Date Paid 9/6/25 Receipt #

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

Map 121 Lot 020

Planning Board Land Use Permit Application

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

1. Applicant / Owner: Agent (if any): Name John Cushing Name Address P O Box 171 Address Readfield, ME 04355 Phone# (W) 207-685-7328 Phone# (W) (H) 207-242-8075 (H)
Email for applicant/agent cushing construction@yahoo.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: 866 & 874 Main Street, Readfield
3. Please describe what you are proposing to do:
Build two storage buildings if commerical drop zone is approved.
80×100
50×100
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)? Village
5. What is the existing use of the property (see Table 1/Table of Uses, Article 7, of the LUO)? Warehouse and Storage/Multi-Family Dwelling
6. What is the proposed use of the property as best described from Table 1/Table of Uses in Article 7? Warehouse and Storage/ Mulit-Family Dwelling
7. Lot Width 780' Lot Depth 433' Lot Area in Acres (1 acre = 43,560 sq. ft.) 2 acres
8. If a structure is proposed to be built, or expanded, list the following:
Revised 4/12/2021

Type of Structure(s) Storage Building Storage Building	Length 100 100'	Width 20' 50'	Height 10' approx 10' appox
The state of the s	Non-Conforming		ettituutui vaa tainaanin ja
Questions to answer if you are seeking conforming structure or are seeking a an existing non-conforming structure, (conforming.")	a permit to expand, r	elocate, reconstruc , enlarged or replac	cement foundation beneath
A. For an expansion of a structure located between 25 to 75 feet for upland edge of a wetland: worksheet showing how you can Article 11 of the Land Use Ord	from the normal high N/A alculated the total flo	water line of the wa	iter body, tributary stream,
B. For an expansion of a structure located between 75 to 100 feet N/A the total floor area . The term of	from the normal high	n-water line of the	water body:
C. If you plan to put in a new, enl OR if you are seeking to relocate describe whether the foundation closer to meeting set-backs, an	ate, reconstruct or repon or structure can be	lace a non-conform located further from	ning structure, please m the water to meet, or come
D. For structures in the Shoreland show how the proposed developed See Article 11 of the Land Use	opment does not resul	t in exceeding the	20% lot coverage maximum.
I certify that the foregoing, and the atta correct and accurate to the best of my	ached materials inclu- knowledge.	ding responses to re	eview criteria, are true,
Signature of Applicant / Owner	John G	Alme Date	7/28/2003
Signature of Agent (if any):		Date	-

Applicant: Town of Readfield

Planning Board Review Criteria Ouestionnaire

- 1. State how the proposed activity will not have an undue adverse affect on:
- a) the scenic or natural beauty of the area, Plan to build below Grade
 - b) any historical sites that may be located on the property, N/A
 - c) any significant wildlife habitat, N/A
 - d) any public rights for physical or visual access to any shoreline, N/A
 - e) any rare and irreplaceable natural areas, N/A
- 2. a) What other Town, State or Federal permits will be required for this project? None
 - b) Do you intend to apply for these permits? N/A
 - 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**
- 3. State how the proposed activity will: Landowner/builder certified in Erosion control, will take necessary precautions to avoid stormwater or erosion issues. Neither are anticipated with the current slope and ground conditions
- 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. Do not anticipate any strain on public services or increase in traffic.
- 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? Landowner has means necessary to complete project.
 - b) What technical support will be used in connection with any design, development or use of the project? No technical support needed

- 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? NO (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? NO 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? **YES**
- 8. What part of your development or use will rely on or could impact groundwater? None
- 9. a) State the nature of solid waste your proposal will generate both during development and the subsequent use of the property. N/A- waste removal bin on site if needed by customers
 - 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?
- 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. Slight noise during construction, after completion anticipate the same amount of noise.
 - 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? 2%
 - 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? Grass and some Trees
- 13. a) What is the nearest waterbody (lake, pond, stream, or brook)? Maranacook
 - b) What is the least distance between the waterbody and the project site? Not an adjacent parcel- Camp KV is on backside.
 - c) What part of your project could impact one of these waterbodies? None
 - d) How do you intend to minimize this impact? N/A

- 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? **Drainage for wastewater**, **no septic needed**.
- 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? **None**
- 17. What types and amount of additional traffic do you expect as a result of this use? No major impact
- 18. What are your plans for permanent access to the site of the proposed use? Access already established
- 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?
- 20. What is the estimated depth-to-frontage ratio of the lots you propose to create or develop?N/A
- 21. Has a representative of the Readfield Fire Department reviewed your proposal? NO
- 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? N/A

Required Submittals

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

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.
12	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).
√ 3.	Exact direction to the property from the Town Office, using a map if necessary.
4.	The Assessor's tax map and lot numbers of the parcels.
/ 5.	A copy of the deed to the property or other documentation to demonstrate right, title or
ι.	interest in the property on the part of the applicant.
<u>v/k</u> 6.	The name, registration number and seal of the land surveyor, architect, engineer and/or
	similar professional who prepared any plan.
<u>/</u> 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.
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
	1 January 1 and 1
	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.

9. A copy of any applicable Federal, State or Town applications or permits which have been
issued.
10. A narrative describing how the proposal meets all of the Planning Board's Review
Criteria.
11. Evidence of receipt of application fee paid to the Town of Readfield.
12. A schedule of construction, including anticipated beginning and completion dates. 13. A stormwater drainage and erosion and control plan in compliance with Article 8, Sections
10 and 11.
14. A description of the traffic movement to be generated by the development
including types, peak nour and average daily venicle 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.
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.
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.
17. Elevation drawings for new commercial, industrial, and institutional buildings.
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	<u>Fee</u>	
Up to \$100,000	\$100	
\$100,001 to \$500,000	\$150	
\$500,001 to \$1,000,000	\$250	
\$1,000,001 and over	\$500	

[&]quot;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

866 and 877 Main street currently consist of a multi family unit dwelling, one storage building with climate controlled and regular storage units and an additional building with $10' \times 20'$ storage units down back. We have mostly been operating at capacity and would like to build two additional storage buildings. The first building will be approximately $100' \times 20'$ long the other storage building will be approximately $100' \times 50'$ long.

Current zoning restrictions prevent any further development. At this time I am asking for a commercial drop zone so square footage will be in compliance with zoning requirements. I am also asking for an approved permit for the two buildings. This is my second time before the planning board to build and I feel that this application meets all criteria that the planning board currently has.

There is no anticipated excess traffic or waste associated with this project that would unnecessarily burden the towns resources or restrict regular traffic flow. I feel that I have included everything that the planning board requires to complete approval currently. Thank you for your time and consideration.

Erosion control plan- before any work starts erosion control silt fence and mulch mix and/or hay bales will be installed where needed on the down grade side of the worksite.

Stormwater management. Currently there is a 15" culvert installed, and the access drive is sloped appropriately so the water sheds where needed. I plan to continue to slope the drive down and have water flow into a constructed containment basin with a level spread exit. Will be constructed using aggregate materials. Water will flow into the basin and slowly exit if the basin should become too full. Have attached an example of what a similar design would look.



Step 6a: Sizing Type A basins

The settling pond within a Type A sediment basin is divided horizontally into three zones:

- upper settling zone
- free water zone
- sediment storage zone.

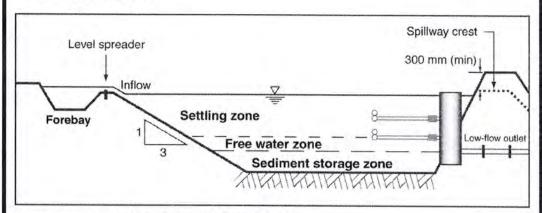


Figure 1 - Long-section of a typical Type A basin

The sizing of a Type A basin is governed by achieving or exceeding a minimum settling volume (Vs), <u>and</u> a minimum settling zone surface area (As). It is generally advisable to optimise the basin's dimensions such that both the pond volume and surface area are minimised, thus resulting in a basin that requires the minimum space and construction cost.

For a given low-flow decant rate (Q_A) , there is an 'optimum' settling zone depth (D_S) that will allow the minimum settling volume and minimum settling zone surface area requirements to be achieved concurrently. Conversely, for a given settling zone depth, there is an 'optimum' low-flow decant rate that will also allow both of these design requirements to be achieved concurrently.

If site conditions place restrictions on the total depth of the sediment basin (D_T), then this will directly impact upon the maximum allowable depth of the settling zone (D_S); however, the relationship between the settling zone depth and the total pond depth is complex, and depends on a number of factors.

If it is possible to determine, or nominate, a desirable settling zone depth (Ds), then the optimum low-flow decant rate may be determined from Equation 1.

$$Q_{A (optimum)} = (K . I^{1.8})/(K_S . D_S)$$
 (1)

where:

Q_A = the low-flow decant rate per hectare of contributing catchment [m³/s/ha]

K = equation coefficient that varies with the design event (X) and the low-flow decant rate (Q_A) refer to Table 7

 $I = I_{xyr, 24 hr}$ the average rainfall intensity for an X-year, 24-hour storm [mm/hr]

Ks = inverse of the settling velocity of the critical particle size (Table 8)

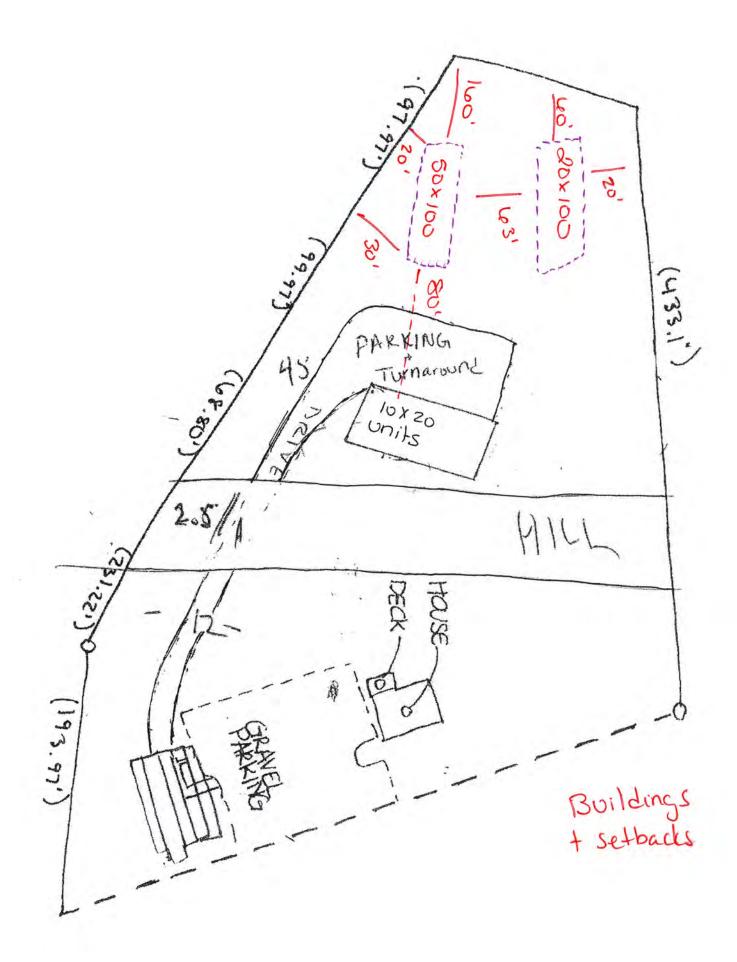
Ds = depth of the settling zone measured from the spillway crest [m]

