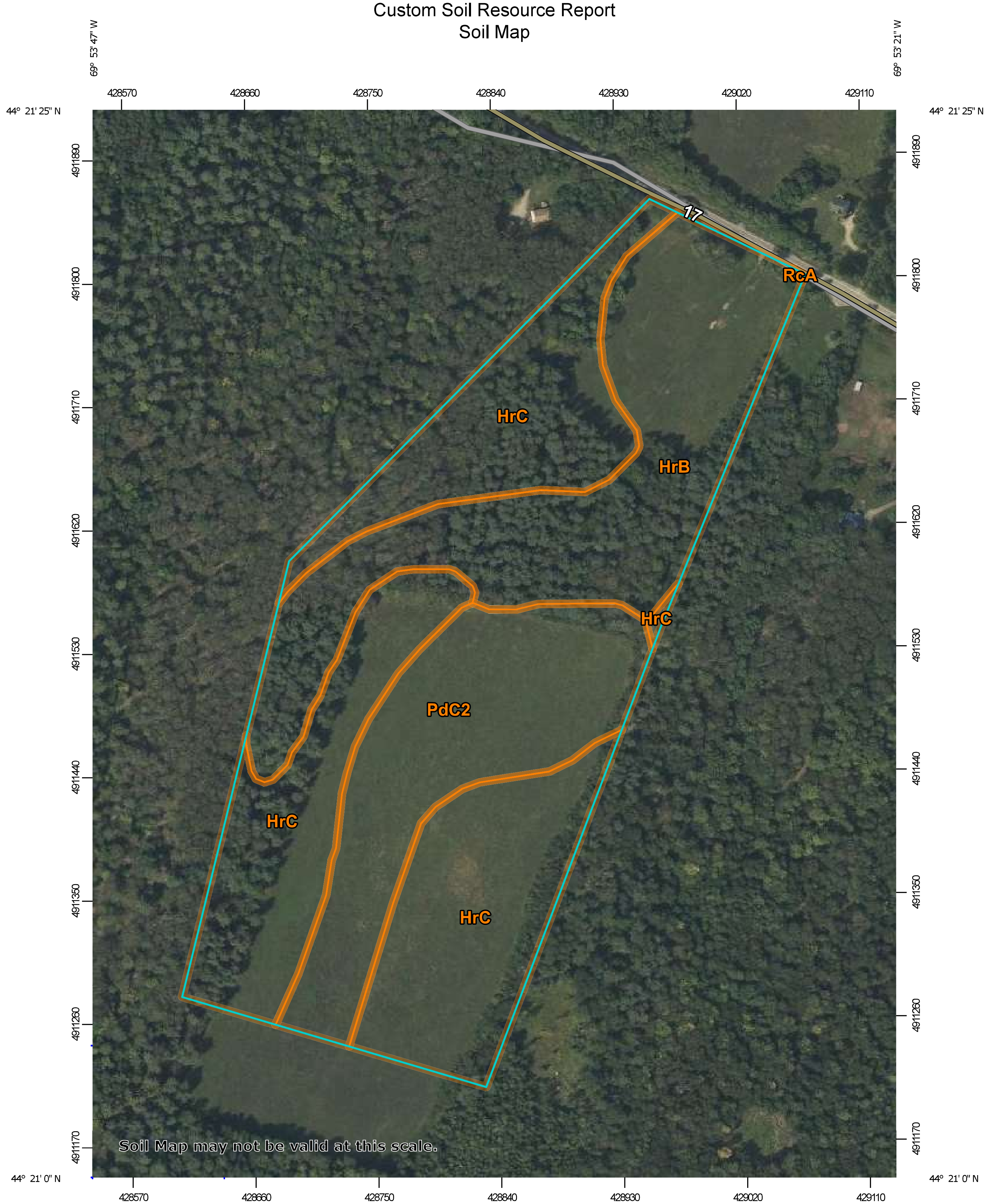
Soil Map

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

Soil Map



Map Scale: 1:3,790 if printed on A portrait (8.5" x 11") sheet.

Meters: 0, 50, 100, 200, 300

Feet: 0, 150, 300, 600, 900

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: Kennebec County, Maine
Survey Area Data: Version 21, Aug 30, 2022

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

Date(s) aerial images were photographed: Jul 11, 2021—Oct 29, 2021

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	11.2	30.7%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	17.2	47.3%
PdC2	Paxton-Charlton fine sandy loams, 8 to 15 percent slopes, eroded	8.0	22.0%
RcA	Ridgebury fine sandy loam	0.0	0.0%
Totals for Area of Interest		**36.4**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Kennebec County, Maine

HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cx
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 50 percent
Tunbridge and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till

Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cy
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Tunbridge and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

PdC2—Paxton-Charlton fine sandy loams, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: 9k0y
Elevation: 0 to 3,500 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 60 percent
Charlton and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope

Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile
H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 31 inches: gravelly fine sandy loam
H3 - 31 to 65 inches: fine sandy loam

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

Description of Charlton

Setting
Landform: Drumlins
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy supraglacial meltout till derived from mica schist

Typical profile
H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 20 inches: gravelly fine sandy loam
H3 - 20 to 65 inches: gravelly fine sandy loam

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

RcA—Ridgebury fine sandy loam

Map Unit Setting

National map unit symbol: 9k16
Elevation: 10 to 2,500 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury and similar soils: 87 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury

Setting

Landform: Till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 14 inches: fine sandy loam
H3 - 14 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 25 inches to densic material
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144BY305ME - Wet Loamy Flat
Hydric soil rating: Yes

ATTACHMENT K: INTERCONNECTION AGREEMENT

Level 2 Interconnection Agreement

This Agreement is made and entered into this 16th day of June 2023, by and between Readfield Main Solar, LLC("Interconnection Customer") located on Main Street, Readfield, Maine, and Central Maine Power Company, a Maine corporation having its office and principal place of business in Augusta, Kennebec County, Maine, existing under the laws of the State of Maine, (" T & D Utility "). Interconnection Customer and T & D Utility each may be referred to as a "Party," or collectively as the "Parties."

Recitals:

Whereas, Interconnection Customer is proposing to develop a Small Generator Facility, consisting of a 975 kW photovoltaic generator, consistent with the Interconnection Request completed by Interconnection Customer on April 27th, 2023; and

Whereas, Interconnection Customer desires to interconnect the Small Generator Facility with T & D Utility 's Electric Distribution System.

Now, therefore, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 This Agreement shall be used for all approved Level 2, Level 3, and Level 4 Interconnection Requests according to the procedures set forth in the Standard Small Generator Interconnection Rule.

1.2 This Agreement governs the terms and conditions under which the Small Generator Facility will interconnect to, and operate in Parallel with, T & D Utility 's Electric Distribution System.

1.3 This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power.

1.4 Nothing in this Agreement is intended to affect any other agreement between T & D Utility and the Interconnection Customer. However, in the event that the provisions of this agreement are in conflict with the provisions of the T & D Utility tariff, the T & D Utility tariff shall control.

1.5 Responsibilities of the Parties

1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, and Operating Requirements.

1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Small Generator Facility, and construct, operate, and maintain its Interconnection Equipment in accordance with the applicable manufacturer's recommended maintenance schedule, in accordance with this Agreement.

1.5.3 T & D Utility shall construct, own, operate, and maintain its Electric Distribution System and Interconnection Facilities in accordance with this Agreement.

1.5.4 The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed the National Electrical Code, the American National Standards Institute, IEEE, Underwriters Laboratories, and any other Operating Requirements.

1.5.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Exhibits to this Agreement and shall do so in a manner as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the other party

1.5.6 Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the Point of Common Coupling.

1.6 Parallel Operation Obligations Once the Small Generator Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all written rules and procedures developed by the T & D Utility which pertain to the parallel operation of the Small Generator Facility, copies of which are provided as an Exhibit [1] to this Agreement.

1.7 Reactive Power
The Interconnection Customer shall design its Small Generator Facility to maintain a composite power delivery at continuous rated power output at the Point of Common Coupling at a power factor within the range of 0.95 leading to 0.95 lagging.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection
The Interconnection Customer shall test and inspect its Small Generator Facility and Interconnection Facilities prior to interconnection, and in accordance with IEEE 1547 Standards.

2.2 Certificate of Completion
Prior to commencing parallel operation, the Interconnection Customer shall provide T & D Utility with a Certificate of Completion in the form of Attachment 6 of the Interconnection Forms and Agreements. The Certificate of Completion must either be signed by an electrical inspector with the authority to approve the interconnection or be accompanied by the electrical inspector's own form authorizing interconnection of the Small Generation Facility.

2.3 Parallel Operation Obligations
The Interconnection Customer shall abide by all permissible written rules and procedures developed by the T & D Utility which pertain to the parallel operation of the Small Generation Facility. In the event of conflicting provisions, the Interconnection Procedures shall take precedence over the T & D Utility's rule or procedure. Copies of the Utilities rules and procedures for parallel operation are either provided as an Exhibit to this Agreement or an Exhibit that provides a reference to a website where copies of the rule or procedure is maintained (Exhibit 1).

2.4 Right of Access
At reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, Company shall have access to Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its Customers.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date
This Agreement shall become effective upon execution by the Parties.

3.2 Term of Agreement
This Agreement shall become effective on the Effective Date and shall remain in effect perpetually, unless terminated earlier in accordance with Article 3.3 of this Agreement.

3.3 Termination
No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.

3.3.1 The Interconnection Customer may terminate this Agreement at any time by giving T & D Utility 20 Business Days written notice.

3.32 Either Party may terminate this Agreement after Default pursuant to Article 6.6.

3.33 Upon termination of this Agreement, the Small Generator Facility will be disconnected from T & D Utility's Electric Distribution System. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.4 The provisions of this Article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection
The T & D Utility may temporarily disconnect the Small Generator Facility from its Electric Distribution System for so long as reasonably necessary in the event one or more of the following conditions or events occurs:

3.4.1 Emergency Conditions
"Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of T & D Utility, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Electric Distribution System, T & D Utility 's Interconnection Facilities or (3) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generator Facility or the Interconnection Equipment . Under Emergency Conditions, T & D Utility or the Interconnection Customer may immediately suspend interconnection service and temporarily disconnect the Small Generator Facility. T & D Utility shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer's operation of the Small Generator Facility. The

Interconnection Customer shall notify T & D Utility promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect T & D Utility's Electric Distribution System. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 Routine Maintenance, Construction, and Repair
T & D Utility may interrupt interconnection service or curtail the output of the Small Generator Facility and temporarily disconnect the Small Generator Facility from T & D Utility's Electric Distribution System when necessary for routine maintenance, construction, and repairs on T & D Utility's Electric Distribution System. T & D Utility shall provide the Interconnection Customer with five Business Days notice prior to such interruption. T & D Utility shall use reasonable efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

3.4.3 Forced Outages
During any forced outage, T & D Utility may suspend interconnection service to effect immediate repairs on T & D Utility's Electric Distribution System. T & D Utility shall use reasonable efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, T & D Utility shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 Adverse Operating Effects
T & D Utility shall provide the Interconnection Customer with a written notice of its intention to disconnect the Small Generator Facility if, based on Good Utility Practice, the T & D Utility determines that operation of the Small Generator Facility will likely cause disruption or deterioration of service to other Customers served from the same electric system, or if operating the Small Generator Facility could cause damage to T & D Utility's Electric Distribution System. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. T & D Utility may disconnect the Small Generator Facility if, after receipt of the notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time which shall be at least five Business Days from the date the Interconnection Customer receives the T & D Utility's written notice supporting the decision to disconnect, unless Emergency Conditions exist in which case the provisions of Article 3.4.1 apply.

3.4.5 Modification of the Small Generator Facility
The Interconnection Customer must receive written authorization from T & D Utility before making any change to the Small Generator Facility that may have a material impact on the safety or reliability of the Electric Distribution System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without T & D Utility's prior written authorization, the latter shall have the right to temporarily disconnect the Small Generator Facility.

3.4.6 Reconnection
The Parties shall cooperate with each other to restore the Small Generator Facility, Interconnection Facilities, and T & D Utility 's Electric Distribution System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1 Interconnection Facilities

4.1.1 The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in the Exhibits to this Agreement. If a Facilities Study was performed, T & D Utility shall identify its Interconnection Facilities necessary to safely interconnect the Small Generator Facility with T & D Utility's Electric Distribution System, the cost of those facilities, and the time required to build and install those facilities.

4.1.2 The Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its Interconnection Equipment, and (2) operating, maintaining, repairing, and replacing T & D Utility's Interconnection Facilities as set forth in the Exhibits to this Agreement.

4.2 Distribution Upgrades
T & D Utility shall design, procure, construct, install, and own any Distribution Upgrades. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

Article 5. Billing, Payment, Milestones, and Financial Security

5.1 Billing and Payment Procedures and Final Accounting

5.1.1 T & D Utility shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of T & D Utility provided Interconnection Facilities and Distribution Upgrades contemplated by this Agreement as set forth in the Exhibit (2) to this Agreement, on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within thirty (30) calendar days of receipt, or as otherwise agreed to by the Parties.

5.1.2 Within ninety (90) calendar days of completing the construction and installation of T & D Utility 's Interconnection Facilities and Distribution Upgrades described in the Exhibits to this Agreement, T & D Utility shall provide the Interconnection Customer with a final accounting report of any difference between (1) the actual cost incurred to complete the construction and installation and the budget estimate provided to the Interconnection Customer and a written explanation for any significant variation. (2) the Interconnection Customer's previous deposit and aggregate payments to T & D Utility for such Interconnection Facilities and Distribution Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous deposit and aggregate payments, T & D Utility shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to T & D Utility within thirty (30) calendar days. If the Interconnection Customer's previous deposit and aggregate payments exceed its cost responsibility under this Agreement, T & D Utility shall refund to the Interconnection Customer an amount equal to the difference within thirty (30) calendar days of the final accounting report.

5.2 Interconnection Customer Deposit
At least twenty (20) Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of T & D Utility 's Interconnection Facilities and Distribution Upgrades, the Interconnection Customer shall provide T & D Utility with a deposit equal to 50 percent of the cost estimated for its Interconnection Facilities prior to its beginning design of such facilities.

Article 6. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

6.1 Assignment
This Agreement may be assigned by either Party upon fifteen (15) Business Days prior written notice, and with the opportunity to object by the other Party. When required, consent to assignment shall not be unreasonably withheld; provided that:

6.1.1 Either Party may assign this Agreement without the consent of the other Party to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement;

6.1.2 The Interconnection Customer shall have the right to assign this Agreement, without the consent of T & D Utility, for collateral security purposes to aid in providing financing for the Small Generator Facility;

6.1.3 Any attempted assignment that violates this Article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same obligations as the Interconnection Customer.

6.2 Limitation of Liability
Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.

6.3 Indemnity

6.3.1 This provision protects each Party from liability incurred to third Parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 6.2.

6.3.2 The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third Parties, arising out of or resulting from the indemnified Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

6.3.3 If an indemnified person is entitled to indemnification under this Article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

6.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this Article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

6.3.5 Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

6.4 Consequential Damages
Neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

6.5 Force Majeure

6.5.1 As used in this Article, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

6.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance, and if the initial notification was verbal, it should be promptly followed up with a written notification. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be reasonably mitigated. The Affected Party will use reasonable efforts to resume its performance as soon as possible.

6.6 Default

6.6.1 No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement, or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in Article 6.6.2, the defaulting Party shall have 60 calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.

6.6.2 If a Default is not cured as provided for in this Article, or if a Default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this Article will survive termination of this Agreement.

Article 7. Insurance

The Interconnection Customer may be required by the T & D Utility to carry liability insurance for its interconnection subject to the restrictions and limitations found in Maine Public Utility Commission Rule Ch. 324 §12(F). To the extent T & D Utility requires liability insurance, its requirements for the Interconnecting Customer and any required documentation of coverage shall be included herewith under Exhibit (2).