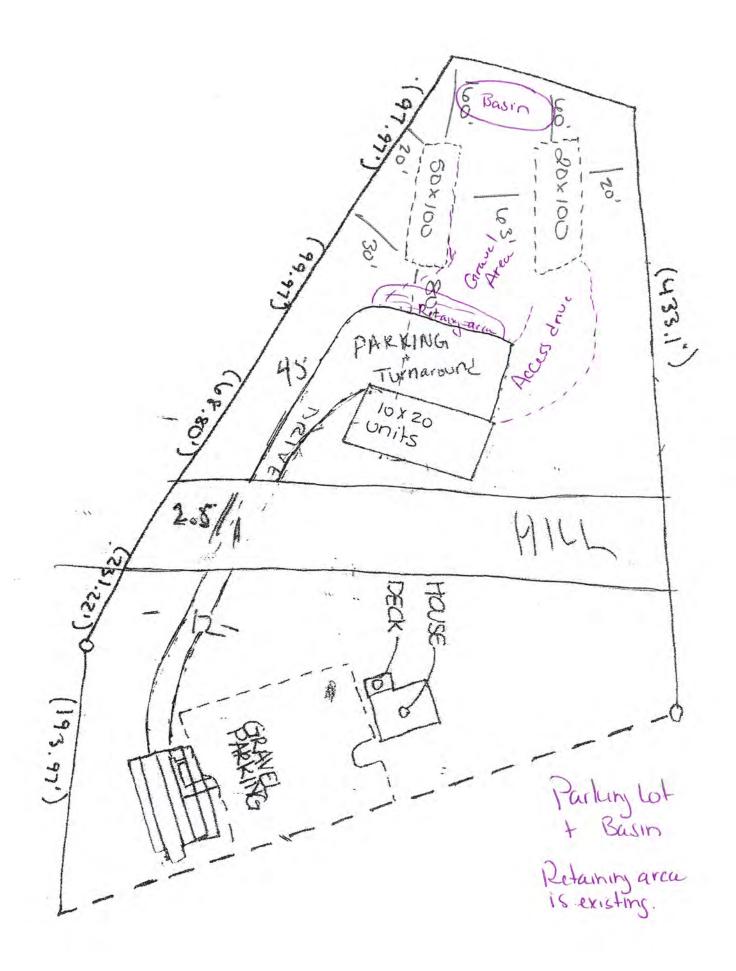
For a 1 year ARI design event, the coefficient 'K' may be estimated from Equation 2:

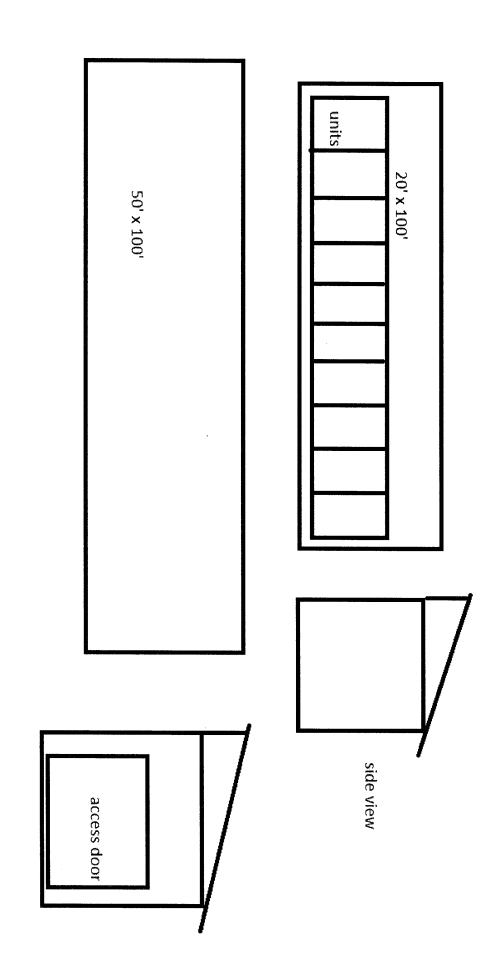
$$K = 0.6836 \, Q_A^{-0.6747}$$
 (2)

This means the 'optimum' low-flow decant rate can be estimated from Equation 3.

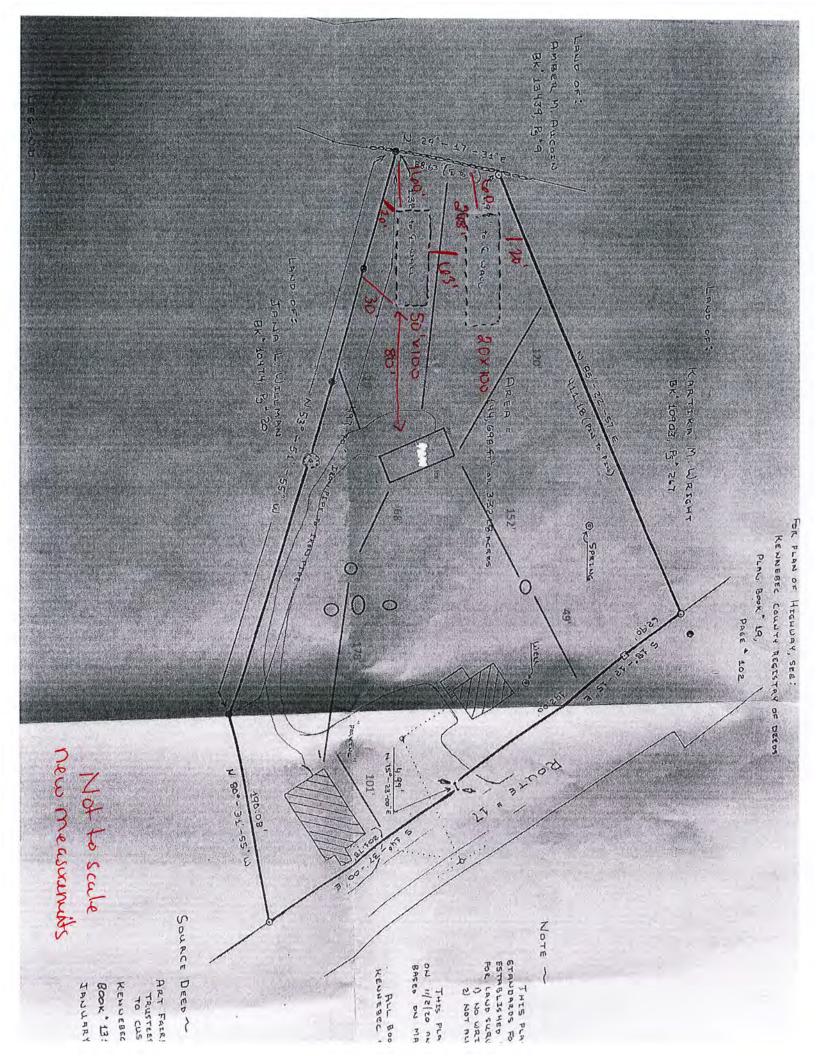
For a 1 yr ARI design:
$$Q_{A \text{ (optimum)}} = 0.8 (I^{1.08})/(K_A \cdot D_S)^{0.6}$$
 (3)







Rough Design



Abutters

#121-019 Katrika Wright-Brower 896 Main St, Readfield ME 04355

#121-021 Scott Lowery & Kimberly Hatch 860 Main St, Readfield ME 04355

#121-018 Camp KV 916 Main St Readfield, ME 04355.

#121-004 Valerue Pomereleau 863 Main St, Readfield ME 04355

Directions- From Town Office take right onto Old Kents Hill Rd. At stop sign take left onto RT 17 and follow for approximately 1.6 miles until you reach 866 Main St. It will be on your right.



OPR BK 13131 PGS 170 - 173 (1/18/2019 01:18:53 PM INSTR # 2019001198 # OF PAGES 4 ATTEST: BEVERLY BUSTIN-HATHEWAY REGISTER OF DEEDS KENNEBEC COUNTY, ME

TRANSFER TAX PAID

WARRANTY DEED

ART FAIRBROTHER, LAREN WHALEY, and FRANK SICILIANO, TRUSTEES OF THE CHURCH OF GOD, READFIELD, of Readfield, Maine, grant to CUSHING STORAGE AND RENTALS, LLC, a Maine limited liability company, with a mailing address of 32 Roddy Lane, Readfield, Maine 04351 with WARRANTY COVENANTS, three certain lots or parcels of land with the buildings thereon located in the Town of Readfield, County of Kennebec and State of Maine, bounded and described as follows:

Parcel One: A certain lot or parcel of land triangular in shape, with the buildings thereon, situate in said Readfield on the westerly side of the road leading from Readfield Corner to Readfield Depot and bounded and described as follows: Commencing at a point on the westerly line of the road from Readfield Corner to Readfield Depot, said point being on the southeasterly corner of the lot of land now or formerly owned by Robert C. Killam and Mary H. Killam; thence northerly along the westerly line of said road twelve rods to an elm tree; thence in a line perpendicular to the westerly line of said road to a stake on the southerly line of land now or formerly of the said Killams; said stake also being on the north line of land now or formerly owned by Lawrence Lane; thence easterly along the southerly line of land now or formerly of the said Killams and the northerly line of property of said Lawrence Lane to the point of beginning.

Parcel Two: A certain lot or parcel of land situated in said Readfield on the southerly side of the road leading from Readfield Depot to Readfield Corner and bounded and described as follows: Beginning at a point where the westerly Church surveyed line joins the road right-of-way; thence along said road right-of-way in a westerly direction, two hundred fifty (250) feet, more or less, to an iron stake driven in the ground; thence southerly to another iron stake driven in the ground at the point where the Girl Scout line meets the George Nobis, Jr. surveyed line; thence along this surveyed line to another iron stake driven in the ground at the point where the Church lot, being Parcel 1 above, and the George Nobis, Jr. lot meet; thence along the Church surveyed line (Parcel 1) to the point of beginning.

This two hundred fifty (250) foot frontage, more or less, is meant to convey and include a certain Page 1 of 4

spring or well located on the above described premises and all rights of ownership, except as follows: Reserving the water rights to said spring or well to Carl Bigelow, et al, their heirs and assigns, as stipulated in a certain Warranty Deed from said Bigelow to Robert C. and Mary H. Killam dated September 22, 1947 and recorded in Kennebec County Registry of Deeds in Book 882, Page 412.

Parcel Three: A parcel of land adjoining Parcels 1 and 2 above on the southwest, being the same conveyed by Evelyn E. Nobis to Assembly of God of Readfield, Maine, a corporation, by deed dated December 11, 1956 and recorded in Kennebec County Registry of Deeds in Book 1068, Page 173, and in said deed described as follows:

"A certain lot or parcel of land situated in said Readfield and bounded and described as follows, to wit: Beginning in the middle of the stone wall in the southeasterly line of land of Kennebec Valley Council Girl Scouts and at the north corner of land of this Grantor; thence running south, 53 degrees and 45 minutes east (Magnetic in 1956), in the northeasterly line of this Grantor, passing over an iron beside said wall, over a cedar post about three feet from said wall, over a one-inch iron pipe at the west corner of the triangular parcel of land of this Grantee (see Kennebec Registry, Book 884, Page 243), over an iron rod 99.4 feet distant from the one-inch iron pipe, a total distance of 676.5 feet to a point in the middle of the stone wall in the westerly line of the road leading from Readfield Depot to Readfield Corner, said point being the northeasterly corner of land of this Grantor and the southeasterly corner of the triangular parcel of land above mentioned of this Grantee; this line if extended slightly in the same course buts the elm tree referred to in the deeds of this Grantor and this Grantee; thence turning an interior angle of 26 degrees and 40 minutes and running westerly passing over an iron 2.2 feet from said point, a distance of 195 feet to another one-inch iron pipe which is at 90 degrees from and 88 feet distant from the iron rod 99.4 feet from the west corner of the above referred to triangular parcel of land of this Grantee; thence running north 53 degrees and 45 minutes west (Magnetic in 1956) and parallel with and 88 feet distant from the first described line, passing over an iron 100 feet distant through a huge pine tree 230 feet distant and over irons 300, 400 and 498.4 feet distant, a total distance of 500 feet to the middle of the first mentioned stone wall; thence running northeasterly in the line of said wall, a distance of 88.2 feet to the point of beginning.

Meaning and intending to hereby convey an irregular four-sided parcel of land, bounded northeasterly by land of this Grantee, running to a point in the westerly line of the road leading from Readfield Depot to Readfield Corner, southerly and southwesterly by other land of this Grantor and northwesterly by land of said Kennebec Valley Council of Girl Scouts."

Meaning and intending convey the premises described in deed of Full Gospel Tabernacle of Readfield to Grantor by deed dated June 1, 1978 as recorded at the Kennebec County Registry in Book 2119, Page 304.

Following the procedure set forth in Exhibit A of said deed, the local Readfield church having ceased to function and its Local Board of Trustees having ceased to exist, Bishop Michael White, State Overseer has declared all offices of the local church vacant and has appointed the undersigned as a special Board of Successor Trustees who now automatically hold title.

WITNESS our hands and seals this	12 day of Tours
Austanbul	Art Fairbother
	ART FAIRBROTHER, Trustee
	Taren Wales
	JARENWHALEX Trustee
STATE OF All II	FRANK SICILIANO, Trustee
STATE OF NEW HAMPSINE COUNTY OF HILLS BOWGEN	JUN. 12 Th , 2019

Personally appeared the above named ART FAIRBROTHER and acknowledged the foregoing instrument to be his free act and deed in said capacity.

Before me,

Notary Public

Print Name: John N'EMIEC

Commission Expires: 9-3-19

Page 3 of 4



Personally appeared the above named La foregoing instrument to be his free act and deed	AREN WHALEY and acknowledged the in said capacity.
COMMISSION LXPIRES	Before me, John Munic
SEPT. 3, 2019	Print Name: John MEMINE Commission Expires: 9-3-2019
COUNTY OF HILLS STATE OF THE STATE O	TAN: 12 .2019

Personally appeared the above named FRANK SICILIANO and acknowledged the foregoing instrument to be his free act and deed in said capacity.

Before me,

JAN. 12

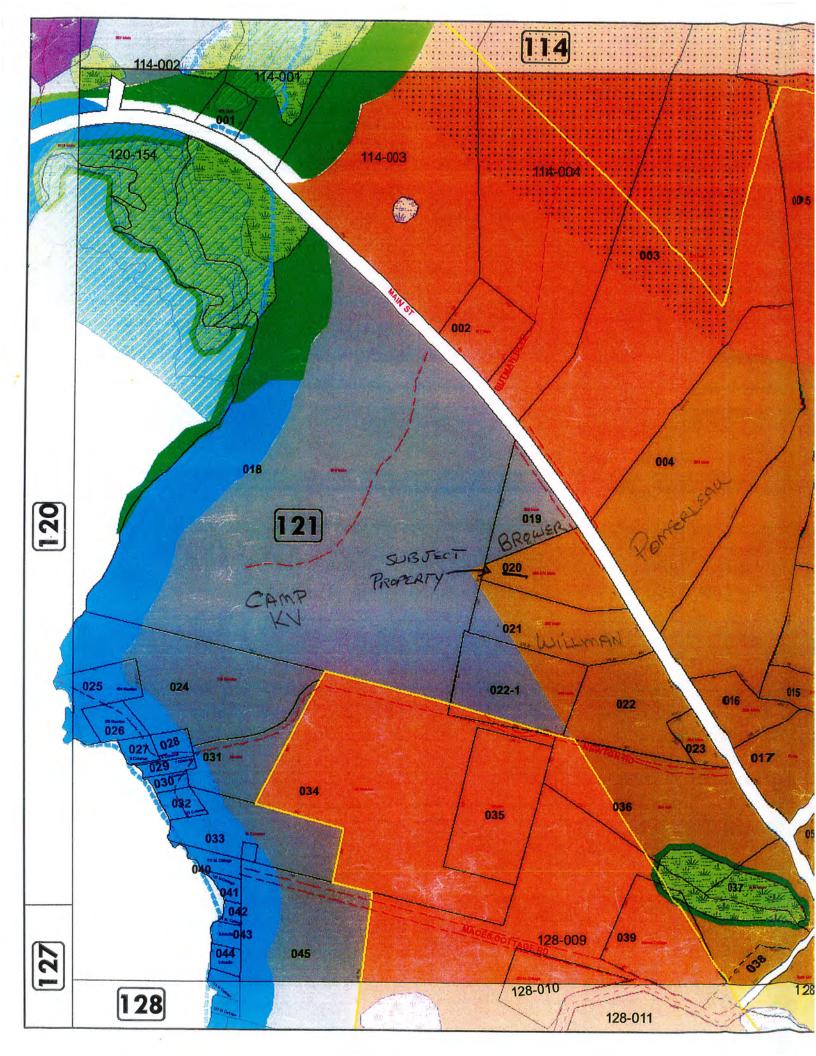
Notary Public
Print Name: John IVIEMIEC
Commission Expires:
9-3-2019

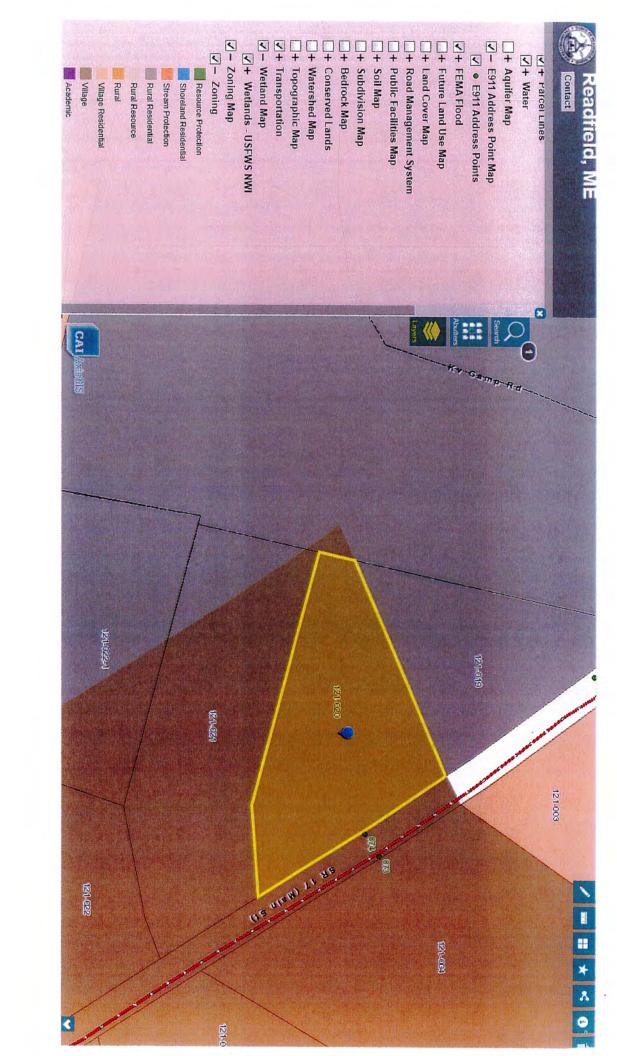
,2019

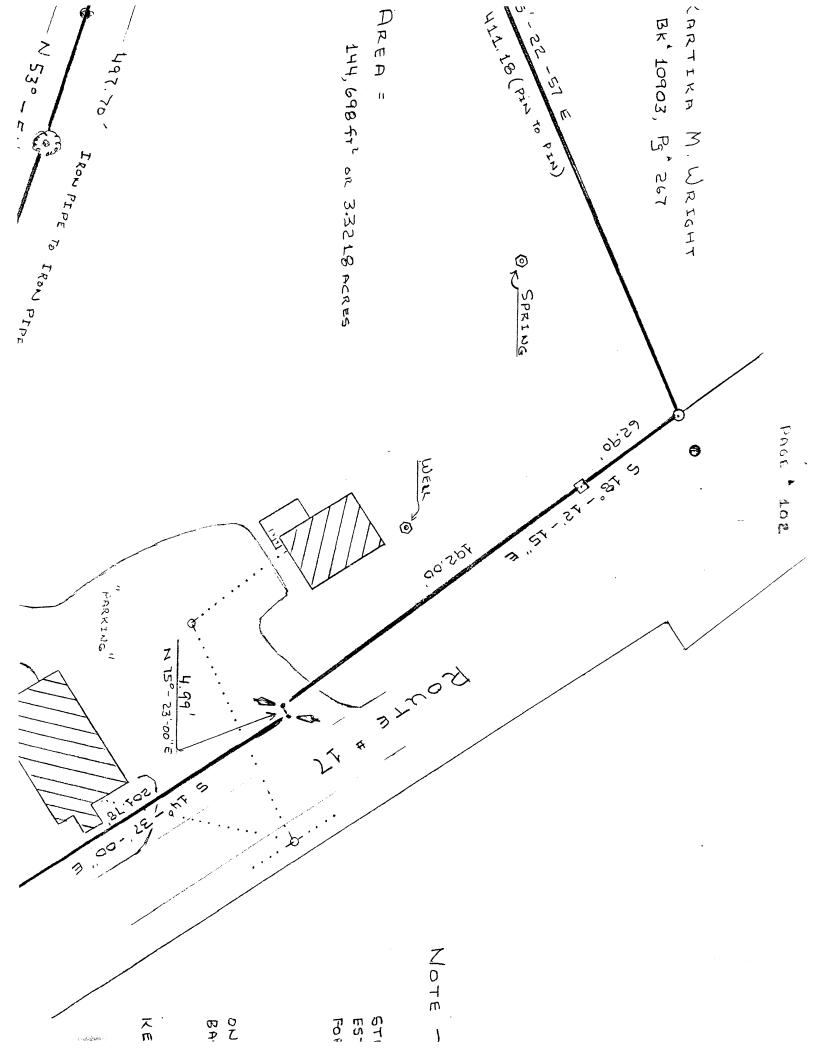
LD/CO T-4645

STATE OF NEW Hyggshiet

Page 4 of 4









October 26, 2023 File: 195602046

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

VIA: Fed Ex

Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District

Dear Chip and Planning Board Members,

On behalf of Readfield Main Street Solar, LLC (Applicant), Stantec Consulting Services Inc. (Stantec) is filing a request for zoning designation to support the installation and operation 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) in the Rural District. The Project includes a structure area (solar panels) greater than 5,000 square feet. Therefore, in accordance with Article 9 of the Land Use Ordinance for the Town of Readfield, the Applicant is requesting the Project parcel be designated as Commercial, Industrial and Infrastructure District.