Article 8. Dispute Resolution (see provisions in the Maine Public Utility Commission's Standard Small Generator Interconnection Rules)

Article 9. Miscellaneous

9.1 Governing Law, Regulatory Authority, and Rules
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of Maine, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

9.2 Amendment
The Parties may amend this Agreement by a written instrument duly executed by both Parties.

9.3 No Third-Party Beneficiaries
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

9.4 Waiver

9.4.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

9.4.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from T & D Utility. Any waiver of this Agreement shall, if requested, be provided in writing.

9.5 Entire Agreement
This Agreement, including all Exhibits, constitutes the entire Agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.

9.6 Multiple Counterparts
This Agreement may be executed in two or more counterparts, each of which is deemed an original, but all constitute one and the same instrument.

9.7 No Partnership
This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

9.8 Severability
If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

9.9 Environmental Releases
Each Party shall notify the other Party, first orally and then in writing, of the release any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generator Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

9.10 Subcontractors
Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

9.10.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall T & D Utility be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

9.10.2 The obligations under this Article will not be limited in any way by any limitation of subcontractor's insurance.

Article 10. Notices

10.1 General
Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national currier service, or sent by first class mail, postage prepaid, to the person specified below:

If to Interconnection Customer:

Readfield Main Solar, LLC
14 Maine Street, Suite 305C-1, Box 49
Brunswick, ME 04011
802-281-3213

If to T & D Utility:

Central Maine Power Company
Attention: Nathan Pelletier, Manager
83 Edison Drive
Augusta, ME 04336
Phone: 207-621-4732
Fax: 207-621-4778

With Copy to:

Legal Department
Central Maine Power Company
83 Edison Drive
Augusta, ME 04336
Phone: 207-621-6546
Fax: 207-621-6538

10.2.1 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

If to Interconnection Customer:

Readfield Main Solar, LLC
14 Maine Street, Suite 305C-1, Box 49
Brunswick, ME 04011
802-281-3213

If to T & D Utility:

Central Maine Power Company
Attention: Nathan Pelletier, Manager
83 Edison Drive
Augusta, ME 04336
Phone: 207-621-4732
Fax: 207-347-4148

10.3 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

If to Interconnection Customer:

Readfield Main Solar, LLC
14 Maine Street, Suite 305C-1, Box 49
Brunswick, ME 04011
802-281-3213

If to T & D Utility:

Central Maine Power Company
Attention: Nathan Pelletier, Manager
83 Edison Drive
Augusta, ME 04336
Phone: 207-621-4732
Fax: 207-621-4778

Article 11. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Transmission Provider: Central Maine Power Company

Name: Andrea Vanluling Date: 7/14/2023

Title: Vice President – Treasurer & Controller

Name: Keith Radonis Date: 7/14/2023

Title: Director – Interconnection Services

For the Interconnection Customer: Readfield Main Solar, LLC

Name: Troy McBride Date: 7/13/2023

Title: Authorized Representative

Exhibits

1. **Transmission & Distribution Interconnection Requirements for Generation**
2. **Insurance Requirements**

Exhibit 1

Transmission & Distribution Interconnection Requirements for Generation: The customer is required to be interconnected per CMP's Transmission & Distribution Interconnection Requirements for Generation (also known as the "Blue Book") which is updated annually and can be found on CMP's website.

Exhibit 2
Insurance Requirements

Insurance Requirement: The customer is responsible for having insurance for their interconnection. Please see below requirements of insurance and provide an updated insurance certificate annually.

- For non-inverter-based Generating Facilities:
  - Generating Capacity greater than 5 MW: $3,000,000
  - Generating Capacity greater than 2 MW up to and including 5 MW: $2,000,000
  - Generating Capacity greater than 500 kW up to and including 2 MW: $1,000,000
  - Generating Capacity greater than 50 kW up to and including 500 kW: $500,000
  - Generating Capacity less than or equal to 50 kW: no insurance required
- For inverter-based Generating Facilities:
  - Generating Capacity greater than 5 MW: $2,000,000
  - Generating Capacity greater than 2 MW up to and including 5 MW: $1,000,000
  - Generating Capacity less than or equal to1 MW: no insurance required

ATTACHMENT L: EQUIPMENT SPECIFICATION SHEETS

Mono Multi Solutions

THE

TALLMAX M

FRAMED 144 LAYOUT MODULE

PRODUCTS	POWER RANGE
TSM-DE15H(II)	385-415W

144 LAYOUT
MONOCRYSTALLINE MODULE

385-415W
POWER OUTPUT RANGE

20.7%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

Founded in 1997, Trina Solar is the world's leading total solution provider for solar energy. With local presence around the globe, Trina Solar is able to provide exceptional service to each customer in each market and deliver our innovative, reliable products with the backing of Trina as a strong, bankable brand. Trina Solar now distributes its PV products to over 100 countries all over the world. We are committed to building strategic, mutually beneficial collaborations with installers, developers, distributors and other partners in driving smart energy together.

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupation Health and Safety Management System

Trinasolar

High power

- Up to 415W front power and 20.7% module efficiency with half-cut technology bringing more BOS savings
- Lower resistance of half-cut ensure high power

High reliability

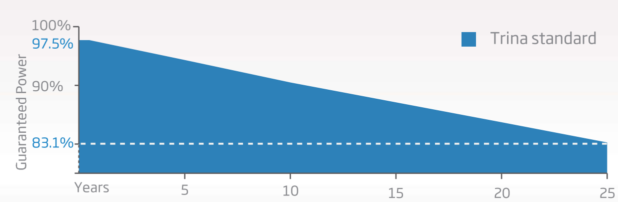
- Ensured PID resistance through cell process and module material control
- Resistant to salt, acid and ammonia
- Mechanical performance: Up to 5400 Pa positive load and 2400 Pa negative load

High energy generation

- Excellent IAM and low light performance validated by 3rd party with cell process and module material optimization
- Better anti-shading performance and lower operating temperature

PERFORMANCE WARRANTY

12 Year Product Warranty · 25 Year Power Warranty

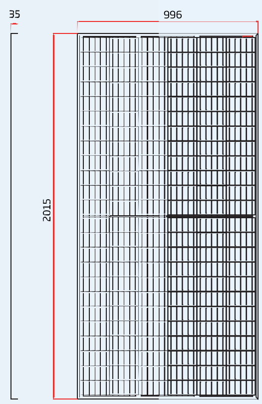


From the 2nd year to the 25th year, the average annual power decline will be no more than 0.6%.

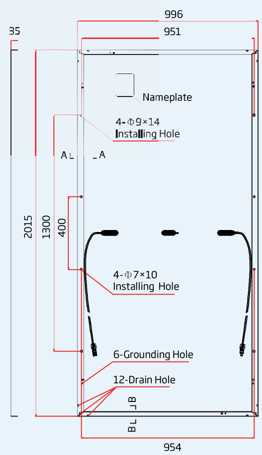
TALLMAX

144 LAYOUT MODULE

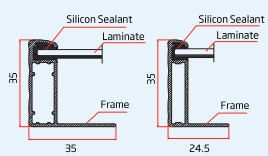
DIMENSIONS OF PV MODULE(mm)



Front View

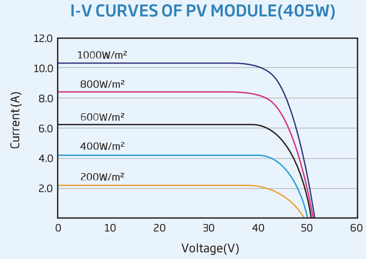


Back View

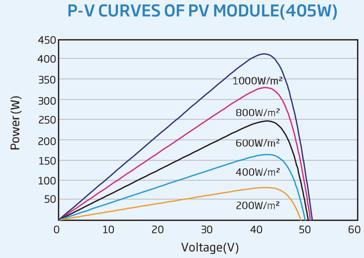


A-A B-B

I-V CURVES OF PV MODULE(405W)



P-V CURVES OF PV MODULE(405W)



ELECTRICAL DATA (STC)

Peak Power Watts-P_{MAX} (Wp)*	390	395	400	405	410	415	420
Power Tolerance-P_{MAX} (W)	0 ~ +5						
Maximum Power Voltage-V_{MPP} (V)	40.5	40.8	41.1	41.4	41.7	42.0	42.3
Maximum Power Current-I_{MPP} (A)	9.64	9.69	9.74	9.79	9.84	9.89	9.93
Open Circuit Voltage-V_{OC} (V)	49.7	50.1	50.4	50.8	51.2	51.5	51.9
Short Circuit Current-I_{SC} (A)	10.08	10.13	10.18	10.23	10.29	10.34	10.39
Module Efficiency η_m (%)	19.4	19.7	19.9	20.2	20.4	20.7	20.7

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.
*Measurement tolerance: ±3%.

ELECTRICAL DATA (NOCT)

Maximum Power-P_{MAX} (Wp)	294	298	302	306	309	313	317
Maximum Power Voltage-V_{MPP} (V)	38.4	38.7	39.0	39.3	39.5	39.8	40.1
Maximum Power Current-I_{MPP} (A)	7.66	7.70	7.74	7.78	7.82	7.87	7.90
Open Circuit Voltage-V_{OC} (V)	46.8	47.2	47.4	47.8	48.2	48.5	48.8
Short Circuit Current-I_{SC} (A)	8.12	8.16	8.20	8.24	8.29	8.33	8.37

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2015 × 996 × 35 mm (79.33× 39.21 × 1.38 inches)
Weight	22.0 kg (48.5 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA/POE
Backsheet	White
Frame	35 mm (1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: N 280mm/P 280mm(11.02/11.02inches) Landscape: N 1400 mm /P 1400 mm (55.12/55.12 inches)
Connector	MC4 EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P_{MAX}	- 0.34%/°C
Temperature Coefficient of V_{OC}	- 0.25%/°C
Temperature Coefficient of I_{SC}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC) 1500V DC (UL)
Max Series Fuse Rating	20A

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

12 year Product Workmanship Warranty

25 year Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 31 pieces

Modules per 40' container: 682 pieces

Trinasolar

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

Version number: TSM_DE15H(II)_NA_EN_2022_A www.trinasolar.com

100/125kW, 1500Vdc String Inverters for North America

CPS SCH100/125KTL-DO/US-600

The 100 & 125kW high power CPS three-phase string inverters are designed for ground mount applications. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiency at 99.1% peak and 98.5% CEC, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 100/125kW products ship with the Standard or Centralized Wire-box, each fully integrated and separable with AC and DC disconnect switches. The Standard Wire-box includes touch safe fusing for up to 20 strings. The CPS FlexOM Gateway enables communication, controls and remote product upgrades.

Key Features

- NFPA 70 and NEC compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated AC & DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA headroom yields 100kW @ 0.9PF and 125kW @ 0.95PF
- Generous 1.87 (100kW) and 1.5 (125kW) DC/AC inverter load ratios
- Separable wire-box design for fast service
- Standard 5-year warranty with extensions to 20 years

100/125KTL Standard Wire-box

100/125KTL Centralized Wire-box

This device complies with part 15 of the FCC Rules

Chint Power Systems America
1380 Presidential Drive, Suite 100, Richardson, TX 75081
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

Model Name	CPS SCH100KTL-DO/US-600	CPS SCH125KTL-DO/US-600
DC Input		
Max. PV power	187.5kW	
Max. DC input voltage	1500V	
Operating DC input voltage range	860-1450Vdc	
Start-up DC input voltage / power	900V / 250W	
Number of MPP trackers	1	
MPPT voltage range[1]	870-1300Vdc	
Max. PV input current (Isc x 1.25)	275A	
Number of DC inputs	20 PV source circuits, pos. & neg. fused with Standard Wire-box 1 input circuit, 1-2 terminations per pole, non-fused with Centralized Wire-box	
DC disconnection type	Load-rated DC switch	
DC surge protection	Type II MOV (with indicator/remote signaling), Up=2.5kV, In=20kA (8/20uS)	
AC Output		
Rated AC output power	100kW	125kW
Max. AC output power[2]	100kVA (111kVA @ PF>0.9)	125kVA (132kVA @ PF>0.95)
Rated output voltage	600Vac	
Output voltage range[3]	528-660Vac	
Grid connection type[4]	3Φ / PE / N (neutral optional)	
Max. AC output current @ 600Vac	96.2 / 106.8A	120.3 / 127.0A
Rated output frequency	60Hz	
Output frequency range[3]	57-63Hz	
Power factor	>0.99 (±0.8 adjustable)	>0.99 (±0.8 adjustable)
Current THD	<3%	
Max. fault current contribution (1-cycle RMS)	41.47A	
Max. OCPD rating	200A	
AC disconnection type	Load-rated AC switch	
AC surge protection	Type II MOV (with indicator/remote signaling), Up=2.5kV, In=20kA (8/20uS)	
System		
Topology	Transformerless	
Max. efficiency	99.1%	
CEC efficiency	98.5%	
Stand-by / night consumption	<4W	
Environment		
Enclosure protection degree	NEMA Type 4X	
Cooling method	Variable speed cooling fans	
Operating temperature range	-22°F to +140°F / -30°C to +60°C (derating from +108°F / +42°C)	
Non-operating temperature range[5]	-40°F to +158°F / -40°C to +70°C maximum	
Operating humidity	0-100%	
Operating altitude	8202ft / 2500m (no derating)	
Audible noise	<65dBA@1m and 25°C	
Display and Communication		
User interface and display	LED indicators, WiFi + APP	
Inverter monitoring	Modbus RS485	
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)	
Modbus data mapping	SunSpec / CPS	
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)	
Mechanical		
Dimensions (W x H x D)	45.28 x 24.25 x 9.84in (1150 x 616 x 250mm) with Standard Wire-box 39.37 x 24.25 x 9.84in (1000 x 616 x 250mm) with Centralized Wire-box	
Weight	Inverter: 121lbs (55kg); Wire-box: 55lbs (25kg) with Standard Wire-box 33lbs (15kg) with Centralized Wire-box	
Mounting / installation angle	15 - 90 degrees from horizontal (vertical or angled)	
AC termination	M10 stud type terminal [3Φ] (wire range:1/0AWG - 500kcmil CU/AL, lugs not supplied) Screw clamp terminal block [N] (#12 - 1/0AWG CU/AL)	
DC termination	Screw clamp fuse holder (wire range: #12 - #6AWG CU) with Standard Wire-box Busbar, M10 bolts (wire range: #1AWG - 500kcmil CU/AL [1 termination per pole], #1AWG - 300kcmil CU/AL [2 terminations per pole], lugs not supplied) with Centralized Wire-box	
Fused string inputs	20A fuses provided (fuse values up to 30A acceptable)	
Safety		
Certifications and standards	UL 1741-SA/SB Ed. 3, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC PART15	
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018[7], CA Rule 21, ISO-NE	
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt	
Warranty		
Standard[6]	5 years	
Extended terms	10, 15 and 20 years	

1) See user manual for further information regarding MPPT voltage range when operating at non-unity PF.
2) "Max.AC apparent power" rating valid within MPPT voltage range and temperature range of -30°C to +40°C (-22°F to +104°F) for 100kW PF>0.9 and 125kW PF>0.95.
3) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.
4) Wye neutral-grounded; Delta may not be corner-grounded.
5) See user manual for further requirements regarding non-operating conditions.
6) 5-year warranty effective for units purchased after October 1st, 2019.
7) Firmware version 12.0 or later required.

Fixed-Tilt Ground Mount Solution | GM-2

When EPCs and project developers across the USA need dependable, low-maintenance ground mount racking, they turn to RBI Solar. As a single-source provider, we take responsibility for the Design, Engineering, Manufacturing, and Installation of PV mounting solutions. When you choose RBI Solar for your next ground mount, you're choosing peace of mind that your project is in the hands of the most trusted solar racking team in the industry.

Why choose RBI Solar?