The Applicant attended a pre-application meeting with the Code Enforcement Officer (CEO) on April 1, 2022, filed a Site Review Application for the Project on August 7, 2023, and attended the Planning Board meeting on September 26, 2023. Additionally, the Applicant had a follow-up meeting with the CEO and Planning Board Chair on October 16, 2023 to discuss the requirements of Article 9 of the Land Use Ordinance and the zoning designation process.

In accordance with the Article 9 of the Land Use Ordinance for the Town of Readfield, the enclosed application includes the following:

- Narrative Standards, General Requirements, and Application Requirements
- Attachment A Site Plans
- Attachment B NRCS Soil Resource Report
- Attachment C Wetland and Watercourse Delineation and Vernal Pool Survey Report
- Attachment D Agency Correspondence
- Attachment E Sound Assessment
- Attachment F Agent Authorization

This submittal includes 11 copies of the complete application package.



We look forward to discussing this request with the Planning Board during the meeting scheduled for November 14, 2023. Please let me know if you have any questions about the enclosed materials.

Regards,

Stantec Consulting Services Inc.

Kara Moody

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

Attachments: Zoning Designation Application Package and Site Plans

c. Martha Staskus, Readfield Main Street Solar, LLC





Readfield Main Street Solar Project

Zoning Designation Application – Commercial, Industrial and Infrastructure District

Readfield, ME 04355

Tax Map 143, Lot 14

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Section 2 – Standards	
Section 3 – General Requirements	
Section 4 – Application Requirements	

ATTACHMENT A: SITE PLANS

ATTACHMENT B: NRCS SOIL RESOURCE REPORT

ATTACHMENT C: WETLAND AND WATERCOURSE DELINEATION AND VERNAL POOL SURVEY

REPORT

ATTACHMENT D: AGENCY CORRESPONDENCE

ATTACHMENT E: SOUND ASSESSMENT ATTACHMENT F: 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 Project is located on Tax Map 143, Lot 14 which includes approximately 71.93 acres, primarily comprised of open land within which the Project is sited.

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 circuit on Main Street. The electrical collector line will be installed underground within the array footprint and along the Project driveway to the POI. Perimeter fencing with an access gate will be installed around the array 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. Following Project construction, the area in and around the array will be maintained as a meadow.

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. Based upon the Town of Readfield Solar Ordinance, the Project is considered a large-scale solar energy system.

The Project is located within the Rural District where solar is a permitted use. As described in the Land use Ordinance, the purpose of the Rural District is to ensure that proposed development and land uses are compatible with the preservation of Readfield's open, rural character and are protective of sensitive natural resources and visual/scenic quality. The Rural District also accommodates certain commercial and light industry uses and strives to maintain a development patter of mixed, low density use while protecting critical natural and scenic resources. However, the Project includes a structure area (solar panels) greater than 5,000 square feet and therefore the Applicant is requesting the Project parcel be additionally designated as Commercial, Industrial and Infrastructure District.

SECTION 2 – STANDARDS

A. The proposed zoning change shall be consistent with the Town of Readfield Comprehensive Plan and shall be in keeping with the Town's rural character.

The proposed zoning change is consistent with the Town of Readfield Comprehensive Plan and will maintain the Town's rural character. As described in the Comprehensive Plan, the Commercial, Industrial and Infrastructure District was established for the purpose of allowing the opportunity for large scale commercial or industrial uses to locate or expand in the community if such development can be accomplished with minimal negative impact. Further, the Land Use Ordinance seeks to ensure that proposed uses are compatible with existing uses and the rural character of the Town and are protective of natural resources and visual quality.



The Project is compatible with the rural character of Readfield. The array will be set back more than 1,000 feet from Main Street with intervening forested vegetation and approximately 720 feet from the nearest existing 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 A. Based on the setback distances, the low profile of the array, and the screening provided by existing forested vegetation, the Project is not expected to be visible from neighboring properties or roadways (unlike the 25-acre solar project approximately 1.1 miles to the west on Route 17). Additionally, 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 limited tree clearing. Furthermore, the Project will not impact natural resources, as detailed under Section 2.D below.

The General Recommendations section of the Comprehensive Plan states that the Local Economy goal is to "allow for new, commercial, service, and clean light industrial growth in designated growth areas to diversify the Town's tax base, promote local job opportunities, and make important services available for local citizens. The scale of new uses should be in keeping with existing community character." One of the strategies to meet this goal is to "direct industrial, commercial uses (excluding home occupations) including retail land uses to village areas or other districts appropriately zoned for those uses (including the Commercial Industrial District)." The Project is a "clean" use as it will generate up to 975 kWac of clean, renewable energy without emitting any air pollutants or greenhouse gases like those associated with conventional fossil fuel power facilities. The Project is sited in an appropriate zoning district as the array will be located within the Rural District. Per the Town's Solar Ordinance, large-scale solar energy systems (such as the Project) are a permitted use within the Rural District.

Another strategy to meet the Local Economy goal described above is to "maintain performance and design standards for commercial and industrial developments in the Land Use Ordinance. These standards should assure that all development subject to review is well planned, minimizes environmental impacts, makes effective use of the site, provides adequate and safe vehicular access, and protects adjacent residential neighborhoods and commercial establishments." The Project has been designed to minimize environmental impacts. As described below, the Project will not impact natural resources, significant wildlife habitat, rare plant habitat, or significant natural communities. The Project will provide for adequate and safe vehicular access at an existing entrance off Route 17 that will be improved. Once operational, access to the array will be infrequent and limited to seasonal ground maintenance and annual inspections. The Project has been sited to protect adjacent residential uses. Unlike the 25-acre solar project that is approximately 1.1 miles to the west on Route 17, the Readfield Main Street Solar Project is not expected to be visible from neighboring properties or roadways.

Furthermore, the Comprehensive Plan public participation process noted that the development of solar energy systems should be discouraged in areas known to have prime agricultural soils. 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 B). There are no known prime farmland soils within the Project area. There is one soil type designated as farmland of statewide importance in a portion of the Project parcel; however, the array is not sited in this area. The only Project components in this portion of the parcel will be the access driveway and temporary staging area, which will be revegetated following Project construction.

B. The proposed use shall be compatible with the surrounding area with respect to rural character, existing uses and anticipated development.

The Project is compatible with the surrounding area with respect to rural character and existing uses. Existing land uses in the vicinity of the Project include undeveloped forested land, agricultural land, and residential uses, as well as an approximately 25-acre solar project located 1.1 miles west of the Project off Route 17.



Unlike the solar project referenced above that is adjacent to and visible from Route 17, the Readfield Main Street Solar Project 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 A. Based on the setback distances and the screening provided by existing forested vegetation, the Project is not expected to be visible from neighboring properties or roadways.

The Project area is predominantly comprised of a gently sloping open field. The slope of the Project area is suitable for development of a solar array and minimizes the need for grading. The Project will require minimal tree clearing, and the existing land cover will generally remain unchanged. Following Project construction, the area in and around the solar array will be maintained as a meadow, and the land within the Project area will resemble current conditions aside from the addition of the solar array infrastructure. Once operational, the Project will passively generate solar energy.

C. The proposal shall serve the public good, safety or welfare of the Town of Readfield.

The proposed Project will serve the public good, safety, and/or welfare of the Town of Readfield. As a renewable energy source powered by the sun, this Project will contribute to reducing greenhouse gas emissions. Project operations will not generate emissions or hazardous materials with the potential to adversely affect public health. Throughout its operation, the Project will generate no air pollution, except for minimal vehicle emissions associated with periodic site and equipment maintenance visits. Additionally, the type of solar panels used for the Project will be silicon-based panels, which do not pose a risk to public health and safety.¹

The Project will provide Maine and the region with an opportunity for the creation of a new source of clean energy and the economic benefits associated with both the construction and ongoing maintenance and operation of such a project.

Project operations will generate up to 975 kWac of clean, renewable energy without emitting any air pollutants or greenhouse gases. The proposed Project will have long-term benefits related to the use and conservation of energy resources, and, as a result, will not contribute to climate change. The operating Project will not increase demand on Town services and will not require water, discharge wastewater, burn fossil fuels, or emit pollutants, such as mercury and lead, sulfur dioxide (SO₂) and nitrogen oxides (NO_x) (criteria pollutants and precursors to acid rain and ozone), or carbon dioxide (CO₂).

The U.S. Environmental Protection Agency's Emissions and Generation Resource Integrated Database (eGRID) provides data on the environmental characteristics of electric power generated in the United States.² According to eGRID, the three largest sources of electricity generation in New England in 2021 were gas (54.3%), nuclear (26.3%), and hydro (5.7%). Total emission rates for Maine in 2021 were approximately equal to the following: CO₂ at 301.0 pounds per MW hour (lbs/MWh) and NO_x at 0.2 lbs/MWh. Considering these values and assuming maximum annual electricity generation of 975 kWac (0.975 MW), it is estimated that the Project will annually displace approximately 325,170 pounds of CO₂ and 234 pounds of NO_x.

D. The proposal shall be protective of all natural resources including significant wildlife habitat.

The Project will not impact natural resources, 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

²⁰¹⁷ white-paper.pdf

² U.S. Environmental Protection Agency. 2021. eGRID Summary Tables 2021. Available at: https://www.epa.gov/system/files/documents/2023-01/eGRID2021 summary tables.pdf



¹ NC Clean Energy Technology Center. 2017. Health and Safety Impacts of Solar Photovoltaics. Available at: https://nccleantech.ncsu.edu/wp-content/uploads/2018/10/Health-and-Safety-Impacts-of-Solar-Photovoltaics-2017 white-paper.pdf

species, critical habitat, significant or irreplaceable natural areas as identified by the Maine Natural Areas Program (MNAP).

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 C. 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.³ Correspondence received from MDIFW is included in Attachment D.

The Applicant consulted with the 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 D.

SECTION 3 – GENERAL REQUIREMENTS

The Applicant shall comply with the following requirements and restrictions:

A. Only conditions and restrictions that relate to the physical development or operation of the property shall be included in the proposal.

The zoning designation proposal described herein is limited to the physical development and operation of the proposed Project. The Applicant would like to maintain the option for multiple land uses on the parcel. For example, the Project may be able to collaborate with a local farmer to grow crops or to allow for grazing, if such opportunities are available and feasible.

B. A Commercial, Industrial and Infrastructure District proposal shall not include any provision or conditions that limits or restricts the Town of Readfield zoning authority.

The Project does not include any provisions or conditions that limit or restrict the Town of Readfield zoning authority.

C. Areas currently within a Village Residential District shall not be eligible for a Commercial, Industrial and Infrastructure District redesignation.



³ MDIFW Endangered Species Rule, Chapter 8.06. Available at: http://www.maine.gov/sos/cec/rules/09/137/137c008.docx.

The Project is not located within a Village Residential District. The proposed solar array is located within the Rural District.

D. Land uses within a Commercial, Industrial and Infrastructure District shall be limited to those allowed in the Table of Uses in Article 7 for the district as designated at the time of application for a Commercial, Industrial and Infrastructure redesignation.

The proposed use, a large-scale solar energy system, is an allowed use within the Rural District.

E. The terms, conditions and restrictions of the zoning agreement shall run with the land and bind all future owners of the land or any other person who claims an interest in the property.

The Applicant understands that the terms, conditions, and restrictions of the zoning agreement will run with the land and will bind future owners or others who claim an interest in the property.

F. All development and use of the proposed re-zoned property shall comply with all applicable standards and requirements in this Ordinance (Article 9: Commercial, Industrial and Infrastructure District Adoption Procedures).