- Professional Engineers licensed in all 50 states
- Quick response & efficient communication
- National installation capabilities
- Our in-house team members are an extension of your staff
- 85+ years manufacturing experience
- Complete turn-key process, reduction in your vendor coordination
- Company owned post driving equipment
- National project management capabilites with roaming site service personnel
- More time to focus on your business

GM-2 Solution Features

Foundation and racking design	Site wind speeds 170+ mph and ground snow loads 90+ psf
Signed and sealed drawings	Available in all 50 states
Proprietary on-site testing	Pull testing & corrosion testing - no geotechnical report required
Pre-assembled parts	Reduction in installation time
Variable slope	Accommodates slopes up to 30% (with topographic site map)
20-yr standard warranty	Proven rack reliability and bankability
G115 minimum galvanized coating	Exceeds ASTM and UL standards for 30% extended life
Driven posts	Cost-effective cee channel or I-beam post options available
Up to 24' long post driving	Ability to address challenging soils or elevate array structure
Module configurations	Portrait, landscape (all module types)
Raised purlins	Integrated bonding and grounding to UL 2703
Corrosion class	System available for all corrosion classes
Wire management and electrical	Integrated wire management solution and inverter mounting

Contact us at info@rbisolar.com or (513) 242-2051

DESIGN • ENGINEERING • MANUFACTURING • INSTALLATION

ATTACHMENT M: OPERATIONS AND MAINTENANCE PLAN

1.0 INTRODUCTION AND CONTACTS

The purpose of this Operations and Maintenance Plan is to present the operation and maintenance procedures associated with the Readfield Main Street Solar Project (Project). Readfield Main Street Solar, LLC (Applicant), is managed by Norwich Technologies (Norwich). Runtime Solar (https://runtimesolar.com/), a division of Norwich, will operate and maintain the Project. Owner contact and Project site information is as follows:

Owner Contact: Martha Staskus, Norwich Technologies, Inc.
on behalf of Readfield Main Street Solar, LLC
Phone: (802) 359-7416
Email: staskus@norwichsolar.com
Address**:** 14 Maine Street, Suite 305C-1, Box 49, Brunswick, ME 04011

Runtime Solar Contact: Dan Kinney
Phone: (802) 299-6669
Email: kinney@runtimesolar.com

Site Name: Readfield Main Street Solar Project
Site Address: Main Street, Readfield, ME 04355

1.1 PROJECT INFORMATION

The Project is a ground-mounted solar facility comprised of photovoltaic modules (solar panels) installed on a fixed-tilt racking system supported by driven posts or ground screws. The expected operating life of the Project is 25 years. The Project is located on the south side of Main Street (Route 17) in Readfield, Maine (Tax Map 143, Lot 14). Sunny Acres, LLC, the land holding entity for Norwich, has signed a Purchase and Sale Agreement with the current landowner of the Project parcel. The Applicant has entered into a lease option agreement with Sunny Acres, LLC.

2.0 OPERATIONS AND MAINTENANCE

Throughout the life of the Project, the solar array operations and Project equipment performance will be monitored remotely, dispatching personnel as needed. Norwich Technologies' Runtime Solar operations and maintenance personnel manage a tiered system of possible obstacles that allows maintenance to identify and respond to the highest priority concerns in a timely manner. Regular maintenance adheres to the guidelines set forth in the permit conditions, often once a year or as needed.

2.1 SITE ACCESS

The Project will be accessed via the gravel driveway originating from Main Street. The Project will be encompassed by a perimeter fence with a gate installed near the end of the driveway. The gate will be secured with Knox Box locks (or similar locking mechanisms) to provide access for operations, maintenance, and in the event of an emergency. Safe access to the Project by way of the driveway will be maintained with grading as needed, to maintain a crown and prevent the creation of berms or ruts that may channelize flow. Side slopes will be inspected for rill erosion due to concentrated flows, and eroded slopes will be repaired and reseeded, as necessary.

2.2 STORMWATER MANAGEMENT FEATURES

The following stormwater management features will be inspected and maintained along with routine array inspections and after severe storms. Inspections will include the following.

- Vegetation:
  - Re-seed and mulch area where cover is less than 90%; rework, seed, and mulch areas that have spotty plant germination and are sparsely vegetated or where soil erosion is evident.
- Vegetated Buffers:
  - Inspect buffers for evidence of erosion or concentrated flows; repair, seed, and mulch eroded areas; mow meadow buffer no more than twice per growing season.

The following stormwater management features will be inspected and maintained a minimum of once annually. Inspections will include the following, as applicable.

- Vegetated Buffers:
  - Inspect buffers for evidence of erosion or concentrated flows; repair, seed, and mulch eroded areas; mow meadow buffers no more than twice per growing season.

3.0 VEGETATION MANAGEMENT

Project vegetation management shall consist of the following steps to maintain the Project site.

- Ground cover within the fenced area shall be mowed annually, as necessary to maintain safe access and maintenance conditions. Additional mowing may be necessary and will be completed as needed.
- Vegetation growth will be maintained under and around the solar installation at levels needed to reduce the risk of ignition from the electrical system while minimizing mowing, to the extent practicable.
- Commercial herbicides, pesticides, fungicides, and insecticides will not be used for any purpose.
- The site shall be inspected a minimum of once per year for evidence of erosion and riling. Such conditions shall be corrected and revegetated.
- Native, pollinator-friendly seed mixtures will be used for revegetation purposes, to the extent practicable, to promote beneficial flora and fauna.
- Shade management of trees or other vegetation that is having an impact on the performance of the Project will be trimmed as needed. Vegetation growth (saplings, bushes, large weeds, etc.) within the fenced area of the Project will be removed.

ATTACHMENT N: EMERGENCY MANAGEMENT PLAN

1.0 PURPOSE AND PROJECT INFORMATION

The purpose of the Emergency Management Plan (EMP) is to familiarize the local fire response to the solar equipment and system operation and assist responders to feel confident and operate safely when responding to an emergency event. This EMP provides a high-level system description and identifies actions and procedures to safely and effectively respond in the unlikely event of an emergency. The actions and procedures identified in the EMP are tailored to the types of emergencies that may occur at a solar energy generation facility.

This EMP supports the local fire department in preparation and planning for the unlikely event of a fire or extreme weather emergency. It should be noted that a regular Operation and Maintenance (O&M) program is applied during operations to assist in preventing system fires due to equipment failure or extreme conditions.

1.1 PROJECT DESCRIPTION

Readfield Main Street Solar, LLC, managed by Norwich Solar (Norwich), will operate and maintain the Readfield Main Street Solar Project (Project). The Project is a solar energy generation facility located on the south side of Main Street in Readfield, Maine (Tax Map 143/Lot 14). The Project's primary components include photovoltaic (PV) modules mounted on a fixed tilt racking system and solar inverters. Other Project components include electrical cables, conduit, electrical cabinets, a transformer, and metering equipment.

1.2 PROJECT ACCESS

The Project access from Main Street provides emergency vehicles and equipment access to the solar array, including the electrical equipment. Access to all areas of the Project is provided via access aisles between individual rows of the PV panels. Access aisles provide spacing sufficient for emergency responders to all areas of the Project site via walking or 4x4 vehicles and emergency equipped pickups.

1.3 PROJECT SITE SECURITY

A perimeter fence with an access gate will be installed around the Project in compliance with the National Electrical Code. The gate will be secured with a Knox Box lock (or similar locking mechanism) to provide public safety and allow emergency services access. The Readfield Fire Department will have access to the Project and isolation switch by accessing the on-site Knox Box. An information sign approximately 2 feet by 2 feet will be mounted on the gate at the Project entrance. The sign will contain contact information for the Project. Additional signage may be installed on the exterior of the Project fencing as required for safety and security purposes. The fence will have an approximately 6-inch gap between the bottom of the fence and the ground to allow for smaller wildlife passage.

1.4 PROJECT TEAM CONTACTS

In the event of an emergency, Norwich should be notified. The Project team will consist of:

Primary O&M Contact	Dan Kinney	(802) 281-3213	kinney@norwichsolar.com
Secondary O&M Contact	Charlie Van Winkle	(802) 281-3213	vanwinkle@norwichsolar.com
Tertiary O&M Contact	Martha Staskus	(802) 281 3213	permitting@norwichsolar.com

1.5 EMERGENCY RESPONSE JURISDICTIONS

The Project site is within the jurisdictional boundary of the Town of Readfield and Kennebec County. In the event of an emergency, **dial 9-1-1,** and the following departments should be notified:

Department	Address	Contact
Readfield Fire Department	1154 Main Street Readfield, ME 04355	Chief: Lee Mank (207) 458-9495
Readfield Maintenance Department	8 Old Kents Hill Road Readfield, ME 04355	(207) 685-4939 (207) 931-7681 (207) 931-7682
Kennebec County Sheriff's Department	73 Winthrop Street Augusta, ME 04330	(207) 623-3614
Augusta Communications Center	45 Commerce Drive Augusta, ME 04330	(207) 624-7076
Maine State Police	198 Maine Avenue Bangor, ME 04401	24-hour Regional Communications Center: (207) 624-7076
Central Maine Power	83 Edison Drive Augusta, ME 04336	800-696-1000 (to report an electricity emergency)

2.0 EMERGENCY MANAGEMENT

The emergency management actions below include information regarding spill prevention, fire response and prevention, medical emergencies, and high damage weather events. A general Solar Operations Emergency Checklist is provided in Appendix A.

2.1 SPILL PREVENTION

Prior to construction, personnel will be instructed on the O&M of construction equipment to prevent the accidental discharge or spill of fuel, oil, and lubricants. Personnel will also be made aware of the pollution control laws, rules, and regulations applicable to their work. An Emergency Assembly Area will be established and all those coming onsite notified of its location.

During construction, periodic spill prevention refresher briefings with the construction crew will be conducted. These briefings will highlight precautionary measures, potential sources of spills, such as equipment failure or malfunction; review of standard operating procedures in case of a spill, including applicable notification requirements; and equipment, materials and supplies available for clean-up.

2.2 FIRE RESPONSE AND PREVENTION PLAN

2.2.1 Fire Response

In the event of a fire emergency, all personnel will shut down their respective activities and proceed to the Emergency Assembly Area location. Project operations personnel will remain on site if conditions allow to safely shutdown operations as required. No personnel shall leave without first being accounted for by supervisors at the Emergency Assembly Area. No personnel will re-enter the area until given permission to do so. In the event of a small stage fire at the Project site, the following steps shall be initiated.

1. **Immediate response for all Fires – Dial 911**
   a. Upon detection of any fire, regardless of size, the initial observer, whether on site or remotely detecting, shall immediately dial 911 for emergency response. If the initial observer is on site, the call should be made from a safe location.
2. **Contact O&M Provider and Project Owner**
   a. Contact the local utility and notify them of the emergency conditions. Depending on the nature of the emergency, the utility can isolate the PV system from the local distribution system by opening the recloser located on a utility pole at the Project.

      Contact the O&M provider and/or project owner and notify them of the emergency conditions. Depending on the nature of the emergency conditions, they may isolate the PV system from the local distribution system by opening the project recloser located inside the Project fence.

If a fire is in the incipient stage and the personnel has been properly trained, the personnel can respond using available fire response equipment.

2.2.2 Fire Prevention

The Project will be regularly inspected and maintained to reduce the risk of faults or malfunctions that could result in ignition of a fire. Additionally, Project operations will be monitored remotely for faults or malfunctions. If faults or malfunctions occur, most will be resolved remotely. Technicians will respond to alarms, faults, or malfunctions that cannot be resolved remotely.

To reduce the chance of ignition of vegetative material under and around the Project and the chances of fire spreading within the Project site, the Project site will be largely free of heavy combustible vegetation, such as trees or shrubs, with only a ground cover of maintained native vegetation adjacent and beneath the solar array area. Scheduled mowing of the ground cover will prevent heavy combustible vegetation from growing and prevent vegetative fuel loading over life of the Project.

All personnel engaged in activities on the Project shall make themselves aware of the Daily Fire Danger Report as published by the Maine Forestry Service or other appropriate service prior to conducting activities on the Project site. Personnel shall factor in the fire danger level into their planned activities and take appropriate precautions.

2.2.3 Conditions Associated with PV Arrays

PV systems convert light into electricity. The unique PV system characteristic is that even when isolated from the utility distribution system, the solar array is still generating electricity and capable of producing up to 1,500 volts. When there is solar irradiance or other non-sunlight sources of light (e.g., mobile lighting systems or moonlight) falling on the PV panels, the panels are generating electricity and can pose a risk of electric shock to a first responder. Below is a summary of hazards associated with firefighting activities in PV systems:

- Shock hazard due to the presence of water and PV power during suppression activities;
- Outdoor related electrical enclosures may not resist water intrusion from the high-pressure stream of a fire hose;
- PV panels damaged in the fire may not resist water intrusion;
- Damaged conductors may not resist water intrusion;
- Shock hazard due to direct contact with energized components; and
- No means of complete electrical disconnect.

2.2.4 Fire Department Preparedness

Prior to energization, the Project team will provide further site-specific information to all emergency response departments, as requested. This will include a plan depicting the locations of all disconnects, gates, and an overview of how the system operates. A training will be offered on-site to any personnel who would like to attend.

2.3 MEDICAL EMERGENCY

Dial 911 for emergency response. Off-site emergency response officials will make the determination for required support. Identify the person making the request, the nature of the emergency, and location of the emergency.

2.4 HIGH DAMAGE WEATHER EVENT

Depending on the available forecasting, prior to a weather event with high probability for damaging impacts on the Project, the O&M Contractor will place response staff on alert. Personnel should not be on the Project site during a potentially high damage weather event. Following a high damage weather event, the O&M Contractor will verify the functionality of the Project and make any required repairs in a timely fashion, dependent on the nature of the repair required, to avoid any hazardous malfunction of the Project.

APPENDIX A SOLAR OPERATIONS EMERGENCY CHECKLIST

Stage	Objective	Responsibility	Status
1	Identify the type of incident and response needed. Call 9-1-1		
2	Confirm all personnel are present at the Emergency Assembly Area		
3	If there are more than three personnel onsite, assign one person to meet emergency responders and guide them to the incident.		
4	Remain onsite as long as it is safe and remain in contact with the 9-1-1 dispatcher serving as a communication liaison.		
5	Log head count and attempt to contact any personnel that have not reported in.		
6	Evacuate site if Emergency Assembly Area is not safe. Inform the 9-1-1 dispatcher that personnel will be evacuating the solar site.		

ATTACHMENT O: DECOMMISSIONING PLAN

DECOMMISSIONING PLAN – READFIELD MAIN STREET SOLAR, LLC

DATE: 08/03/22
PROJECT: Readfield Main Street Solar
Main Street
Readfield, Maine

PREPARED BY: Ian Jewkes
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Colchester, Vermont
802-878-0375

Project Summary: Readfield Main Street Solar, LLC (Applicant) proposes to construct and operate a 0.975 megawatt (MW) alternating current (AC) solar array ("Project"). The Project will occupy 17.51 acres of an existing lot that is approximately 71.93 acres. The parcel is identified as Map 143 Lot 014, and is located on the south side of Main Street in Readfield, ME. The Project will include a gravel access drive, fence array area, underground electric collection line, equipment pads, transformer, inverters, solar panels mounted on a fixed tilt rack support system, and clearing for shade management. William C. Hewett owns the property. The Project will include approximately 21,172 square-feet of gravel access drive, 4,200 solar panels, approximately 2,623 feet of security fence, underground electric conduit, inverters, equipment pads with transformer, and miscellaneous electrical equipment. Please note, solar equipment availability and specifications are continually evolving. The exact equipment used at the time of construction may be replaced with currently available technology. The equipment quantities stated are the best estimates available using equipment that can be purchased at this time. The exact quantity of equipment purchased may vary to accommodate the actual solar power equipment for sale at the time of construction. The anticipated work start date is the fall of 2023.

Farmland: As defined by the *Act to Ensure Decommissioning of Solar Energy Developments* (35-A M.R.S §§ 3491 through 3496, "the Act"), there are 1.44 acres of Farmland area on the Project site (see Attachment B).

Decommissioning Triggers: In accordance with the Act, decommissioning of the Project will occur at the end of its useful life. That is, at the termination of the lease agreement, at the end of the project operation, or when the facility ceases to generate electricity for a continuous period of twelve months in the absence of an explicit approval by the State of Maine to delay project decommissioning due to a showing that the project will become operational again; whichever is earlier.

Lease Term: The lease period is twenty five (25) years with up to two five (5) year extensions.