The Applicant understands that all development and use of the proposed re-zoned property shall comply with all applicable standards and requirements described in Article 9 of the Land Use Ordinance. The proposed Project complies with Article 9 standards as described in Section 2 above, as well as Article 9 requirements described in Sections 3 and 4 of this application.

G. Any conditions or requirements placed upon the proposed rezoning may be more restrictive but shall not be less restrictive than the applicable requirements of this Ordinance.

The Applicant understands that conditions or requirements placed on the proposed rezoning may be more restrictive than the applicable requirements of the Land Use Ordinance.

H. An agreement containing all conditions and restrictions of a Commercial, Industrial and Infrastructure District proposal shall be recorded in the Kennebec County Registry of Deeds within 10 days of the date that it is approved at the Town Meeting. The rezoning shall not become effective until the agreement is recorded.

The Applicant understands and agrees to the recording requirement associated with the Commercial, Industrial and Infrastructure District proposal.

I. Any violation of the terms, conditions and the restrictions contained in the zoning agreement shall be violations of this Ordinance and subject to applicable enforcement standards. A statement to this effect shall be included in the zoning agreement.

The Applicant understands that any violation of the terms, conditions, and restrictions in the zoning agreement will be a violation of the Land Use Ordinance of the Town of Readfield and will be subject to applicable enforcement standards.

J. The proposed site has an existing or proposed access to a town, state-aid highway or state road.

The Project parcel is located on the south side of Main Street (Route 17). The Project will be accessed via an existing entrance off Route 17 that will be improved.



K. The proposal contains provisions for a buffer area along all property lines sufficient to screen adjacent land uses. A landscape buffer area shall be provided along the road frontage that allows for safe access to the site and also sufficiently screens any development from public view.

Existing forested vegetation will provide screening from roads and adjacent properties (see the Site Plans in Attachment A). 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. Approximately 50 feet and 25 feet of existing forested vegetation will remain along the western and eastern property lines, respectively.

L. The site plan shall show the future locations of all proposed structures or provide a written set of design standards for the placement of future structures. Structures shall be located on the site in a manner so as to protect the environment, minimize off-site impacts such as noise, light, and odors, provide the maximum visual screening from adjacent roads and property, and be in keeping with the Town's character.

The locations of structures are depicted on the Site Plans provided in Attachment A. Project structures have been located in a manner so as to protect the environment, minimize off-site impacts such as noise, light, and odors, provide the maximum visual screening from adjacent roads and property, and be in keeping with the Town's character.

Environment

The solar array and associated Project features (e.g., collector lines, access driveway) have been sited to avoid impacts to natural resources.

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 E). 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 pm to 7:00 pm) and 45 dBA during nighttime hours (7:00 pm to 7:00 am).

Light

The Project does not require and will therefore not include lighting.

Odors

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



Visual Screening

Existing forested vegetation will provide screening from roads and adjacent properties. Additional details are provided in Section 3.K above.

Town Character

The Project will be compatible with the rural character of Readfield, as described in Sections 2.A and 2.B above.

M. The proposal shall include a list of those uses planned to be developed in the Commercial, Industrial and Infrastructure District.

The proposed use in the Commercial, Industrial and Infrastructure District is the development of a large-scale solar energy system consisting of the following: photovoltaic modules (solar panels) installed on a fixed-tilt racking system supported by driven posts or ground screws; two equipment pads to support the Project equipment; a gravel driveway off Main Street; a medium voltage underground electrical collector line that will connect the solar array to the electrical grid at a POI with the utility distribution line on Main Street; perimeter fencing; and a temporary staging area that will be revegetated following Project construction. The solar array will have an installed capacity of up to 975 kWac.

SECTION 4 – APPLICATION REQUIREMENTS

A. The applicant for a Commercial, Industrial and Infrastructure District proposal shall submit an application to the Code Enforcement Officer.

This narrative and the accompanying attachments constitute the application for Commercial, Industrial and Infrastructure District designation for Tax Map 143, Lot 17.

- B. The application shall include the following:
 - 1. A survey plan of the site showing all applicable details required in Article 6, Section 3.J.1.c.

The Project Site Plans are provided in Attachment A.

2. A narrative describing the proposal and how it specifically meets all the standards and requirements contained in this Article.

This application narrative and associated attachments provide a description of the proposed Project and how it meets the standards and requirements of Article 9 of the Land Use Ordinance.

3. A copy of the conditions and restrictions proposed for the property.

There are no conditions or restrictions proposed for the property.

4. A timetable indicating the start and completion dates of the development or construction in the proposed rezoned area.

Pending receipt of all local and state approvals and the Central Maine Power Company interconnection schedule, construction of the Project is projected to begin in the second quarter of 2024 with the goal of Project completion set for the fourth quarter of 2024. The sequence of Project construction will generally adhere to the timeline detailed in Table 1, although adjustments may be necessary to accommodate seasonality, weather conditions, and the interconnecting utility.



Table 1. Estimated Construction Activity Timeline

Project Phase	Timeframe (2024)
Preliminary layout and staking of improved and new driveway segment and solar array/staging area	June
Install erosion control; grubbing (as needed)	June
Underground electrical work; racking posts and modules installation	July – August
Substantial completion and commissioning	September
Begin commercial operations	October



ATTACHMENT A: SITE PLANS



READFIELD MAIN STREET SOLAR, LLC

CIVIL SITE PLANS PROPOSED PHOTOVOLTAIC POWER GENERATION FACILITY

MAIN STREET READFIELD, MAINE



READFIELD, ME LOCATION MAP SCALE, 17 = 1/2 MIN

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









ISSUED FOR PERMIT REVIEW

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:

Colchester, Vermont 05446

Stantec

30 Park Drive Topsham, Maine 04086

Norwich Solor 14 Maine Street, Suite 305C-1, Box

Surveying: Harizons Engineering, Inc.

Horizons Engineering, II 1040 Portland Road Saco, Maine 04072



REV NO.	REVISIONS/COMMENTS	DATE
1	NO CHANGES TO THIS SHEET	10/24/23
2		
3		
4		

INDEX SHEET
READFIELD MAIN
STREET SOLAR, LLC

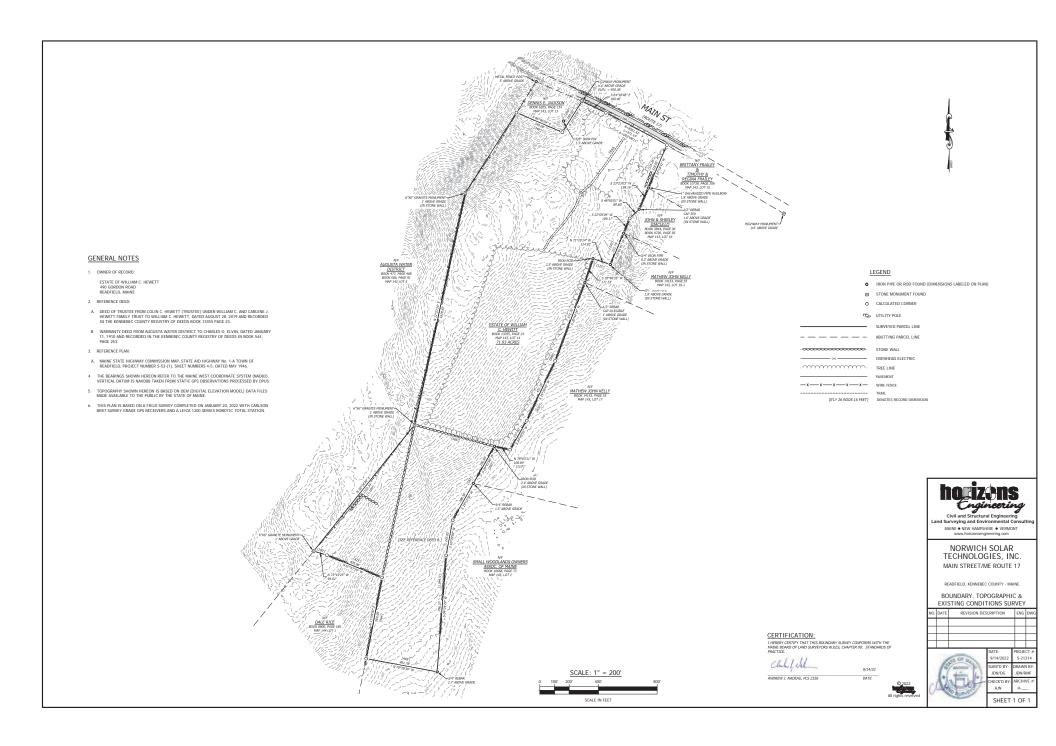
DATE of Issue: 07/31/23

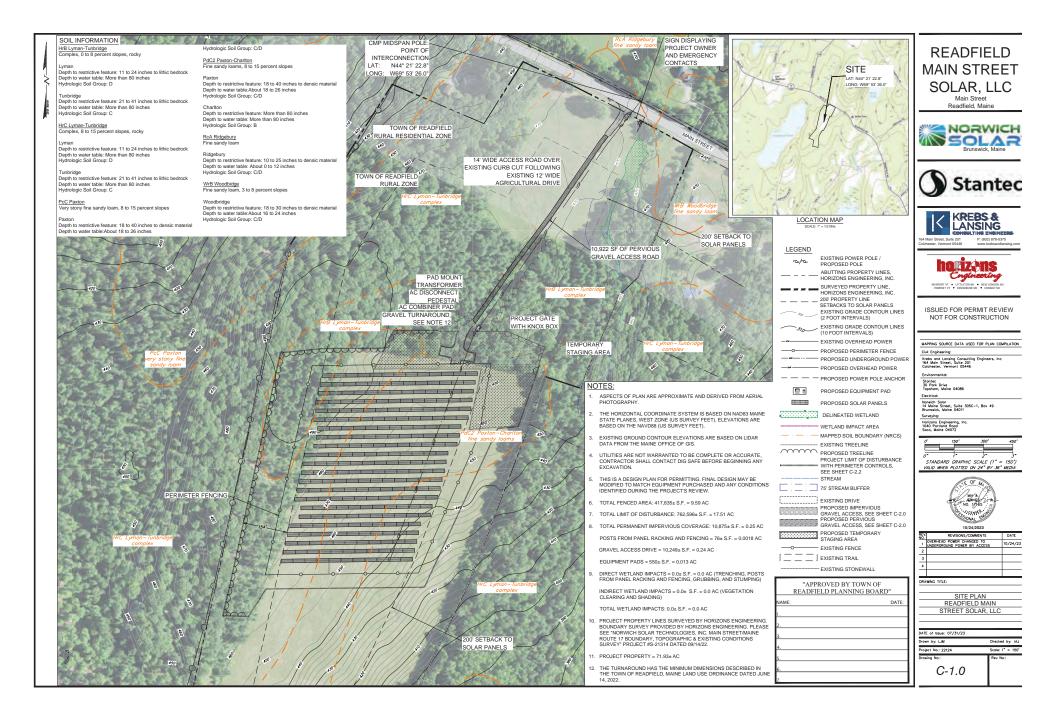
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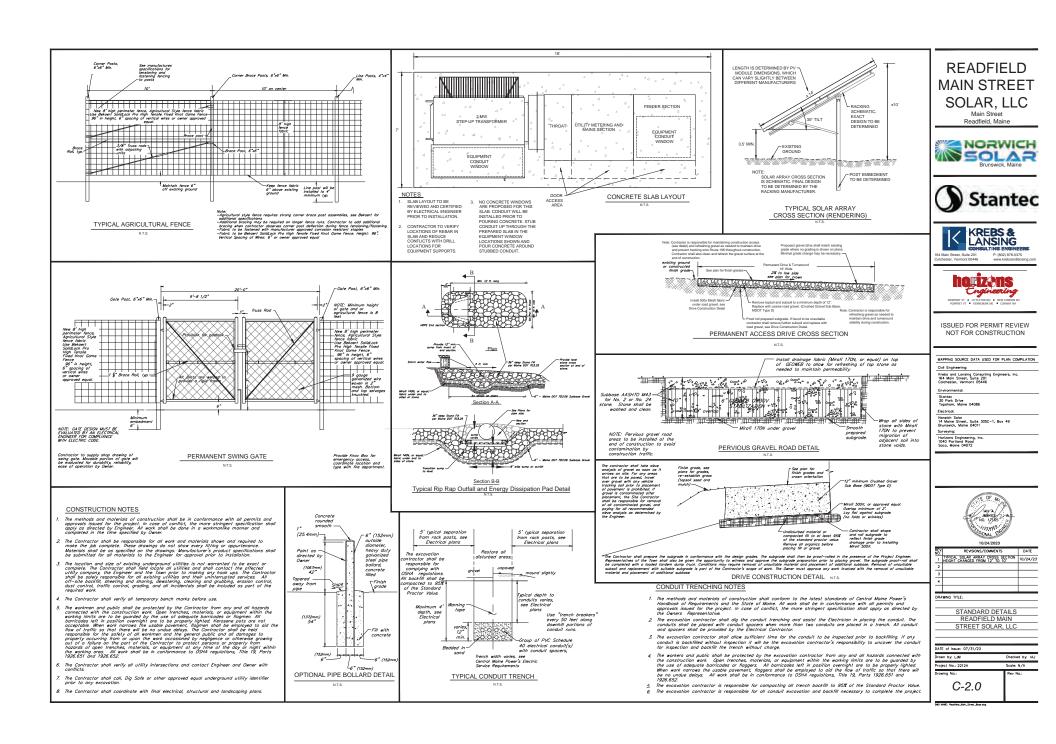
Project No: 22124 Scoler

Description No. 22124

DBS NAMC: Recollers_Main_Street_Boss seq







6" LAYER OF ON-SITE SOIL NOTES TYPICAL GRASS SWALE. SEE PLAN VIEW FOR LOCATIONS 2. TYPICAL SIDE SLOPES TO BE 2:1. DURING CONSTRUCTION TEMPORARILY SEEDED AND HEAVILY MULCHED. EROSION CONTROL BLANKET MAY BE NECESSARY IN STEEPER SLOPES, INSTALL BLANKET IF EROSION PERSISTS ANDIOR GRASS IS HAVING DIFFICULTY GERMINATING, POST CONSTRUCTION CONTRACTOR SHALL RE-GRADE ANY EROSION, REMOVE BUILDU PSEDIMENTS, PERMANENT SEED AND HEAVILY RE-MULCH. 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. 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. CDACS SUMLE CODES SECTION GRASS SWALE CROSS SECTION SPACING VARIES DEPENDIN ON CHANNEL SLOPE SAME ELEVATION TOE -

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.

STONE LINING THICKNESS SHALL BE 1.5 X MAX. STONE SIZE PLUS THE THICKNESS OF FILTER OR

ALL DISTURBED AREAS SHALL BE STABILIZED AND OTHERWISE STABILIZED AND OTHERWIS PROTECTED AGAINST SOIL EROSION.

12" DEPTH OF STONE WHICH MEETS -THE SPECIFICATIONS OF ME-DOT 703.26, 703.29 OR APPROVED EQUAL 8'-10' 18"-24" MIRAFI 140N DRAINAGE FARRIC

STONE SWALE CROSS SECTION

WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES,

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.

- EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
- 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

NOTES

- SILT FENCING TO BE INSTALLED BEFORE CONSTRUCTION OF STAGIN AREA IS INSTALLED.
- 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.

INSTALL AND MAINTAIN STABILIZED CONSTRUCTION ENTRANCE, SEE

- 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
- STAGING AREA IS LIKELY TO BE USED FOR PARKING DURING CONSTRUCTION, STAGING OF CONSTRUCTION MATERIALS, BASE OF PROJECT OPERATIONS AND MISCELLANEOUS PROJECT ACTIVITIES.
- CLOSE TO PROJECT CONSTRUCTION COMPLETION, STAGING AREA WILL BE REMOVED. GRAVEL AND CONSTRUCTION FABRIC SHALL BE REMOVED AND PROPERLY DISPOSED OF. RESTORE THE PORTION OI EXISTING MEADOW COVERED BY STAGING AREA BY SEEDING, MULCHING, AERATING, ETC. AS NECESSARY TO RESTORE AREA TO IT NATURAL PRECONSTRUCTION STATE.

CONTRACTOR IS RESPONSIBLE FOR REFRESHING GRAVEL AS NEEDED TO MAINTAIN STABILITY OF STABILIZED STAGING AREA.



TYPICAL STABILIZED STAGING AREA SURFACE

WINTER EROSION CONTROL PROCEDURES

MIRAFI 140N

FILTER FABRIC SECTION A-A

INTER EROSION CONTROL NARRATIVE MED LATED THAN NOVEMBED 1ST WILL DESLIET 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.

SECTION B-B

WINTER EROSION CONTROL SEQUENCE:
THE CONTROL MEASURES REQUIRED FOR WINTER
CONSTRUCTION ARE INSTALLED BY NOVEMBER 1ST AND PRIOR TO GROUND FREEZING. IF A PERMITTE
CAN BE LEFT UNDSTURBED LINTIL. THE SPRING THE CONTRACTOR SHALL MAKE EVERY EFFORT TO LIN
DISTURBANCE OF THESE AREAS.

THE CONTRACTOR SHALL STABLIZE ANY PORTION OF THE SITE THAT IS BEING WORKED AND DISTURBED PROOR 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 STABLIZED 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 SMOW CLEARING AND MAINTENANCE.

SNOW STORAGE ON SITE - CONTRACTOR WILL CREATE A SNOW MANAGEMENT PLAN PLAN WILL IDENTIFY SNOWN UNGGE OF STATE CENTRAL STORY MELL CREATER SNOWN MANAGEMENT PLACE FLAG WILL LIEST IN YOUR GRANT STORY MELL CREATER SNOWN MANAGEMENT PLACE FLAG WILL LIEST IN YOUR GRANT STATE OF THE STATE OF THE STATE OF THE STORY MAY TER TREATMENT STRUCTURES. CONTRACTOR SHALL KEEP ALL DRAINAGE STRUCTURES OPEN AND THE STORY MAY THE STATE OF 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 NISTALL SLY FENCE: SILT FENCE SHALL BE INSTALLED ON THE DOWNHILL SIDE OF THE WINTER CONSTRUCTION AREAS AND SOIL STOCKPIEL 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 ENGNEER FOR ALTERNATE OPTIONS, STOME BERM, FLITERXY, SILT SOOX, 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 SEDMENT 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 ENTRANCES ABILITY TO HOLD SEDMENTS ON STONE STABLE OF THE ADDITIONAL STONE SHALL BE INCREASED.

WINTER STABILIZATION - ALL DISTURBED AREAS NOT INVOLVED IN WINTER CONSTRUCTION SHALL BE AT LIZED BY NOVEMBER 1ST. AFTER, ALL AREAS DISTURBED DU LEAST IERRIVIOUNIL'S STABLIZED D'AN OVERNER'S IST. AN IER, ALL AREAS INSTINEDED JOURNAY SWIN LEY CONSTRUCTION SHALL BE STABLIZED DAILY TO PREVIOTE EXPOSIBLE FROM RAIN EVENTS ARE ACCUMULATION OF SNOWFAL (SEE EXCEPTIONS BELOW), STABLIZATION RATES IN THE WINTER WILL BE DOUBLED THE RATES LISTED IN THE MILICHING SCHEDULE. CONTRACTOR SHALL ADD ADDITIONAL STONE, AS NECESSARY, TO PROVIDE STABLIZATION THROUGH WINTER CONSTRUCTION ON ALL AREAS WHERE CONSTRUCTION TRAFFICIS 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 STRUCTURE INDUSTRIES TO A THE ADMINISTRATION FROM TO APPEAR TO A THE SAME CONTROL STRUCTURE IN MATTHER IN THE ADMINISTRATION OF THE ADMINISTRATION OF THE SAME IS THE ADMINISTRATION OF THE

MAINTENANCE. ALL DISTURBED AREAS SHALL BE MONITORED BY THE CONTRACTOR AND THE INSPECTOR IN ACCORDANCE WITH THE PERMIT. THE CONTRACTOR AND INSPECTOR SHALL EVALUARE THE SITE AFTER A ACCORDANCE WITH THE PERMIT. THE CONTRACTOR AND INSPECTOR SHALL EVALUARE THE SITE AFTER A CONTROL MEASURES APPEAR TO BE AND ADMICTATED AND AND ADMICTATED ADMICTATED AND ADMICTATED AND ADMICTATED ADMICTATED AND ADMICTATED ADMICTATED AND ADMICTATED VIGOROUS PERMANENT GROUND COVER.

INSPECTION - THE EDOSION AND SEDIMENT INSPECTOR SHALL BE DESCRISED FOR AT A MINIMUM DALLY 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

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, PROPORTIES TELL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

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 1-800-482-488 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENTS WESTER 3T - HTTP-WINW MANIE GOVERSPISHLESSIP 1

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 THAT BY

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)

FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT. IN NOTICEABLE EROSION OF SOLS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS REEDED. A STABILIZED CONSTRUCTION ENTRANCE, GOCI. SHOULD BE INCLUDED TO MINIMIZE TRACKION OF OUR MAD SERVICE AND SHOULD BE INCLUDED SE WEFT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM FURTHS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNAFAUR DACCESS ROADS ONCE A WEEK OR MEET OR RECOUNTLY AS NEEDED WITH A MUSTARE SOUTHITE STORMET SENGITIVE SEDIMEN DOUST.