Average/Anticipated Lifespan of Panels: The industry average solar panel life span and warranty periods range between 25 and 30 years. Panels (and other components) may be replaced or upgraded during the operation period of the project with adherence to local and state permit requirements.

DECOMMISSIONING WORK PLAN

Decommissioning responsibilities will include removal of all solar project equipment and improvements from the project site in accordance with the Act and this plan. All refuse and recycled materials will be disposed of at an off-site waste facility conforming to state and federal regulations by licensed waste haulers. The following shall be required for Decommissioning planning and implementation:

Design and Permitting: Prior to implementation of the Decommissioning efforts, a final (updated) decommissioning plan will be designed by a Professional Engineer experienced in solar project design and decommissioning ("Decommissioning Engineer"). This phase of decommissioning will include acquisition of any required permits necessary for decommissioning activities.

Removal of Components: Physical removal of all components of the Project will occur to a depth of 24 inches or bedrock, whichever is less.

Restoration of Grades: Grades must be restored to post-construction (pre-decommissioning) conditions and disturbed areas to be stabilized with native seed mix at a minimum seeding rate of 15-20 lb per acre.

Erosion Control: In accordance with the engineered decommissioning plan, all sediment and erosion control measures employed during the decommissioning work will be consistent with prior approvals and further regulatory requirements in effect at the time of decommissioning.

All sediment and erosion controls will be installed prior to initiation of decommissioning work.

Erosion control measures must remain in place and be maintained until the site is stabilized.

The Decommissioning Engineer shall inspect the site, taking in to account the site stability, and potential erosion/sedimentation to occur during Decommissioning and provide a plan of erosion controls. The Decommissioning Engineer may refer to the attached plan set (see Attachment A) and the Project's Stormwater Permit by Rule for Erosion and Sediment Control plans. However, it is reasonable to assume that erosion control needs, technologies, and requirements may be different at the time of the decommissioning than at the time of Project permitting.

Access Drive: The Project's gravel access drive will remain in place following decommissioning to provide an entrance for future logging activities.

Retaining Specific Project Components: At the time of decommissioning, if the landowner would like to retain specific project components that were not previously approved in the decommissioning plan, the landowner or developer must submit an application for the continued beneficial use of the components.

164 Main Street, Suite 201 ■ Colchester, VT 05446
(802) 878-0375 ■ email@krebsandlansing.com

Decommissioning Activities: The following shall constitute the decommissioning activities as designed and approved by the Decommissioning Engineer and the final decommissioning plan:

1. INSTALLATION OF EROSION CONTROLS;
2. UNINSTALL & DISCONNECT SOLAR PANELS AND RACKING;
3. DEMOLITION AND REMOVAL OF CONCRETE FOUNDATIONS (IF REQUIRED DURING INSTALLATION);
4. REMOVAL OF ELECTRICAL COLLECTION SYSTEM (ABOVE AND BELOW GROUND TO A DEPTH AS DESCRIBED ABOVE);
5. REMOVAL OF SOLAR PANELS RACKING SUPPORT SYSTEM;
6. REMOVAL OF FENCING AND GATES;
7. REMOVAL OF ALL INVERTERS, COMBINERS, AND OTHER ELECTRICAL EQUIPMENT AND TRANSFORMER;
8. REMOVAL OF EQUIPMENT PADS;
9. RE-GRADING OF DISTURBED PORTIONS OF THE SITE (AS NECESSARY);
10. SEEDING OF SOILS DISTURBED DURING THE DECOMMISSIONING PROCESS UTILIZING A NATIVE SEED MIX AT A MINIMUM SEEDING RATE OF 15 – 20 LB PER ACRE; AND,
11. TRANSPORTATION OFF THE SITE OF ALL MATERIALS FOR RESALE, RECYCLING OR DISPOSAL, AS APPROPRIATE. *(DISPOSAL OF ALL SOLID WASTE AND RECYCLABLE MATERIALS FROM THE SITE MUST PROCEED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL WASTE DISPOSAL REGULATIONS IN EFFECT AT THE TIME OF DECOMMISSIONING.)*

DECOMMISSIONING COST ESTIMATES

The total cost of decommissioning the Project is estimated to be $48,840 (Table 1).

The cost was estimated using information published by the New York State Energy Research and Development Authority (NYSERDA) and adjusted for Maine labor wages and site-specific factors.

TABLE 1. Cost Estimates

TASK	COST*
Remove Solar Modules	$1,370
Remove Racking Wiring	$1,370
Dismantle Racks	$6,890
Remove Electrical Equipment	$1,030
Remove Concrete Pads	$ 710
Remove Racks	$4,350
Remove Cables	$3,080
Remove Racking Ground Mount Support System	$6,570
Remove Fence	$2,350
Grading	$1,900
Temporary Erosion Control***	$2,580
Seed Disturbed Areas with Native Seed Mix at Seeding Rate of 15-20 lb per Acre	$ 420
Truck to Recycling Center	$1,260
Additional for Component Removal to a Depth of 48” per Maine Statute 36 MRS § 1102(4) for “Farmland” areas (approx. 8% of project)	$ 980
Solar Module Disposal ($1.90 Per Module) **	$7,980
Engineering / Consulting**	$3,000
Contractor Mobilization**	$1,500
Contractor Demobilization**	$1,500
TOTAL	$48,840

* NYSERDA decommissioning solar panel systems method adjusted for regional labor costs and storage facility

**Adjustments to conform to Maine 35-a M.R.S. §§ 3491, module disposal fee based on state of Maine 2019 average tipping fee of $76/ton, 50 lbs per module and 4,200 solar modules (assuming modules are not recycled) plus 25 tons of miscellaneous refuse that cannot be recycled

***temporary erosion control cost is integrated into the NYSERDA method. A separate line item has been created for clarity

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FINANCIAL ASSURANCE AND SITE RESTORATION FUNDING

The total estimated decommissioning cost will be fully funded by Readfield Main Street Solar, LLC before construction commences. These funds may be in the form of a performance bond, surety bond, irrevocable letter of credit, or other acceptable form of financial assurance (Financial Assurance).

Readfield Main Street Solar, LLC, or its successor, will update the decommissioning cost estimate fifteen years after approval of the decommissioning plan, and no less frequently than every five years thereafter. Financial assurance updates must be submitted to the permitting entity by December 31 of the required year.

The Financial Assurance will remain in place until the decommissioning work has been completed.

State of Maine Decommissioning Bond Requirements: If a bond is required, the Project shall comply with the following State of Maine bond requirements.

1. The Obligee should be, "State of Maine, Department of Environmental Protection." A municipality may be the Obligee, provided the bond amount is sufficient to cover decommissioning in accordance with the Department-approved plan and the municipally-approved decommissioning plan covered by the bond is consistent with the Department-approved decommissioning plan. However, where a municipality has its own decommissioning requirement and the developer desires to secure only a single bond, it is preferrable for both the municipality and State of Maine, Department of Environmental Protection to be co-Obligees.
2. The amount listed on the financial assurance should match the amount in the cost estimate.
3. The bond should reference the Solar Energy Decommissioning Law (35-A M.R.S. §§ 3491-3496), the Department order approving the decommissioning plan (including the licensing number, if possible), and the approved decommissioning plan.
4. The bond should acknowledge the Obligor's obligation to decommission the solar energy development and restore the site upon discontinuance of service consistent with the approved decommissioning plan.
5. The bond should provide that the Obligee can make a claim on the bond upon learning 1) that the facility has been abandoned or 2) that the Obligor has violated its obligation to decommission the solar energy development pursuant to the Order. If the bond specifies the number of days from a triggering event that the Department has to make a claim on the bond, that number of days should be at least 60 and, with respect to a violation of the decommissioning obligation (#2 above), this time period should not begin until the Obligor has failed to take corrective action in response to a corresponding notice of violation issued by the Obligee.
6. Bonds may be renewed annually.

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August 3, 2023

ATTACHMENTS

- A - Project Plan Set
- B - Farmland Map
- C - Location Map
- D - Proof of Legal Name: Department of the Secretary of State Certificate of Existence
- E - Financial Assurance

ATTACHMENT A

PROJECT PLAN SET

READFIELD MAIN STREET SOLAR, LLC

CIVIL SITE PLANS

PROPOSED PHOTOVOLTAIC POWER GENERATION FACILITY

MAIN STREET — READFIELD, MAINE

READFIELD, ME

LOCATION MAP
SCALE: 1" = 1/2 Mile

SHEET INDEX
SHEET SET COVER
1 of 1 BOUNDARY, TOPOGRAPHIC, AND EXISTING CONDITIONS PLAN
C-1.0 SITE PLAN
C-1.1 DRAINAGE PLAN
C-2.0 STANDARD DETAILS
C-2.1 ESC DETAILS
C-2.2 ESC DETAILS

READFIELD MAIN STREET SOLAR, LLC
Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

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Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
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Saco, Maine 04072

STATE OF MAINE
IAN A. JENKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER

07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

INDEX SHEET
READFIELD MAIN
STREET SOLAR, LLC

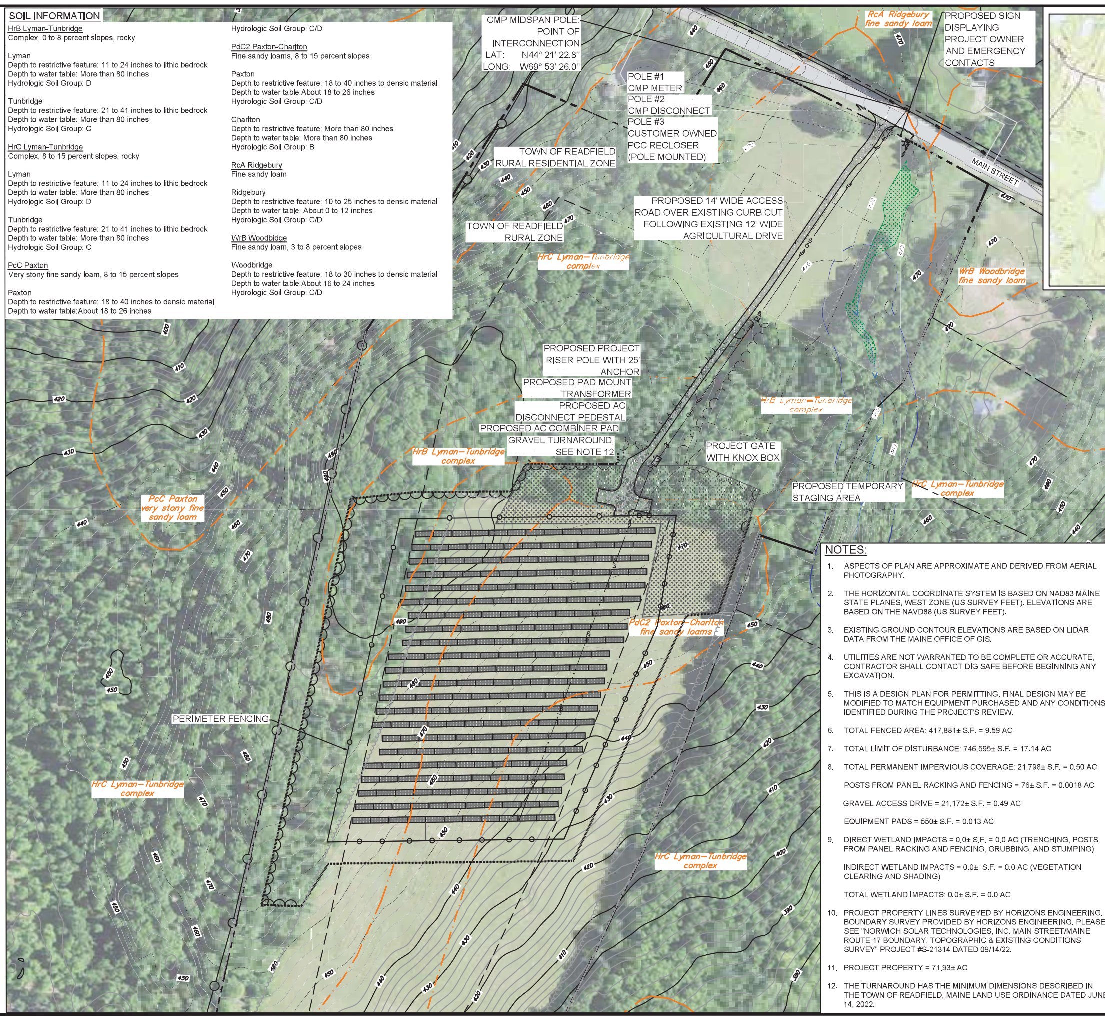
DATE of issue: 07/31/23

Drawn by: LJM — Checked by: IAJ

Project No.: 22124 — Scale: N/A

Drawing No.: — Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg



SOIL INFORMATION

HrB Lyman-Tunbridge
Complex, 0 to 8 percent slopes, rocky

Lyman
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: D

Tunbridge
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: C

HrC Lyman-Tunbridge
Complex, 8 to 15 percent slopes, rocky

Lyman
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: D

Tunbridge
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Depth to water table: More than 80 inches
Hydrologic Soil Group: C

PcC Paxton
Very stony fine sandy loam, 8 to 15 percent slopes

Paxton
Depth to restrictive feature: 18 to 40 inches to densic material
Depth to water table:About 18 to 26 inches
Hydrologic Soil Group: C/D

PdC2 Paxton-Charlton
Fine sandy loams, 8 to 15 percent slopes

Paxton
Depth to restrictive feature: 18 to 40 inches to densic material
Depth to water table:About 18 to 26 inches
Hydrologic Soil Group: C/D

Charlton
Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Hydrologic Soil Group: B

RcA Ridgebury
Fine sandy loam

Ridgebury
Depth to restrictive feature: 10 to 25 inches to densic material
Depth to water table: About 0 to 12 inches
Hydrologic Soil Group: C/D

WrB Woodbidge
Fine sandy loam, 3 to 8 percent slopes

Woodbridge
Depth to restrictive feature: 18 to 30 inches to densic material
Depth to water table:About 16 to 24 inches
Hydrologic Soil Group: C/D

NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON LIDAR DATA FROM THE MAINE OFFICE OF GIS.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE, CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS A DESIGN PLAN FOR PERMITTING. FINAL DESIGN MAY BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND ANY CONDITIONS IDENTIFIED DURING THE PROJECT'S REVIEW.
6. TOTAL FENCED AREA: 417,881± S.F. = 9.59 AC
7. TOTAL LIMIT OF DISTURBANCE: 746,595± S.F. = 17.14 AC
8. TOTAL PERMANENT IMPERVIOUS COVERAGE: 21,798± S.F. = 0.50 AC

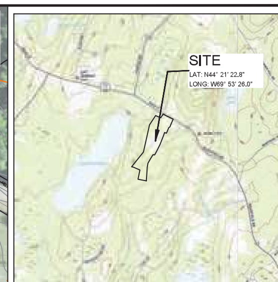
   POSTS FROM PANEL RACKING AND FENCING = 76± S.F. = 0.0018 AC

   GRAVEL ACCESS DRIVE = 21,172± S.F. = 0.49 AC

   EQUIPMENT PADS = 550± S.F. = 0.013 AC
9. DIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (TRENCHING, POSTS FROM PANEL RACKING AND FENCING, GRUBBING, AND STUMPING)

   INDIRECT WETLAND IMPACTS = 0.0± S.F. = 0.0 AC (VEGETATION CLEARING AND SHADING)

   TOTAL WETLAND IMPACTS: 0.0± S.F. = 0.0 AC
10. PROJECT PROPERTY LINES SURVEYED BY HORIZONS ENGINEERING. BOUNDARY SURVEY PROVIDED BY HORIZONS ENGINEERING. PLEASE SEE "NORWICH SOLAR TECHNOLOGIES, INC. MAIN STREET/MAINE ROUTE 17 BOUNDARY, TOPOGRAPHIC & EXISTING CONDITIONS SURVEY" PROJECT #S-21314 DATED 09/14/22.
11. PROJECT PROPERTY = 71.93± AC
12. THE TURNAROUND HAS THE MINIMUM DIMENSIONS DESCRIBED IN THE TOWN OF READFIELD, MAINE LAND USE ORDINANCE DATED JUNE 14, 2022.



LOCATION MAP
SCALE: 1" = 1/2 Mile

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- ABUTTING PROPERTY LINES, HORIZONS ENGINEERING, INC.
- SURVEYED PROPERTY LINE, HORIZONS ENGINEERING, INC.
- 200' PROPERTY LINE SETBACKS TO SOLAR PANELS
- EXISTING GRADE CONTOUR LINES (2 FOOT INTERVALS)
- EXISTING GRADE CONTOUR LINES (10 FOOT INTERVALS)
- EXISTING OVERHEAD POWER
- PROPOSED PERIMETER FENCE
- PROPOSED UNDERGROUND POWER
- PROPOSED OVERHEAD POWER
- PROPOSED POWER POLE ANCHOR
- PROPOSED EQUIPMENT PAD
- PROPOSED SOLAR PANELS
- DELINEATED WETLAND
- WETLAND IMPACT AREA
- MAPPED SOIL BOUNDARY (NRCS)
- EXISTING TREELINE
- PROPOSED TREELINE
- PROJECT LIMIT OF DISTURBANCE WITH PERIMETER CONTROLS, SEE SHEET C-2.2
- STREAM
- 75' STREAM BUFFER
- EXISTING DRIVE
- PROPOSED GRAVEL ACCESS
- PROPOSED TEMPORARY STAGING AREA
- EXISTING FENCE
- EXISTING TRAIL
- EXISTING STONEWALL

"APPROVED BY TOWN OF READFIELD PLANNING BOARD"

NAME:	DATE:
1.	
2.	
3.	
4.	
5.	
6.	
7.	

READFIELD MAIN STREET SOLAR, LLC

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Readfield, Maine

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Brunswick, Maine

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Electrical:
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Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
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Saco, Maine 04072

0' 150' 300' 450'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 150')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

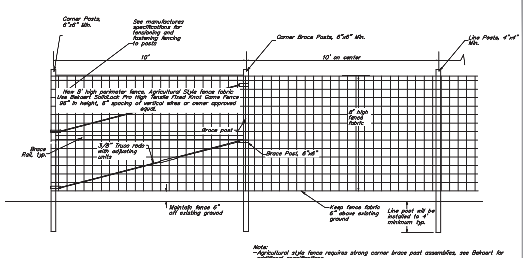
STATE OF MAINE
IAN A. JEWKES
NO. 17765
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

SITE PLAN
READFIELD MAIN STREET SOLAR, LLC

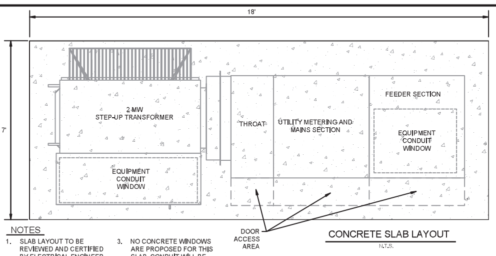
DATE of Issue: 07/31/23
Drawn by: LJM   Checked by: IAJ
Project No.: 22124   Scale: 1" = 150'
Drawing No.: C-1.0   Rev No.:



Note:
–Agricultural style fence requires strong corner brace post assemblies, see Bekaert for additional specifications
–Additional bracing may be required on longer fence runs. Contractor to add additional bracing when contractor observes corner post deflection during fence tensioning/fastening.
–Fabric to be fastened with manufacturer approved corrosion resistant staples
–Fabric to be Bekaert SolidLock Pro High Tensile Fixed Knot Game Fence. Height: 96", Vertical Spacing of Wires: 6" or owner approved equal

TYPICAL AGRICULTURAL FENCE

N.T.S.

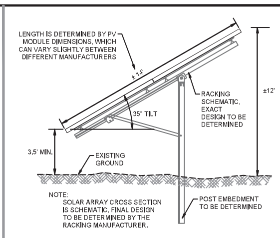


CONCRETE SLAB LAYOUT

N.T.S.

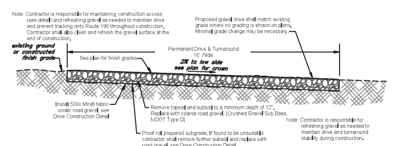
NOTES

1. SLAB LAYOUT TO BE REVIEWED AND CERTIFIED BY ELECTRICAL ENGINEER PRIOR TO INSTALLATION.
2. CONTRACTOR TO VERIFY LOCATIONS OF REBAR IN SLAB AND REDUCE CONFLICTS WITH DRILL LOCATIONS FOR EQUIPMENT SUPPORTS.
3. NO CONCRETE WINDOWS ARE PROPOSED FOR THIS SLAB, CONDUIT WILL BE INSTALLED PRIOR TO POURING CONCRETE. STUB CONDUIT UP THROUGH THE PREPARED SLAB IN THE EQUIPMENT WINDOW LOCATIONS SHOWN AND POUR CONCRETE AROUND STUBBED CONDUIT.



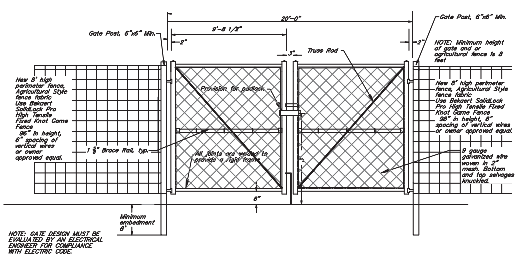
TYPICAL SOLAR ARRAY CROSS SECTION (RENDERING)

N.T.S.



PERMANENT ACCESS DRIVE CROSS SECTION

N.T.S.



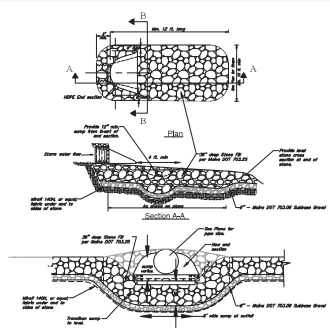
NOTE: GATE DESIGN MUST BE EVALUATED BY AN ELECTRICAL ENGINEER FOR COMPLIANCE WITH ELECTRIC CODE.

Contractor to supply shop drawing of swing gate. Movable portion of gate will be evaluated for durability, reliability, ease of operation by Owner.

PERMANENT SWING GATE

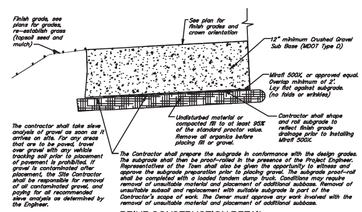
N.T.S.

Provide Knox Box for emergency access, coordinate location and type with fire department.



Typical Rip Rap Outfall and Energy Dissipation Pad Detail

N.T.S.



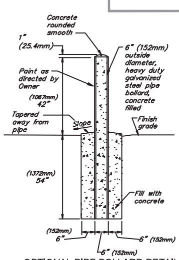
The contractor shall take sieve analysis of gravel as soon as it arrives on site. For any areas that are to be paved, travel over gravel with any vehicle tracking soil prior to placement of pavement is prohibited. If gravel is contaminated after placement, the Site Contractor shall be responsible for removal of all contaminated gravel, and paying for all recommended sieve analysis as determined by the Engineer.

The Contractor shall prepare the subgrade in conformance with the design grades. The subgrade shall then be proof–rolled in the presence of the Project Engineer. Representatives of the Town shall also be given the opportunity to witness and approve the subgrade preparation prior to placing gravel. The subgrade proof–roll shall be completed with a loaded tandem dump truck. Conditions may require removal of unsuitable material and placement of additional subbase. Removal of unsuitable subsoil and replacement with suitable subgrade is part of the Contractor's scope of work. The Owner must approve any work involved with the removal of unsuitable material and placement of additional subbase.

DRIVE CONSTRUCTION DETAIL N.T.S.

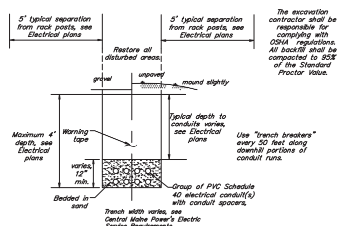
CONSTRUCTION NOTES

1. The methods and materials of construction shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by Engineer. All work shall be done in a workmanlike manner and completed in the time specified by Owner.
2. The Contractor shall be responsible for all work and materials shown and required to make the job complete. These drawings do not show every fitting or appurtenance. Materials shall be as specified on the drawings. Manufacturer's product specifications shall be submitted for all materials to the Engineer for approval prior to installation.
3. The location and size of existing underground utilities is not warranted to be exact or complete. The Contractor shall field locate all utilities and shall contact the affected utility company, the Engineer and the Town prior to making any hook ups. The Contractor shall be solely responsible for all existing utilities and their uninterrupted services. All off–site backfill, sheeting and shoring, dewatering, clearing and grubbing, erosion control, dust control, traffic control, grading, and all incidentals shall be included as part of the required work.
4. The Contractor shall verify all temporary bench marks before use.
5. The workmen and public shall be protected by the Contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flagmen. All barricades left in position overnight are to be properly lighted. Kerosene pots are not acceptable. When work narrows the usable pavement, flagmen shall be employed to aid the flow of traffic so that there will be no undue delays. The Contractor shall be held responsible for the safety of all workmen and the general public and all damages to property occurring from or upon the work occasioned by negligence or otherwise growing out of a failure on the part of the Contractor to protect persons or property from hazards of open trenches, materials, or equipment at any time of the day or night within the working area. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652.
6. The Contractor shall verify all utility intersections and contact Engineer and Owner with conflicts.
7. The Contractor shall call, Dig Safe or other approved equal underground utility identifier prior to any excavation.
8. The Contractor shall coordinate with final electrical, structural and landscaping plans.



OPTIONAL PIPE BOLLARD DETAIL

N.T.S.



TYPICAL CONDUIT TRENCH

N.T.S.

CONDUIT TRENCHING NOTES

1. The methods and materials of construction shall conform to the latest standards of Central Maine Power's Handbook of Requirements and the State of Maine. All work shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by the Owners Representative.
2. The excavation contractor shall dig the conduit trenching and assist the Electrician in placing the conduit. The conduits shall be placed with conduit spacers when more than two conduits are placed in a trench. All conduit and spacers shall be provided by the Electrical Contractor.
3. The excavation contractor shall allow sufficient time for the conduit to be inspected prior to backfilling. If any conduit is backfilled without inspection it will be the excavation contractor's responsibility to uncover the conduit for inspection and backfill the trench without charge.
4. The workers and public shall be protected by the excavation contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flaggers. All barricades left in position overnight are to be properly lighted. When work narrows the usable pavement, flaggers shall be employed to aid the flow of traffic so that there will be no undue delays. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652.
5. The excavation contractor is responsible for compacting all trench backfill to 95% of the Standard Proctor Value.
6. The excavation contractor is responsible for all conduit excavation and backfill necessary to complete the project.

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STATE OF MAINE
IAN A. JENKES
NO. 17165
LICENSED PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
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2		
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DRAWING TITLE:
STANDARD DETAILS
READFIELD MAIN
STREET SOLAR, LLC

DATE of Issue: 07/31/23
Drawn by: LJM Checked by: IAJ
Project No.: 22124 Scale: N/A
Drawing No.: C-2.0 Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg

NOTES

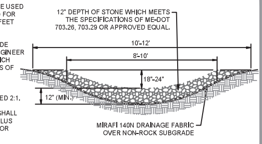
1. TYPICAL GRASS SWALE. SEE PLAN VIEW FOR LOCATIONS.
2. TYPICAL SIDE SLOPES TO BE 2:1.
3. DURING CONSTRUCTION TEMPORARILY SEEDED AND HEAVILY MULCHED. EROSION CONTROL BLANKET MAY BE NECESSARY IN STEEPER SLOPES, INSTALL BLANKET IF EROSION PERSISTS AND/OR GRASS IS HAVING DIFFICULTY GERMINATING. POST CONSTRUCTION CONTRACTOR SHALL RE-GRADE ANY EROSION, REMOVE BUILD UP SEDIMENTS, PERMANENT SEED AND HEAVILY RE-MULCH.
4. CROSS-SECTION SHALL BE EXCAVATED TO NEAT LINES AND GRADES. OVER-EXCAVATED AREAS SHALL BE BACKFILLED WITH MOIST SOIL COMPACTED TO DENSITY OF SURROUNDING MATERIAL.
5. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF IN APPROVED UPLAND AREA (PER ON SITE PLAN COORDINATOR) SUCH THAT IT DOES NOT INTERFERE WITH FUNCTION.

GRASS SWALE CROSS SECTION

N.T.S.

NOTES

1. STONE-LINED SWALES TO BE USED ON SLOPES ≥5%, DESIGNED FOR VELOCITIES LESS THAN 10 FEET PER SECOND.
2. USE RIP RAP STONE. PROVIDE QUARRY GRADATION TO ENGINEER FOR APPROVAL. STONE WHICH MEETS THE SPECIFICATIONS OF ME-DOT 703.26, 703.29 OR APPROVED EQUAL.
3. SIDE SLOPES NOT TO EXCEED 2:1.
4. STONE LINING THICKNESS SHALL BE 1.5 X MAX. STONE SIZE PLUS THE THICKNESS OF FILTER OR BEDDING.
5. ALL DISTURBED AREAS SHALL BE STABILIZED AND OTHERWISE PROTECTED AGAINST SOIL EROSION.

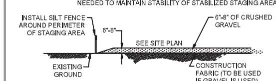


STONE SWALE CROSS SECTION

N.T.S.

NOTES

1. SILT FENCING TO BE INSTALLED BEFORE CONSTRUCTION OF STAGING AREA IS INSTALLED.
2. INSTALL AND MAINTAIN SURFACE OF STAGING AREA WITH CONSTRUCTION FABRIC OVER EXISTING GROUND. COVER WITH 6"-8" OF CRUSHED GRAVEL, SEE DETAIL. MAINTAIN DEPTH OF GRAVEL THROUGHOUT PROJECT CONSTRUCTION.
3. INSTALL AND MAINTAIN STABILIZED CONSTRUCTION ENTRANCE, SEE DETAIL. INSTALL WOODEN GATE AT ENTRANCE OF OF STAGING AREA.
4. ALL ABUTTERS TO STAGING AREA WILL BE NOTIFIED OF THE PROJECT. DUE TO LIKELY CONSTRUCTION NOISE, ACTIVITIES AT STAGING AREA AND CONSTRUCTION SITE SHALL ABIDE BY LOCAL NOISE ORDINANCES.
5. STAGING AREA IS LIKELY TO BE USED FOR PARKING DURING CONSTRUCTION, STAGING OF CONSTRUCTION MATERIALS, BASE OF PROJECT OPERATIONS AND MISCELLANEOUS PROJECT ACTIVITIES.
6. CLOSE TO PROJECT CONSTRUCTION COMPLETION, STAGING AREA WILL BE REMOVED. GRAVEL AND CONSTRUCTION FABRIC SHALL BE REMOVED AND PROPERLY DISPOSED OF. RESTORE THE PORTION OF EXISTING MEADOW COVERED BY STAGING AREA BY SEEDING, MULCHING, AERATING, ETC AS NECESSARY TO RESTORE AREA TO ITS NATURAL PRECONSTRUCTION STATE.
7. CONTRACTOR IS RESPONSIBLE FOR REFRESHING GRAVEL AS NEEDED TO MAINTAIN STABILITY OF STABILIZED STAGING AREA.



TYPICAL STABILIZED STAGING AREA SURFACE

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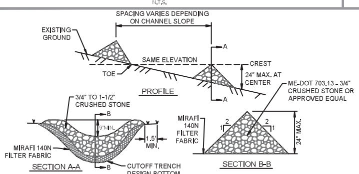
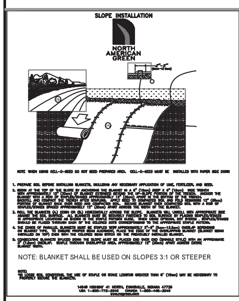


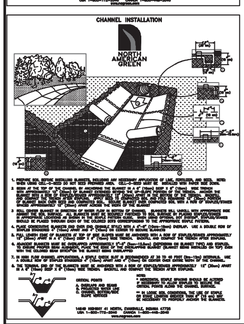
NOTES

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 STONES.

STONE CHECK DAM

N.T.S.





EROSION CONTROL BLANKET

NORTH AMERICAN GREEN S75BN

MATERIAL SPECIFICATIONS:

- EROSION CONTROL BLANKET SHALL BE A MACHINE-PRODUCED MAT OF 100% AGRICULTURAL STRAW.
- THE BLANKET SHALL BE OF CONSISTENT THICKNESS WITH THE STRAW EVENLY DISTRIBUTED OVER THE ENTIRE AREA OF THE MAT. THE BLANKET SHALL BE COVERED ON THE TOP SIDE WITH 100% BIODEGRADABLE WOVEN NATURAL ORGANIC FIBER NETTING HAVING AN APPROXIMATE 1/2" X 1" MESH AND BE SEWN TOGETHER WITH BIODEGRADABLE THREAD.
- STRAW EROSION CONTROL BLANKET SHALL BE S75BN AS MANUFACTURED BY NORTH AMERICAN GREEN, INC. (812-867-6632) OR EQUIVALENT. EROSION CONTROL BLANKET SHALL HAVE THE FOLLOWING PROPERTIES:

MATERIAL CONTENT:

- STRAW: 100% (0.50 lbs/sq.yd.)(0.27 kg/m^2)
- NETTING: ONE SIDE ONLY, LENO WOVEN 100% BIODEGRADABLE NATURAL ORGANIC FIBER (APPROX. WEIGHT 9.3 lbs./100 sq. ft.)
- THREAD: BIODEGRADABLE

PHYSICAL SPECIFICATIONS (ROLL):

- WIDTH: 6.67 feet (2.03 m)
- LENGTH: 108 feet (32.92 m)
- WEIGHT: 46.4 lbs. ± 10% (21.05 kg)
- AREA: 80 sq. yd. (50 m^2)

WINTER EROSION CONTROL PROCEDURES

(FOR ANY EARTH WORK PERFORMED BETWEEN NOVEMBER 1ST AND APRIL 15TH)

WINTER EROSION CONTROL NARRATIVE:
OBJECTIVE - ANY SITE WORK PERFORMED LATER THAN NOVEMBER 1ST WILL RESULT IN EXPOSED SOIL THROUGH THE WINTER. THIS PRESENTS A POTENTIAL FOR EROSION THROUGH THE WINTER. THE WINTER EROSION CONTROL MEASURES ARE INTENDED TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION ZONE DURING THAWS AND RAINSTORMS IN THE SPRING AND DURING MID-WINTER THAWS.

WINTER EROSION CONTROL SEQUENCE:
THE CONTRACTOR SHALL BE SURE ALL EROSION CONTROL MEASURES REQUIRED FOR WINTER CONSTRUCTION ARE INSTALLED BY NOVEMBER 1ST AND PRIOR TO GROUND FREEZING. IF A PERMITTED AREA CAN BE LEFT UNDISTURBED UNTIL THE SPRING THE CONTRACTOR SHALL MAKE EVERY EFFORT TO LIMIT DISTURBANCE OF THESE AREAS.

THE CONTRACTOR SHALL STABILIZE ANY PORTION OF THE SITE THAT IS BEING WORKED AND DISTURBED PRIOR TO BEGINNING CONSTRUCTION AT ANOTHER AREA OF THE SITE. AT NO TIME DURING WINTER CONSTRUCTION SHALL THERE BE MORE THAN 1 ACRE OF EXPOSED SOIL OR WHAT CAN BE STABILIZED IN ONE DAY ON SITE.

ANTICIPATED WINTER CONSTRUCTION ACTIVITIES WILL INCLUDE ALL ASPECTS OF THE PROJECT PROPOSED DURING SUMMER CONSTRUCTION. THIS IS A CONTINUATION OF WORK WHICH WAS NOT COMPLETED DURING THE SUMMER. MAJOR GRADING IS EXPECTED TO BE COMPLETE BEFORE NOVEMBER 1ST.

LIMITS OF DISTURBANCE - LOD WILL BE MOVED AND/OR REPLACED TO REFLECT THE BOUNDARY OF WINTER WORK. CONTRACTOR WILL MAINTAIN A MINIMUM 25' BUFFER FROM PERIMETER CONTROLS TO ALLOW FOR SNOW CLEARING AND MAINTENANCE.

SNOW STORAGE ON SITE - CONTRACTOR WILL CREATE A SNOW MANAGEMENT PLAN. PLAN WILL IDENTIFY LOCATIONS FOR ADEQUATE SNOW STORAGE AND CONTROL SNOW MELT. SNOW STORAGE WILL BE DOWN GRADIENT OF ALL DISTURBED AREAS AND WILL NOT PROHIBIT THE FUNCTION OF ALL PERMANENT STORMWATER TREATMENT STRUCTURES. CONTRACTOR SHALL KEEP ALL DRAINAGE STRUCTURES OPEN AND FREE OF SNOW AND ICE DAMS. CONTRACTOR SHALL NOT STORE SNOW IN ONE CENTRAL LOCATION WHICH WOULD CREATE A CENTRALIZED POINT IN A MELTING SITUATION, ATTEMPT TO SPREAD SNOW PILES.

INSTALL SILT FENCE - SILT FENCE SHALL BE INSTALLED ON THE DOWNHILL SIDE OF THE WINTER CONSTRUCTION AREAS AND SOIL STOCKPILE AREAS, AS SHOWN ON THE PLAN, BY NOVEMBER 1ST. IF THE GROUND IS UNFROZEN, THE SILT FENCE SHALL BE DUG IN AS NORMAL. IF THE GROUND IS FROZEN CONTACT THE ENGINEER FOR ALTERNATE OPTIONS. STONE BERM, FILTREXX SILT SOXX, STRAW WATTLES, HAY BALES,ETC. ALL MAY BE USED TO KEY IN SILT FENCE AND STRENGTHEN THE BMP.

STABILIZED CONSTRUCTION ENTRANCE - THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL STABILIZED CONSTRUCTION ENTRANCES TO PREVENT SEDIMENT TRACKING OFF SITE. CONTRACTOR SHALL ENLARGE THE WIDTH OF ACCESS TO PROVIDE ADDITIONAL ROOM FOR SNOW STOCKPILING, IF NEEDED. ADDITIONAL STONE SHALL BE ADDED OR THE LENGTH SHALL BE INCREASED, IF ICE AND SNOW LIMITS CONSTRUCTION ENTRANCE'S ABILITY TO HOLD SEDIMENTS ON SITE.

WINTER STABILIZATION – ALL DISTURBED AREAS NOT INVOLVED IN WINTER CONSTRUCTION SHALL BE AT LEAST TEMPORARILY STABILIZED BY NOVEMBER 1ST. AFTER, ALL AREAS DISTURBED DURING WINTER CONSTRUCTION SHALL BE STABILIZED DAILY TO PREVENT EXPOSURE FROM RAIN EVENTS AND ACCUMULATION OF SNOWFALL (SEE EXCEPTIONS BELOW). STABILIZATION RATES IN THE WINTER WILL BE DOUBLED THE RATES LISTED IN THE MULCHING SCHEDULE. CONTRACTOR SHALL ADD ADDITIONAL STONE, AS NECESSARY, TO PROVIDE STABILIZATION THROUGH WINTER CONSTRUCTION ON ALL AREAS WHERE CONSTRUCTION TRAFFIC IS ANTICIPATED.

EXCEPTIONS:

- HYDROSEEDING AFTER NOVEMBER 1ST AND BEFORE APRIL 15TH MUST BE STABILIZED WITH STRAW MULCH OR EROSION CONTROL MATTING.
- SNOW AND/OR ICE MUST BE REMOVED TO, AT MOST, ONE INCH PRIOR TO APPLYING MULCH OR EROSION CONTROL STABILIZATION MATTING.
- IF NO PRECIPITATION, WITHIN 24 HOURS, IS FORECASTED AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
- DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES, REQUIRE STABILIZATION AT THE END OF EACH WORK WEEK.

MAINTENANCE - ALL DISTURBED AREAS SHALL BE MONITORED BY THE CONTRACTOR AND THE INSPECTOR IN ACCORDANCE WITH THE PERMIT. THE CONTRACTOR AND INSPECTOR SHALL EVALUATE THE SITE AFTER A THAW OR RAINSTORM. THE CONTRACTOR OR INSPECTOR SHALL NOTIFY THE ENGINEER IF ANY EROSION CONTROL MEASURES APPEAR TO BE INADEQUATE. THE CONTRACTOR OR INSPECTOR SHALL IMMEDIATELY (WITHIN THE SAME BUSINESS DAY) IMPLEMENT ANY FURTHER EROSION CONTROL MEASURES SPECIFIED BY THE ENGINEER. THE CONTRACTOR OR INSPECTOR SHALL ADD MULCH, AS NECESSARY, THROUGHOUT THE WINTER AFTER THAWS OR RAINSTORMS. THE MULCH DEPTHS SHALL BE DOUBLED. THE MULCH AND SILT FENCE SHALL BE MAINTAINED UNTIL A PERMANENT GROUND COVER (90% STABILIZATION) IS ESTABLISHED IN THE SPRING. THE SITE SHALL BE REMULCHED AND RESEEDED, IN THE SPRING, AS REQUIRED TO ESTABLISH A VIGOROUS PERMANENT GROUND COVER.

INSPECTION - THE EROSION AND SEDIMENT INSPECTOR SHALL BE RESPONSIBLE FOR, AT A MINIMUM, DAILY WRITTEN INSPECTIONS WHILE THE SITE IS DISTURBED OR WEEKLY IF EVERYTHING IS STABILIZED BUT CONSTRUCTION IS ON-GOING. IF, DURING WINTER CONSTRUCTION, EARTH DISTURBANCE ACTIVITIES TEMPORARILY CEASE AND THE SITE HAS BEEN FULLY STABILIZED, INSPECTION AND MONITORING REQUIREMENTS FOR THE INSPECTOR MAY BE REDUCED TO ONCE PER MONTH MINIMUM. ALL INSPECTION SHEETS SHALL BE KEPT ON SITE AND BE AVAILABLE UPON REQUEST.

HOUSEKEEPING PROCEDURES

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

   SEE APPENDIX D FOR LICENSE BY RULE STANDARDS FOR INFILTRATION OF STORMWATER.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST- CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

6. AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON- STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
   a. DISCHARGES FROM FIREFIGHTING ACTIVITY
   b. FIRE HYDRANT FLUSHINGS
   c. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED)
   d. DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3)
   e. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS
   f. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED
   g. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE
   h. UNCONTAMINATED GROUNDWATER OR SPRING WATER
   i. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED
   j. UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5))
   k. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS
   l. LANDSCAPE IRRIGATION.
7. UNAUTHORIZED NON-STORMWATER DISCHARGES . THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   a. WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS
   b. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE
   c. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING
   d. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE
8. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

NORWICH SOLAR
Brunswick, Maine

Stantec

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horizons Engineering
NEWPORT VT • LITTLETON NH • NEW LONDON NH
POMFRET VT • KENNEBUNK ME • CONWAY NH

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Stantec
30 Park Drive
Topsham, Maine 04086

Electrical:
Norwich Solar
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072

STATE OF MAINE
IAN A. JEAKES
NO. 17165
LICENSED
PROFESSIONAL ENGINEER
07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
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4		

DRAWING TITLE:

ESC DETAILS
READFIELD MAIN
STREET SOLAR, LLC

DATE of Issue: 07/31/23
Drawn by: LJM
Checked by: IAJ
Project No.: 22124
Scale: N/A
Drawing No.: C-2.1
Rev No.:

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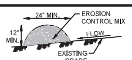


COMPOSITION:

EROSION CONTROL MIX BERM SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH *THE MAINE EROSION CONTROL AND BEST MANAGEMENT PRACTICES (BMPS) MANUAL*, SEDIMENT CONTROL BMP, B-1 SEDIMENT BARRIERS. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED WOOD AND BARK CHIPS AND/OR ACCEPTABLE MANUFACTURED PRODUCTS. GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE. ALL MATERIALS USED TO MANUFACTURE THE EROSION CONTROL MIX SHALL BE NATIVE MAINE MATERIALS.

NOTES

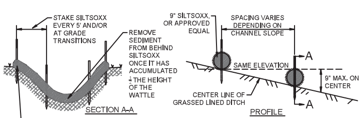
1. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED AS NEEDED SUCH THAT THE BARRIER LIES NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. ON SLOPES < 5% OR AT THE BOTTOM OF STEEPER SLOPES (<2:1) UP TO 20' LONG, THE BARRIER MUST BE A MINIMUM OF 12" HIGH, AS MEASURED ON THE UPHILL SIDE OF THE BARRIER, AND A MINIMUM OF 2 FT. WIDE. ON LONGER OR STEEPER SLOPES, THE BARRIER SHALL BE WIDER TO ACCOMMODATE ADDITIONAL FLOW.
4. EROSION CONTROL MIX MAY BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED AND SCHEDULED ON THE DESIGN PLANS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW STORMWATER END SECTIONS AT OUTFALLS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES (UP TO 2:1 WITH ON SITE PLAN COORDINATOR APPROVAL) THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM. EROSION CONTROL MIX MAY NOT BE USED IN WETLAND AREAS. EROSION CONTROL MIX MAY BE USED UPHILL OF PLANNED EARTH DISTURBANCE.

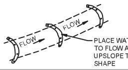
TYPICAL EROSION CONTROL MIX BERM

N.T.S.

NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, AND REMOVAL OF SILTSOXX IN ALL LOCATIONS SHOWN ON THE PLANS. SILTSOXX MAY BE LEFT IN PLACE IF THE CONTRACTOR SEEDS AND MULCHES WATTLE FOR GROWTH POST CONSTRUCTION.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ADDITIONAL SILTSOXX WILL BE ADDED WHEN SEDIMENT REACHES HALF OF PRODUCT HEIGHT.
3. WHEN INSTALLING LENGTHS OF SILTSOXX, LENGTHS WILL OVERLAP BY MINIMUM 2' WHEN TRANSITIONING TO A NEW LENGTH OF WATTLE.
4. CONTRACTOR SHALL REFER TO ALL MANUFACTURES SPECIFICATIONS AND DETAILS.
5. SILTSOXX CAN ONLY BE USED IN A GRASS LINED SWALE, MAY NOT BE USED IN STONE LINED SWALES.
6. SILTSOXX CHECK DAM CAN ONLY BE USED IN CHANNELS WITH SLOPES LESS THAN 5%.
5. SILTSOXX IS A SPECIFIC MANUFACTURER, OTHER MANUFACTURERS WITH EQUAL PRODUCTS MAY BE USED IF APPROVED BY ENGINEER.





SILTSOXX CHECK DAM

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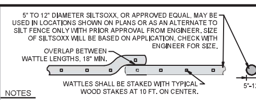
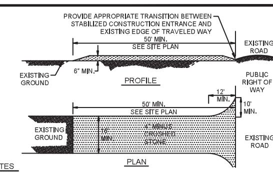


NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, AND REMOVAL OF SILTSOXX IN ALL LOCATIONS SHOWN ON THE PLANS. SILTSOXX MAY BE LEFT IN PLACE IF THE CONTRACTOR SEEDS AND MULCHES OVER SILTSOXX FOR GROWTH POST CONSTRUCTION.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ADDITIONAL WATTLES WILL BE ADDED WHEN SEDIMENT REACHES HALF OF PRODUCT HEIGHT.
3. WHEN INSTALLING LENGTHS OF SILTSOXX, LENGTHS WILL OVERLAP BY MINIMUM 18" WHEN TRANSITIONING TO A NEW LENGTH OF SILTSOXX.
4. CONTRACTOR SHALL REFER TO ALL MANUFACTURES SPECIFICATIONS AND DETAILS.
5. SILTSOXX IS A SPECIFIC MANUFACTURER, OTHER MANUFACTURERS WITH EQUAL PRODUCTS MAY BE USED IF APPROVED BY ENGINEER.
6. SILTSOXX CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER.

TYPICAL SILTSOXX SEDIMENT CONTROL

N.T.S.



NOTES

1. CONTRACTOR SHALL STABILIZE CONSTRUCTION ENTRANCE AS REQUIRED TO PREVENT TRACKING OF SEDIMENT OFF-SITE.
2. CONTRACTOR TO USE MIRAFI 500X UNDER STONE FOR TEMPORARY CONSTRUCTION ROADS.
3. CRUSHED STONE SHALL BE ADDED OR REPLACED WHEN 80% OF THE VOIDS ARE FILLED WITH SEDIMENT.
4. STONE SIZE SHALL BE 2-3" ROCK.
5. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES IS ALLOWED.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

CONSTRUCTION EROSION AND SEDIMENT CONTROL INSPECTOR

1. THE CONTRACTOR SHALL DESIGNATE AN EROSION AND SEDIMENT CONTROL INSPECTOR THROUGHOUT THE ENTIRETY OF CONSTRUCTION. THE INSPECTOR OR HIS/HER DESIGNEE SHALL BE ON-SITE ON A DAILY BASIS DURING ACTIVE CONSTRUCTION.
2. THE INSPECTOR SHALL BE KNOWLEDGEABLE IN PRINCIPLES AND PRACTICES OF EROSION PREVENTION AND STORMWATER CONTROL. IMPLEMENTATION AND POSSESS SKILLS TO ASSESS CONDITIONS AT THE CONSTRUCTION SITE THAT COULD IMPACT STORMWATER QUALITY. TO ASSESS EFFECTIVENESS OF CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs) SELECTED TO CONTROL QUALITY OF STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY.
3. THE INSPECTOR SHALL BE RESPONSIBLE FOR ON-SITE IMPLEMENTATION OF THIS EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTIONS, MONITORING AND REPORTING.
4. INSPECTIONS SHALL BE PERFORMED AT MINIMUM ONCE A WEEK BUT ALSO PRIOR TO AND 24 HOURS AFTER A WET WEATHER EVENT. A "WET WEATHER EVENT" IS DEFINED AS 0.5 INCHES OR GREATER IN A 24 HOUR PERIOD.
5. THE SCOPE OF CONSTRUCTION INSPECTIONS SHALL INCLUDE BUT ARE NOT LIMITED TO ALL THE EROSION AND SEDIMENT CONTROL MEASURES ON SITE. DOCUMENTATION OF THE OVERALL DISTURBANCE FOR THE PROJECT SITE. REVIEW OF ALL STOCKPILE AREAS AND VEHICLE EGRESSES FROM THE PROJECT SITE.
6. CONSTRUCTION INSPECTION AND CORRECTIVE ACTION DOCUMENTATION RECORDS SHALL BE MAINTAINED FOR A MINIMUM OF 3 YEARS. THIS DOCUMENTATION SHALL BE MAINTAINED BY THE CONTRACTOR UNLESS OTHERWISE AUTHORIZED BY THE OWNER. CORRECTIVE ACTIONS SHOULD BE STARTED SAME DAY COMPLETED WITHIN 7 DAYS OR BEFORE THE NEXT STORM EVENT, WHICHEVER IS FIRST.
7. THE INSPECTOR SHALL HAVE AUTHORITY TO STOP AND/OR MODIFY CONSTRUCTION ACTIVITIES AS NECESSARY TO COMPLY WITH THESE PLANS AND TERMS AND CONDITIONS OF THE PERMIT.
8. THE INSPECTORS CONTACT INFORMATION SHALL BE PROVIDED TO MAINE DEP (IF DESIRED), PROJECT ENGINEER AND PROJECT OWNER PRIOR TO START OF CONSTRUCTION.

CONSTRUCTION LIMITS FOR EROSION AND SEDIMENT CONTROL

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PERFORMED IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMPs" DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST REVISION. CONTRACTOR SHALL HAVE A COPY OF THE LATEST REVISION ON SITE AT ALL TIMES.
2. CONTRACTOR SHALL LIMIT EXCAVATION AND EARTHWORK TO NO MORE THAN 10 ACRES NON-CONTIGUOUS OR 10 ACRES PER PROJECT SUBCATCHMENT THROUGHOUT THE CONSTRUCTION SITE AT ONE TIME. TEMPORARY STABILIZE ALL AREAS OF COMPLETED EXCAVATION AND EARTHWORK PRIOR TO MOVING ONTO A NEW AREA.
3. EXPOSED OR OPEN AREA FREE OF VEGETATION FROM CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
4. CONTRACTOR SHALL MINIMIZE THE AMOUNT OF TIME AN AREA UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT EXPOSED OR FREE OF VEGETATION. AREAS WHICH ARE INITIALLY DISTURBED BUT FURTHER CONSTRUCT IS PLANNED MUST BE TEMPORARILY STABILIZED WITHIN 7 DAYS, IF THE AREAS ARE BEING LEFT FOR AN EXTENDED PERIOD OF TIME. AREAS WHICH ARE CONSIDERED FINISHED SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF THE FINISH WORK. IF WORK IS WITHIN 75 FEET OF A WETLAND OR WATERBODY, THE ABOVE MENTIONED TIMEFRAME IS REDUCED TO 2 DAYS IN BOTH THE PERMANENT AND TEMPORARY CONDITIONS.
5. ALL EROSION AND SEDIMENT CONTROL BMPs SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE. CONTRACTOR SHALL MAINTAIN THE BMPS THROUGHOUT CONSTRUCTION. REFER TO INDIVIDUAL DETAILS FOR EACH BMP.
6. REPAIR AND/OR REPLACE ANY EROSION AND SEDIMENT CONTROL BMPs WHICH HAVE BEEN DAMAGED OR NEED MAINTENANCE. ONCE A PROBLEM HAS BEEN IDENTIFIED BY THE INSPECTOR OR OTHERS, THE REPAIR SHALL BE UNDERWAY WITHIN THE END OF THE NEXT WORKING DAY AND COMPLETED WITHIN 7 DAYS OR BEFORE THE NEXT STORM EVENT.
7. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EROSION AND SEDIMENT CONTROL BMPs WITHIN 30 DAYS OF PERMANENT STABILIZATION. PERMANENT STABILIZATION IS DEFINED AS 90% GRASS CATCH IN VEGETATED AREAS.

GRADING, SEEDING AND MULCHING

1. NO SLOPES, PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN 1.5:1. SLOPE STABILITY BASED UPON UNSATURATED SOIL CONDITIONS. IF DURING CONSTRUCTION SATURATED SOILS ARE ENCOUNTERED CONTRACTOR , CONTACT THE ENGINEER.
2. ALL AREA DISTURBED AND ALL AREAS WITHIN THE CLEARING LIMITS SHALL BE GRADED AND COVERED WITH A MINIMUM OF 4" OF LOAM TOPSOIL AND SMOOTHED.
3. MULCH ALL AREAS WHICH ARE DISTURBED FROM CONSTRUCTION PER THE TABLE BELOW. IF MULCH IS USED AS TEMPORARY STABILIZATION, REFRESH MULCHING AS NEEDED TO MAINTAIN STABILIZATION.
4. SEEDING SHOULD BE PERFORMED THROUGHOUT CONSTRUCTION AS A PERMANENT AND TEMPORARY STABILIZATION MEASURE. SEE SEED SPECIFICATIONS BELOW, TEMPORARY SEED CAN BE USES FOR BOTH TEMPORARY STABILIZATION OR IN COLDER MONTHS.

SEEDING SPECIFICATIONS

PERMANENT SEED MIX SHALL BE USED AS EARLY AS PRACTICABLE BETWEEN 4/15 AND 8/15 AND SHALL MEET THE FOLLOWING CRITERIA:

SEED	% WEIGHT
RED FESCUE	50%
SHEEP FESCUE	25%
RED TOP	5%
WHITE CLOVER	10%
ANNUAL RYE	10%

TEMPORARY SEED MIX SHALL BE USED BETWEEN 8/15 AND 04/15 AND SHALL MEET THE FOLLOWING CRITERIA:

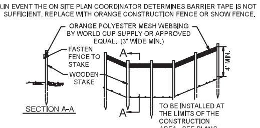
SEED	% WEIGHT	%GERMINATION
WINTER RYE	80% MIN.	85% MIN.
RED FESCUE (CREEPING)	4% MIN.	80% MIN.
PERENNIAL RYE GRASS	3% MIN.	90% MIN.
RED CLOVER	3% MIN.	90% MIN.
OTHER CROP GRASS	0.5% MAX.	
NOXIOUS WEED SEED	0.5% MAX.	
INERT MATTER	1% MAX.	

POLLINATOR SEED MIX SHALL CONTAIN SOME OF THE SPECIES OF SEED OR APPROVED EQUAL:

EASTERN (RED) COLUMBINE
BLUE FALSE INDIGO
HORSEFLYWEED
TALL WHITE BEARD TONGUE
OHIO SPIDERWORT
COMMON MILKWEED
BUTTERFLY MILKWEED
PARTRIDGE PEA
WILD BERGAMOT
VIRGINIA MOUNTAIN MINT
EARLY GOLDENROD
SMOOTH ASTER
NEW ENGLAND ASTER
HEATH ASTER
GRAY GOLDEN ROD
LITTLE BLUESTEM
BLACK EYED SUSAN
COREOPSIS
FOXGLOVE BEARDTONGUE
INDIAN BLANKET
BEE BALM
CARDINAL FLOWER
GOLDEN ALEXANDERS
SUNDIAL LUPINE

NOTES

1. ACCEPTABLE EPSC MEASURE DETAILS ARE PROVIDED BELOW.
2. AT A MINIMUM, EPSC MEASURES MEET ME DEP STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL OR PREVIOUSLY APPROVED INTERCHANGEABLE PRACTICES.
3. LIMITS OF DISTURBANCE (OR "CONSTRUCTION DEMARCATION") SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
4. BARRIER TAPE/ROPE: FOR USE WHERE PROPOSED DISTURBANCE BORDERS NON-WOODED, VEGETATED AREAS MORE THAN 100 FT FROM THE NEAREST WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC.). BARRIER TAPE IS HIGH VISIBILITY FIBERGLASS TAPE, MINIMUM 3" IN WIDTH COMMONLY USED IN SKI AREAS FOR DEMARCATING CLOSED AREAS. BARRIER TAPE AND ROPE SHOULD BE ATTACHED TO STAKES, AT A MINIMUM HEIGHT OF 4 FT FROM THE GROUND.
5. MINIMUM 1 TO 2 ROWS OF MESH BARRIER TAPE TO BE INSTALLED ALONG CONSTRUCTION PERIMETER.
6. EACH ROW OF BARRIER TAPE TO BE 3" WIDE MINIMUM.
7. BARRIER TAPE TO BE ORANGE.
8. SECURE BARRIER TAPE TO STAKES OR EXISTING TREE TRUNKS WITH BOTTOM ROW AT 4' DISTANCE FROM GROUND SURFACE (MINIMUM).
9. MAINTAIN AND REPLACE AS NEEDED. REMOVE AT COMPLETION OF PROJECT PER ON SITE PLAN COORDINATOR.
10. IN EVENT THE ON SITE PLAN COORDINATOR DETERMINES BARRIER TAPE IS NOT SUFFICIENT, REPLACE WITH ORANGE CONSTRUCTION FENCE OR SNOW FENCE.

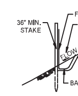


TYPICAL CONSTRUCTION LIMIT BARRIER

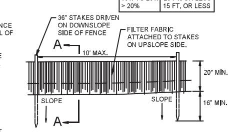
N.T.S.

NOTES

1. AT A MINIMUM, EROSION AND SEDIMENT CONTROL MEASURES MUST MEET ALL MEDEP STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL OR PREVIOUSLY APPROVED INTERCHANGEABLE PRACTICES.
2. PERIMETER CONTROLS SHALL BE UTILIZED IN SMALL AREAS ≤ 1 ACRE. IN AREAS > 1 ACRE, TEMPORARY SEDIMENT TRAPS OR TEMPORARY SEDIMENT BASINS ARE TO BE UTILIZED.
3. PERIMETER CONTROLS SHALL BE INSTALLED ON DOWNSLOPE SIDE OF PLANNED EARTH DISTURBANCE.
4. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITIES WITHIN UPSLOPE CONTRIBUTING AREA.
5. SILT FENCE SHALL NOT BE USED AS CONSTRUCTION DEMARCATION.
6. SILTSOXX CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER. SEE DETAIL.
7. EROSION CONTROL MIX BERM CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER, EXCEPT IN AREAS OF CONCENTRATED FLOW OR IN AREAS ADJACENT TO PROTECTED ENVIRONMENTAL RESOURCES. SEE DETAIL.
8. IF SILT FENCE IS INSTALLED WHEN GROUND IS FROZEN, A GRAVEL, SHOT ROCK, OR SAND BALLAST MUST BE USED, MINIMUM OF 8".
9. WHEN DISTURBANCE IS WITHIN 75' OF A WATERBODY OR WETLAND CONTRACTOR MUST USE 2 ROWS OF SILT FENCE OR OTHER APPROVED PERIMETER BMP (SUCH AS SILT FENCE WITH FILTER SOCK OR SILT FENCE WITH EROSION CONTROL MIX).
10. INSTALL SILT FENCE AROUND DOWNGRADIENT OF ALL STOCKPILES AND PREVENT STORMWATER FROM RUNNING ONTO STOCKPILE AREAS.

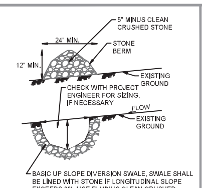


SILT FENCE SPACING CHART	
SLOPE	SPACING
5% TO 10%	50 FT. OR LESS
10% TO 20%	25 FT. OR LESS
> 20%	15 FT. OR LESS



TYPICAL TEMPORARY SILT FENCE

N.T.S.

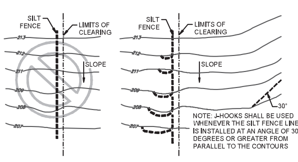


NOTES

1. UPSLOPE DIVERSION BERM WILL BE USED AS SHOWN ON PLAN AND DETAIL. DIVERSION SWALES ARE NOT PART OF THIS DESIGN, IF NECESSARY DURING CONSTRUCTION, CONTRACTOR SHALL CHECK WITH THE PROJECT ENGINEER FOR SIZING.

TYPICAL UPSLOPE DIVERSION DETAIL

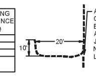
N.T.S.



INCORRECT
SILT FENCE INSTALLED PARALLEL TO SLOPE (PERPENDICULAR TO CONTOUR) IN ONE, LONG RUN

CORRECT
SILT FENCE INSTALLED IN SHORTER RUNS WITH J-HOOKS TO AVOID CONCENTRATION OF FLOWS AT ONE LOCATION BY TRAPPING RUNOFF AT MULTIPLE POINTS ALONG A SLOPE.

SLOPE STEEPNESS	MAXIMUM SPACING BETWEEN SILT FENCE J-HOOKS (FT.)
2:1 SLOPE (50%)	25
3:1 SLOPE (33%)	50
4:1 SLOPE (25%)	75
5:1 SLOPE OR FLATTER (50%)	100



NOTES

1. PROPER INSTALLATION OF J-HOOKS PROVIDES SILT FENCE THE ABILITY TO TEMPORARILY POND RUNOFF, ALLOWING TIME FOR SEDIMENTS TO SETTLE.
2. LONG RUNS OF SILT FENCE BETWEEN J-HOOKS SHOULD BE AVOIDED REFER TO ADJACENT TABLE FOR PROPER SPACING OF J-HOOKS.
3. J-HOOKS SHOULD BE BUILT ALONG CONTOUR IN A "SMILE" SHAPE WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM DEPTH OF 10 FEET.
4. ALONG A NARROW RIGHT OF WAY, NARROWER J-HOOKS CAN BE USED WITH A HIGHER SPACING FREQUENCY.

TYPICAL SILT FENCE "J-HOOK" CONSTRUCTION

N.T.S.

GUIDE TO MULCH MATERIALS, RATES, AND USES

	QUALITY STANDARDS	PER 1000 SQ. FT. (Rates noted shall be doubled during winter construction)	PER ACRE	DEPTH OF APPLICATION	REMARKS
WOOD CHIPS OR SHAVINGS	AIR-DRIED. FREE OF OBJECTIONABLE COARSE MATERIAL	500-900 LBS	10-20 TONS	2 - 7"	USED PRIMARILY AROUND SHRUB AND TREE PLANTINGS AND RECREATION TRAILS TO INHIBIT WEED COMPETITION. RESISTANT TO WIND BLOWING. DECOMPOSES SLOWLY.
WOOD FIBER CELLULOSE (PARTLY DIGESTED WOOD FIBERS)	MADE FROM NATURAL WOOD USUALLY WITH GREEN DYE AND DISPERSING AGENT	50 LBS	2,000 LBS.	-	APPLY WITH HYDROMULCHER. NO TIE DOWN REQUIRED. LESS EROSION CONTROL PROVIDED THAN 2 TONS OF HAY OR STRAW.
GRAVEL, CRUSHED STONE OR SLAG	WASHED; SIZE 2B OR 3A - 1½"	9 CU. YDS.	405 CU. YDS.	3"	EXCELLENT MULCH FOR SHORT SLOPES AND AROUND PLANTS AND ORNAMENTALS. USE 2B WHERE SUBJECT TO TRAFFIC. (APPROXIMATELY 2,000 LBS./CU. YD.). FREQUENTLY USED OVER FILTER FABRIC FOR BETTER WEED CONTROL.
HAY OR STRAW	AIR-DRIED; FREE OF UNDESIRABLE SEEDS & COARSE MATERIALS	90-100 LBS 2-3 BALES	2 TONS (100-120 BALES)	COVER ABOUT 90% SURFACE	USE SMALL GRAIN STRAW WHERE MULCH IS MAINTAINED FOR MORE THAN THREE MONTHS. SUBJECT TO WIND BLOWING UNLESS ANCHORED. MOST COMMONLY USED MULCHING MATERIAL. PROVIDES THE BEST MICRO-ENVIRONMENTAL FOR GERMINATING SEEDS.
COMPOST	UP TO 3" PIECES, MODERATELY TO HIGHLY STABLE	3-9 CU. YDS.	134-402 CU. YDS.	1 - 3"	COARSER TEXTURED MULCHES MAY BE MORE EFFECTIVE IN REDUCING WEED GROWTH AND WIND EROSION.
EROSION CONTROL MIX	WELL-GRADED MIXTURE OF PARTICLE SIZES. ORGANIC CONTENT BETWEEN 80-100%, DRY WEIGHT. PARTICLE SIZE SHALL PASS 6" SCREEN (100%)	* SLOPES 3(HZ.):1(VERT.) OR FLATTER = 2 INCH DEPTH PLUS ADDITIONAL 1/2 INCH DEPTH PER 20 FT. OF SLOPE UP TO 100 FT. ** SLOPES BETWEEN 3(HZ.):1(VERT.) AND 2(HZ.):1(VERT.) = 4 INCH DEPTH PLUS ADDITIONAL 1/2 INCH PER 20 FT. OF SLOPE UP TO 100 FT. *** SLOPES STEEPER THAN 2(HZ.):1(VERT.) USE OF EROSION CONTROL MIX AND MULCH DEPTH TO BE REVIEWED AND APPPROVED PRIOR TO USE BY ON SITE PLAN COORDINATOR OR EPSC SPECIALIST			COMPRISED OF SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. MAY CONTAIN ROCK < 4" IN DIAMETER. ORGANICS SHALL BE FIBROUS AND ELONGATED. NO LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS.

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

Brunswick, Maine

164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

NEWPORT VT • LITTLETON NH • NEW LONDON NH
POMFRET VT • KENNEBUNK ME • CONWAY NH

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

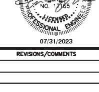
MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Stantec
30 Park Drive
Topsham, Maine 04086

Electrical:
Norwich Solar
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011

Surveying:
Horizons Engineering, Inc.
1040 Portland Road
Saco, Maine 04072



07/31/2023

REV. NO.	REVISIONS/COMMENTS	DATE
1		
2		
3		
4		

DRAWING TITLE:

ESC DETAILS
READFIELD MAIN
STREET SOLAR, LLC

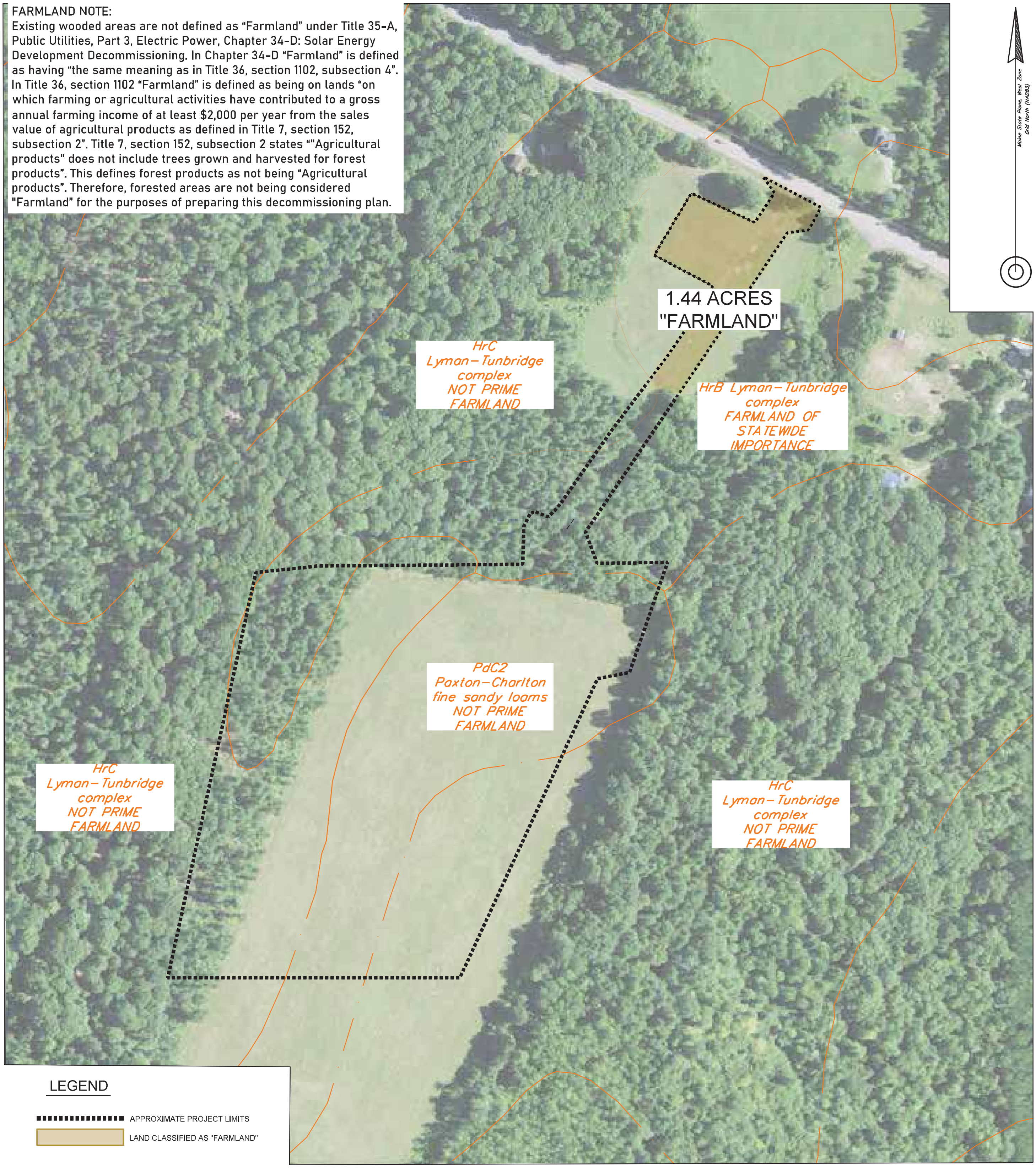
DATE of Issue: 07/31/23
Drawn by: LJM — Checked by: IAJ
Project No.: 22124 — Scale: N/A
Drawing No.: C-2.2 — Rev No.:

DWG NAME: Readfield_Main_Street_Base.dwg

ATTACHMENT B

FARMLAND MAP

FARMLAND NOTE:
Existing wooded areas are not defined as "Farmland" under Title 35-A, Public Utilities, Part 3, Electric Power, Chapter 34-D: Solar Energy Development Decommissioning. In Chapter 34-D "Farmland" is defined as having "the same meaning as in Title 36, section 1102, subsection 4". In Title 36, section 1102 "Farmland" is defined as being on lands "on which farming or agricultural activities have contributed to a gross annual farming income of at least $2,000 per year from the sales value of agricultural products as defined in Title 7, section 152, subsection 2". Title 7, section 152, subsection 2 states ""Agricultural products" does not include trees grown and harvested for forest products". This defines forest products as not being "Agricultural products". Therefore, forested areas are not being considered "Farmland" for the purposes of preparing this decommissioning plan.



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(ATTACHMENT B)

FARMLAND MAP

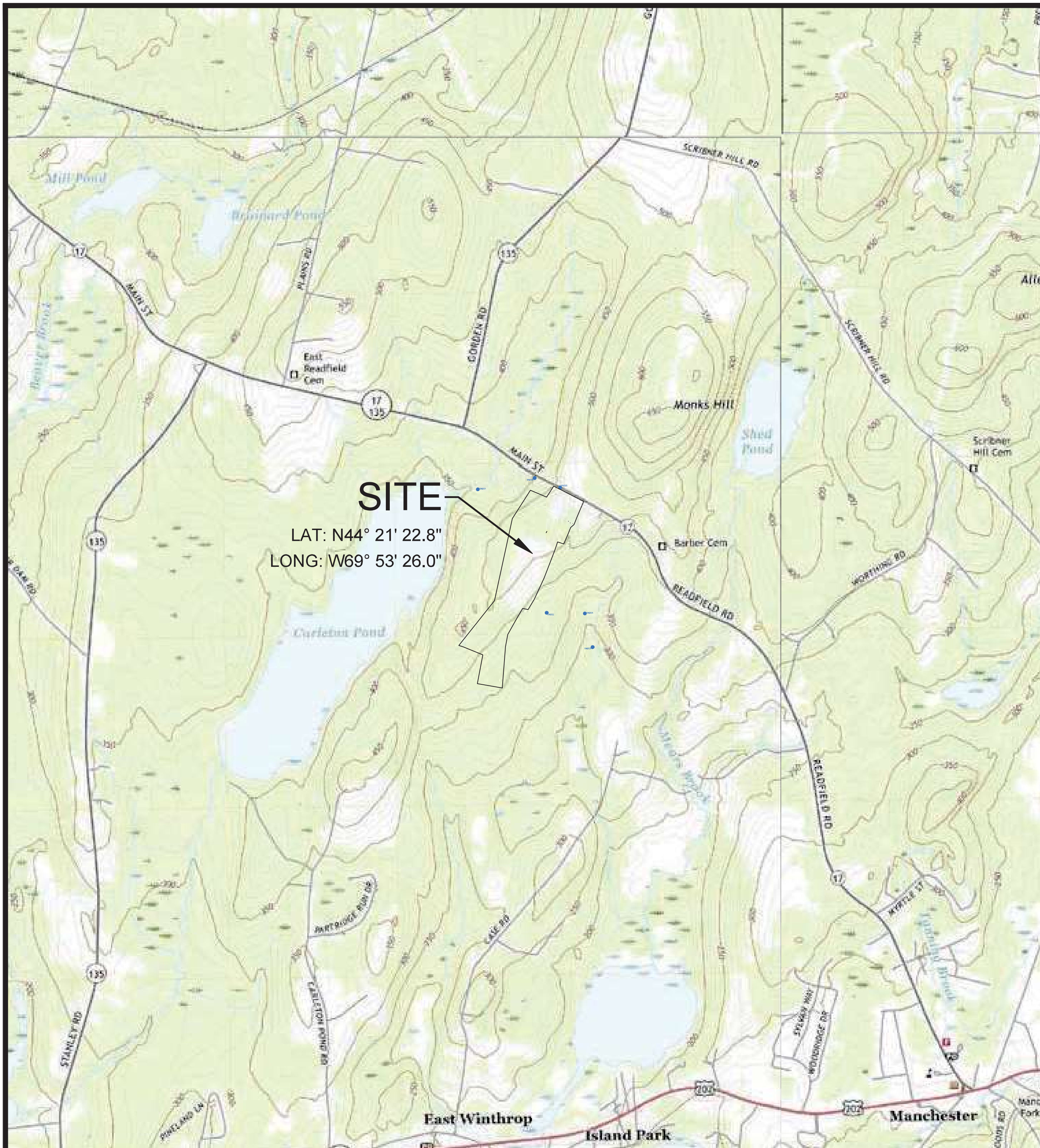
0' 300' 600'
0" 1" 2"

READFIELD MAIN STREET SOLAR, LLC

Drawn by: NH
Date: July 28, 2023
Project #: 22124
Scale: 1" = 300'

ATTACHMENT C

LOCATION MAP



LOCATION MAP

SCALE: 1" = 1/2 MILE

READFIELD MAIN STREET SOLAR, LLC

Main Street
Readfield, Maine

Date: July 28, 2023

NORWICH SOLAR
14 Maine Street, Suite 305C-1, Box 49
Brunswick, Maine 04011
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ATTACHMENT D

CERTIFICATE OF EXISTENCE

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify *that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and of the reports of formation, amendment and cancellation of articles of organization of limited liability companies and annual reports filed by the same.*

I further certify *that READFIELD MAIN STREET SOLAR, LLC is a duly formed limited liability company under the laws of the State of Maine and that the date of formation is September 28, 2021.*

I further certify *that on:*

September 28, 2021	*CERTIFICATE OF FORMATION was filed.*

No further amendments have been filed to date.

I further certify *that said limited liability company has filed annual reports due to this Department, and that no action is now pending by or on behalf of the State of Maine to forfeit the articles of organization and that according to the records in the Department of the Secretary of State, said limited liability company is a legally existing limited liability company in good standing under the laws of the State of Maine at the present time.*

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this twenty-eighth day of July 2023.

Shenna Bellows

Shenna Bellows
Secretary of State

ATTACHMENT E

FINANCIAL ASSURANCE

July 21, 2023

To Whom It May Concern:

My Name is Cailin McMurdo-Minnich, and I am a Vice President, Commercial Lender at Mascoma Bank. I am also Norwich Solar Technology's (NST) chief representative for our bank.

NST has been doing business with Mascoma for over 4 years. They are an outstanding client with a strong operating history and credit profile.

Mascoma currently extends NST a $4,000,000 line of credit, a $500,000 guidance line of credit, and has partnered with NST on financing several solar projects worth over $5,060,000 in aggregate.

Please feel free to reach out to me anytime with questions.

Sincerely,

Cailin McMurdo-Minnich
VP, Commercial Loan Officer
Mascoma Bank
180 Battery St Suite 120
Burlington, VT 05401

ATTACHMENT P: AGENT AUTHORIZATION

August 3, 2023

Attention: Kara Moody & Adam Gravel
Stantec Consulting Services Inc.
30 Park Drive
Topsham, ME 04086

Reference: Agent Authorization

Dear Kara and Adam,

The intent of this letter is to authorize Stantec Consulting Services Inc. to act as Norwich Technologies' agent in submitting municipal, state, and federal permit applications and answering questions associated with the Norwich Technologies proposed solar project, known as Readfield Main Street Solar in Readfield, Maine. The proposed project is located off Main Street (State Route 17 in Readfield).

Regards,

Martha Staskus
Chief Development Officer
Norwich Technologies, Inc