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, DETERCENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLITIANT SQUIECE.
- NOTE, TO PREVENT THESE MATERIALS FROM RECOMING A SOURCE OF POLLUTIANTS, CONSTRUCTION AND POST-CONSTRUCTION AND TOTAL THE RELATED TO A PROJECT MAY BE REQUIRED TO COMEN, WITH A PRICURAL PROVISON OF PRILES RELEATED TO SOUL D
- 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 SECONSTRUCTION PRACTICES. THE COLLECTED WATER REBOVED FROM THE PONDED AREA, HERR THROUGH GAVITY OR PUMPING ITS ESPREAD THROUGH HATURAL WOODDE BUFFERS OR REBOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFEROM SEDIMENT FOR SILD WATER AND AND ASSEMBLY ASSEMBLY AND ASSEMBLY ASSEMBLY AND ASSEMBLY ASSEMBLY AND ASSEMBLY ASSEMB

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:
 - DISCHARGES FROM FIREFIGHTING ACTIVITY
- FIRE HYDRANT FLUSHINGS
 VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROMISETED)
- DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3)
- ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS
 PAVEMENT WASHWATER (WHERE SPILLSLEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF
 DETERGENTS ARE NOT USED
- UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE
- UNCONTAMINATED GROUNDWATER OR SPRING WATER
 FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED
- UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5))
 POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS

- - VATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE STUCCO PAINT FORM RELEASE OILS CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS
 - WAS I EWIN FOR FROM THE WASHOOT REPORTED TO CONCRETE IS DISCOVERNITY OF THE WASHOOT REPORTED TO CONCRETE IS DISCOVERNITY OF THE WASHOOT WASHOO
- . ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

READFIELD MAIN STREET SOLAR, LLC

Readfield, Maine









ISSUED FOR PERMIT REVIEW NOT FOR CONSTRUCTION

MAPPING SOURCE DATA USED FOR PLAN COMPILATION Civil Engineering:

Stantec 30 Park Drive *-asham, Maine 04086

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



₹Ęγ. NO.	REVISIONS/COMMENTS	DATE
1	NO CHANGES TO THIS SHEET	10/24/23
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ESC DETAILS READEIELD MAIN

STREET SOLAR, LLC Prown by: L.M C-2.1

PROPRIES SOL BETORE ASSALLAS BLUMETS, ACQUIDAS ANY NECESSARY APPLICATION OF LINE, FEBRUATE, AND SEED, ME BINN USAGE COLL-O-SEED TO NOT SEED PROPRIES AND COLL-O-SEED WAST BY RESIDUATE BINN HAVE SEE EGBN. SERIO SIGNE COLL-0-SIGN Comm. SIGN COMMONDS OF SURVIVANITY OF A \$" (1904) SIGN \$\frac{1}{2}\$ (1904) BOX SERIOR SIGN AT \$1 (1904) BOX BULL COPIES BLANCT IN DIRECTION OF MATER TION AN BOTTOM OF CHANGE, BLANCTS BULL LABOUL THE ARROPMENT SEE AMAND THE SEE JUSTICE. IN JURIARITY AND IN SECURITY FROM THE SEE AMAND THE ARROWS SEARCH, PRINCE IN APPROPRIATE LOCKIONS AN SHORE AS THE STRAIN PARTIES CLIEF, BUT LIFAC COPIESAL DOT SYSTEMY SEMANCE/STRAINS SHOULD BE FALCED THROUGH SHOW OF THE COLORISED COPE CORRESPONDING TO the APPROPRIATE STRAIN, PRINCES. PLACE CONSISTS OF SAME TO SOME THE STORMES STATE OF A F-W (SAME-1644) DEFINAL USE A DOUBLE NOW OF STATES STATES OF (SOME A FLOW) AND AFT OF A FLOW) OF CORPET TO SCORE SHAREST FULL EXPANCES OF SAME THE STATE OF A FLOW OF STATES OF A MACROSIC STATE A STATES OF A FLOW STATE STATES OF A FLOW OF A FLOW OF A FLOW OF STATES OF STATES OF A STATES A STATES STATES. APPROXIMENT STATES OF A FLOW OF STATES STATES. ADJUST BLANCTS MIST BE DEPARTED APPROXIMETELY 2"-5" (2011-12-5111) ESPERIOR ON BLANCT THES AND SHARED. TO EXAMPLE PROPER SION ADJUSTED, PLACE THE ESSE OF THE OWNERFARD BLANCT (BLANCT BEING MISTALLIS ON 1991) END MISTALLIS CORES. DEPART BEING ADJUSTED ON 1991 END MISTALLIS CORES. DEPART BEING ADJUSTALLIS CORES. DEPART BEING ADJUST BEING ADJUST BEING ADJUST BEING IN HOW FIDE CHARGE, APPLICATIONS, A STAFF, CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (\$44-124) APPRIALS. USE A SOURCE FOR O' SIMPLES STAGGERS 4" (YOUN) AMARY AND 4" (YOUN) ON COMER OURS OURS WITH SIGH O' NET CHARGE.

A CHERAPS MO SEMS B. PROJECTED SATES LAN C. CHEMICA SOTTOM/SEC SLOPE VERTICES

1869 HOHBET 41 NORTH, EVENSHUE, INDIAN 47725 USA 1-800-772-200 CAMON 1-800-448-2049

NOTE:
- HOROCOUNT STATE SPACING SHOULD BE ALTERED IN MCCESSARY TO ALLOW STATES TO SECURE THE

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14640 HIGHBAY 41 NORTH, EMASVILE, REHMA 47725 USA 1-800-772-2040 CHINDA 1-800-448-2040



MATERIAL CONTENT:
STRAW: 100% (0.50 lbs/sq.yd.)(0.27 kg/m²)

NETTING: ONE SIDE ONLY LENO

FROSION

CONTROL BLANKET

NORTH AMERICAN GREEN S75BN ATERIAL SPECIFICATIONS:

EROSION CONTROL BLANKET SHALL BE

A MACHINE-PRODUCED MAT OF 100% AGRICULTURAL STRAW.

THE BLANKET SHALL BE OF CONSIST

THE BLANKET SHALL BE OF CONSISTED THICKNESS WITH THE STRAW EVENLY DISTRIBUTED OVER THE ENTIRE AREA OF THE MAT. THE BLANKET SHALL BE COVERED ON THE TOP SIDE WITH 1009 BIODEGRADABLE WOVEN NATURAL

NET ITING: 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: 106 feet (32.92 m)

• WEIGHT: 46.4 lbs. ± 10% (21.05 kg)

• AREA: 80 sq. yd. (50 m²)



COMPOSITION:

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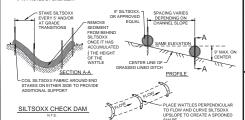
GENERATION, AND MAY INCLUDE SHREDDED BARK, STUAP GRINNINGS, CO TO MANUFACTURE THE EROSION CONTROL MIX SHALL BE NATIVE MAINE MATERIALS

THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR

- EXISTING COOLING SHALL BE DREDADED AS MEEDED SLICH THAT THE RADDIED 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.
- 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 TI. WIDE. ON LONGER OR STEEPER SLOPES, THE BARRIER SHALL BE WIDER TO ACCOMMODATE ADDITIONAL FLOW.
- FROSION CONTROL MIX MAY BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED AND EROSION CON 100 MIX MAY BE MOSTALED WHERE SILL FERGE IS ELECTION FAILED AND SCHEDULED ON THE DESIGN PLANS EXCEPT IN, BUT MOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW STORMWATER END SECTIONS AT OUTSTALLS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND END SECTIONS AT LOTALLS, AROUND CATCH BASING AND CLOSED STURMS 15TS INCENT 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 UPHI OF PLANNED EARTH DISTURBANCE.

TYPICAL EROSION CONTROL MIX BERM

- CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION MAINTENANCE AND REMOVAL OF SILTSON IN ALL LOCATIONS SHOWN ON THE PLANS. SILTSOXX MAY BE LEFT IN PLACE IF THE CONTRACTOR SEEDS AND MULCHES WATTLE FOR GROWTH POST CONSTRUCTION.
- . 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.
- 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 FOUAL PRODUCTS MAY BE USED.



CONSTRUCTION EROSION AND SEDIMENT CONTROL INSPECTOR

- THE CONTRACTOR SHALL DESIGNATE AN EROSION AND SEDIMENT CONTROL INSPECTOR THROUGHOUT THE ENTIRETY OF CONSTRUCTION. THE INSPECTOR OR HISHER DESIGNEE SHALL BE ON-SITE ON A DAILY BASIS DURING ACTIVE CONSTRUCTION.
- THE INSPECTOR SHALL BE KNOWLEDGEABLE IN PRINCIPLES AND PRACTICES OF EROSION PREVENTIC AND STORMWATER CONTROL. IMPLEMENTATION AND 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.
- IMPLEMENTATION OF THIS EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTIONS, MONITORING AND REPORTING.
- 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
- 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.
- CONSTRUCTION INSPECTION AND CORRECTIVE ACTION CONSTRUCTION INSPECTION AND CORRECTIVE ACTION DOCUMENTATION RECORDS SHALL BE MAINTAINED FOR A MINIMUM OF 3 YEARS. THIS DOCUMENTATION SHALL BE MAINTAINED BY THE CONTRACTOR LINLESS OTHERWISE AUTHORIZED BY THE OWNER. CORRECTIVE ACTIONS SHOULD BE STATED SAME DAY COMPLETED WITHIN 7 DAYS OR BEFORE THE NEXT STORM EVENT, WINCHEVER IS FIRST.
- 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.
- 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 ROSION AND SEDIMENT CONTROL

- ALL EROSION AND SEDIMENT CONTROL MEASURES 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 COOF THE LATEST REVISION ON SITE AT ALL TIMES.
- CONTRACTOR SHALL LIMIT EXCAVATION AND EARTHWORK TO NOMER THAN 10 ACRES NON-CONTIQUOUS OF 10 ACRES PER PROJECT SUBCATCHMENT THROUGHOUT THE CONSTRUCTION STEAT OF COMPLETED EXCAVATION AND EARTHWORK PRIOR TO MOVING NOTO A NEW AREA.
- EXPOSED OR OPEN AREA FREE OF VEGETATION FRO CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
- CONTRACTOR SHALL MINIMIZE THE AMOUNT OF TIME 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.
- ALL EROSION AND SEDIMENT CONTROL BMPs SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE. CONTRACTOR SHALL MAINTAIN THE BMPS THROUGHOUT CONSTRUCTION. REFER TO INDIVIDUA DETAILS FOR EACH BMP.
- REPAIR AND/OR REPLACE ANY EROSION AND SEDIMENT CONTROL BMPs WHICH HAVE BEEN BOMACED OR REED MANTENANCE ONCE A PROBLEM OTHERS. THE REPAIR SHALL BE UNDERWAY WITHIN THE END OF THE NEXT WORKNOW GDAY AND COMPLETED WITHIN 7 DAYS OR BEFORE THE NEXT STORM EVENT.
- CONTRACTOR IS RESPONSIBLE TO REMOVE ALI 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

- 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.
- ALL AREA DISTURBED AND ALL AREAS WITHIN THE CLEARING LIMITS SHAL GRADED AND COVERED WITH A MINIMUM OF 4" OF LOAM TOPSOIL AND SM
- 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.
- 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

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	%GERMINATIO
/INTER RYE	80% MIN.	85% MIN
ED FESCUE (CREEPING	 4% MIN. 	80% MIN
ERENNIAL RYE GRASS	3% MIN.	90% MIN
ED CLOVER	3% MIN.	90% MIN
THER CROP GRASS	0.5% MAX.	
OXIOUS WEED SEED	0.5% MAX.	
IERT MATTER	1% MAX.	

THE SPECIES OF SEED OR AF
EASTERN (RED) COLUMBINE
BLUE FALSE INDIGO
HORSEFLYWEED
TALL WHITE BEARD TONGUE
OHIO SPIDERWORT
COMMON MILKWEED
BUTTERFLY MILKWEED

VIRGINIA MOUNTAIN MINT EARLY GOLDENROD FOXGLOVE BEARDTONGUE INDIAN BLANKET SMOOTH ASTER NEW ENGLAND ASTER HEATH ASTER GRAY GOLDEN ROD BEE BALM CARDINAL FLOWER GOLDEN ALEXANDERS LITTLE BLUESTEN BLACK EYED SUSAN

		GUIDE TO MULCH MATERIALS,	RATES, A	ND USE	S
	QUALITY STANDARDS	PER 1000 SQ. FT. (Rates noted shall be doubled during winter construction)	PER ACRE	DEPTH OF APPLICATION	REMARKS
OOD CHIPS OR SHAVINGS	AIR-DRIED, FREE OF OBJECTIONABLE COARSE MATERIAL	500-900 LBS	10-20 TONS	2 - 7*	USED PRIMARELY 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 - 1//,"	9 CU. YDS.	405 CU. YDS.	3"	EXCELLENT MULCH FOR SHORT SLOPES AND AROUND PLANTS AND ORNAMENTALS. USE 28 WHERE SUBJECT TO TRAFFIC, (APPROXIMATELY 2,000 LBSJCU, YD.), FREQUENTLY USEO OVER THAFF 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 MIGRO-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.			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.



CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION MAINTENANCE AND CONTINUED BY A STATE 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.

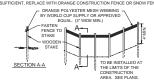
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ADDITIONAL WATTLES WILL BE ADDED WHEN SEDIMENT REACHES HALF OF PRODUCT HEIGHT.
- WHEN INSTALLING LENGTHS OF SILTSOXX, LENGTHS WILL OVERLAP BY MINIMUM 18' WHEN TRANSITIONING TO A NEW LENGTH OF SILTSOXX.
- CONTRACTOR SHALL REFER TO ALL MANUFACTURES SPECIFICATIONS AND DETAILS.
- SILTSOXX IS A SPECIFIC MANUFACTURER, OTHER MANUFACTURERS WITH EQUAL PRODUCTS MAY BE USED IF APPROVED BY ENGINEER.
- SILTSOXX CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER.

TYPICAL SILTSOXX SEDIMENT CONTROL

NOTES

PTABLE EPSC MEASURE DETAILS ARE PROVIDED BELOW.

- . AT A MINIMUM, EPSC MEASURES MEET ME DEP STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL OR PREVIOUSLY APPROVED INTERCHANGEABLE PRACTICES.
- LIMITS OF DISTURBANCE (OR 'CONSTRUCTION DEMARCATION') SHALL BE INSTALLED
- IAMBIES TAPERFORE FOR USE WHERE PROPOSED INSTRUBBANCE DRIFTERS
 WOUNDOODS, USECTIFIED AREA SHORDET HANN DOT FROM THE REMEMENT WITTER
 RESURCE STREAM, BROOK, LAME, IPOLO WETLAND, ETC.), BASPRIEST FARE IS NOW
 WISBILTY FIREFACAS TAPE. MANIMAY IS WINDIN CHOROMAN, YUSED IN SOM AREAS FOR
 DEMARCATING CLOSED AREAS, BARRIEST FARE AND ROPE SHOULD BE ATTACHED TO
 STAKES, AT A MINIMAL HIGHT OF A TET FROM THE GROOM.
- MINIMUM 1 TO 2 ROWS OF MESH BARRIER TAPE TO BE INSTALLED ALONG CONSTRUCTION PERIMETER.
- EACH ROW OF BARRIER TAPE TO BE 3' WIDE MINIMUM
- BARRIER TARE TO BE ORANGE
- SECURE BARRIER TAPE TO STAKES OR EXISTING TREE TRUNKS WITH BOTTOM ROW AT 4 DISTANCE FROM GROUND SURFACE (MINIMUM).
- MAINTAIN AND REPLACE AS NEEDED. REMOVE AT COMPLETION OF PROJECT PER ON
- I.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

24" MIN.

PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND EXISTING EDGE OF TRAVELED WAY 50' MIN. SEE SITE PLAN EXISTING PUBLIC RIGHT OF WAY PROFILE EXISTING PLAN NOTES

- CONTRACTOR SHALL STABILIZE CONSTRUCTION ENTRANCE AS REQUIRED TO PREVENT TRACKING OF SEDIMENT OFF-SITE.
- CONTRACTOR TO USE MIRAFI 500X UNDER STONE FOR TEMPORARY CONSTRUCTION ROADS.
- CRUSHED STONE SHALL BE ADDED OR REPLACED WHEN 80% OF THE VOIDS ARE FILLED WITH
- 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

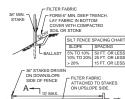
NOTES

AT A MINIMUM, EROSION AND SEDIMENT CONTROL MEASURES MUST MEET ALL MEDEP STANDARDS AND SPECIFICATIONS FOR FROSION AND SEDIMENT CONTROL OR PREVIOUSLY APPROVED INTERCHANGEABLE PRACTICES.

- . 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.
- PERIMETER CONTROLS SHALL BE INSTALLED ON DOWNSLOPE SIDE OF PLANNED EARTH DISTURBANCE.
- PERIMETER CONTROLS SHALL BE DISTURBING ACTIVITIES WITHIN UPSLOPE CONTRIBUTING AREA.
- SILTSOXX CAN BE USED AS A SILT FENCE ALTERNATIVE, WITH PRIOR APPROVAL OF THE ENGINEER. SEE DETAIL. 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 NVIRONMENTAL RESOURCES SEE
- IE SILT EENCE IS INSTALLED WHEN GROUND IS FROZEN, A GRAVEL, SHOT ROCK, OR SAND BALLAST MUST BE USED, MINIMUM OF 8".

LIMITS OF CLEARING

- WHEN US I URSANCE 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 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.



SLOPE

TYPICAL TEMPORARY SILT FENCE

NOTES

PROPER INSTALLATION
 OF J-HOOKS PROVIDES
 SILT FENCE THE ABILIT

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.

READFIELD MAIN STREET SOLAR, LLC Readfield, Maine









ISSUED FOR PERMIT REVIEW NOT FOR CONSTRUCTION

MAPPING SOURCE DATA USED FOR PLAN COMPILATION Civil Engineering:

Stantec 30 Park Drive Transham, Maine 04086

Electrical

Norwich Solor 14 Maine Street, Suite 305C-1, Box 49 Brunswick, Maine 04011

Horizons Engineering, Inc. 1040 Portland Road Soco Moine 04072

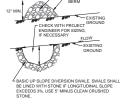


	10/24/2023	
١	REVISIONS/COMMENTS	DATE
	NO CHANGES TO THIS SHEET	10/24/23
	MANC TOTAL	

READEIELD MAIN STREET SOLAR, LLC

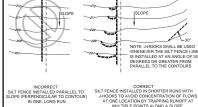
ATE of Issue: 07/31/23 Drawn by: LJM Project No.: 22124 C-2.2

TYPICAL UPSLOPE DIVERSION DETAIL



NOTES

 UPSLOPE DIVERSION BERM WILL BE USED AS 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.

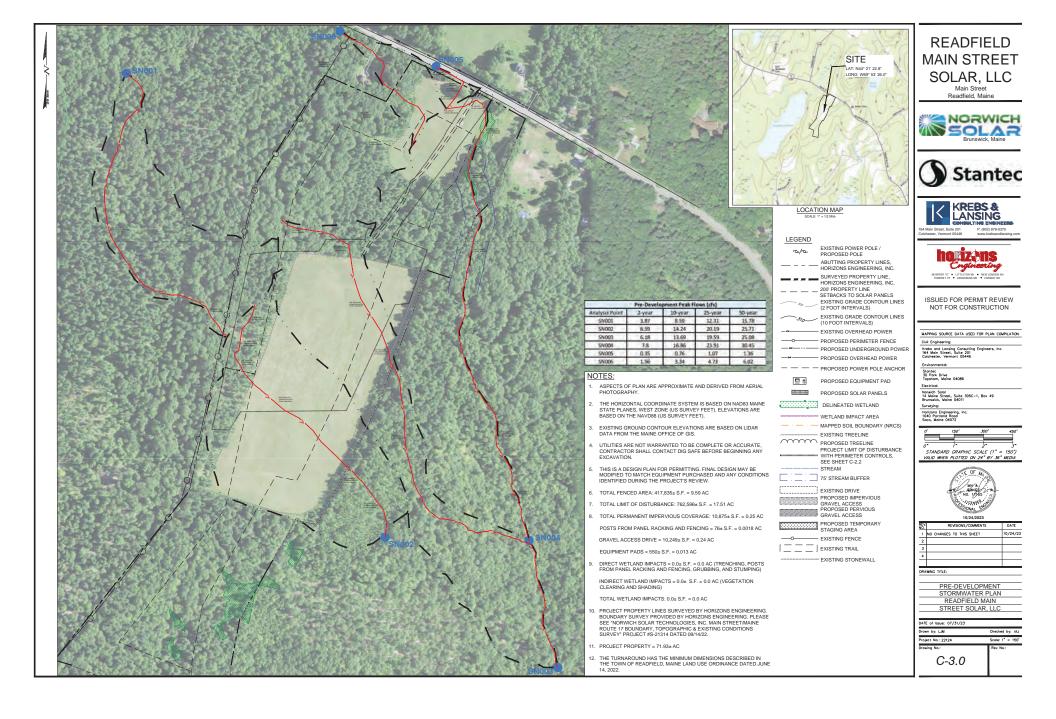


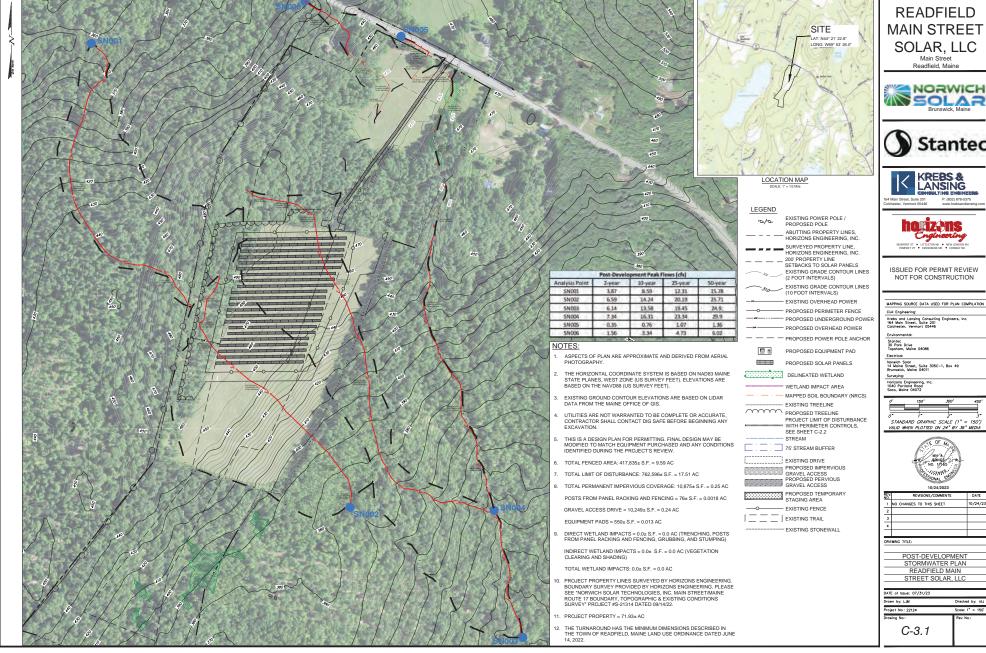
SILT -

AVOID LARGE GAPS BETWEEN BOTTOM OF ABOVE GRADIENT J-HOOK AND THE BETWEEN SILT FENCE J-HOOKS (FT.) NEXT SILT FENCE 4:1 SLOPE (25°

TYPICAL SILT FENCE "J-HOOK" CONSTRUCTION

3. J-HOOKS SHOULD BE BUILT ALONG CONTOU IN A "SMILE" SHAPE WITH A MINIMUM WIDT MINIMUM DEPTH OF 10 4. ALONG A NARROW RIGHT OF WAY.









Checked by: IA.
Scale: 1" = 150
Rev No.:

Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District

ATTACHMENT B: NRCS SOIL RESOURCE REPORT





VRCS

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



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

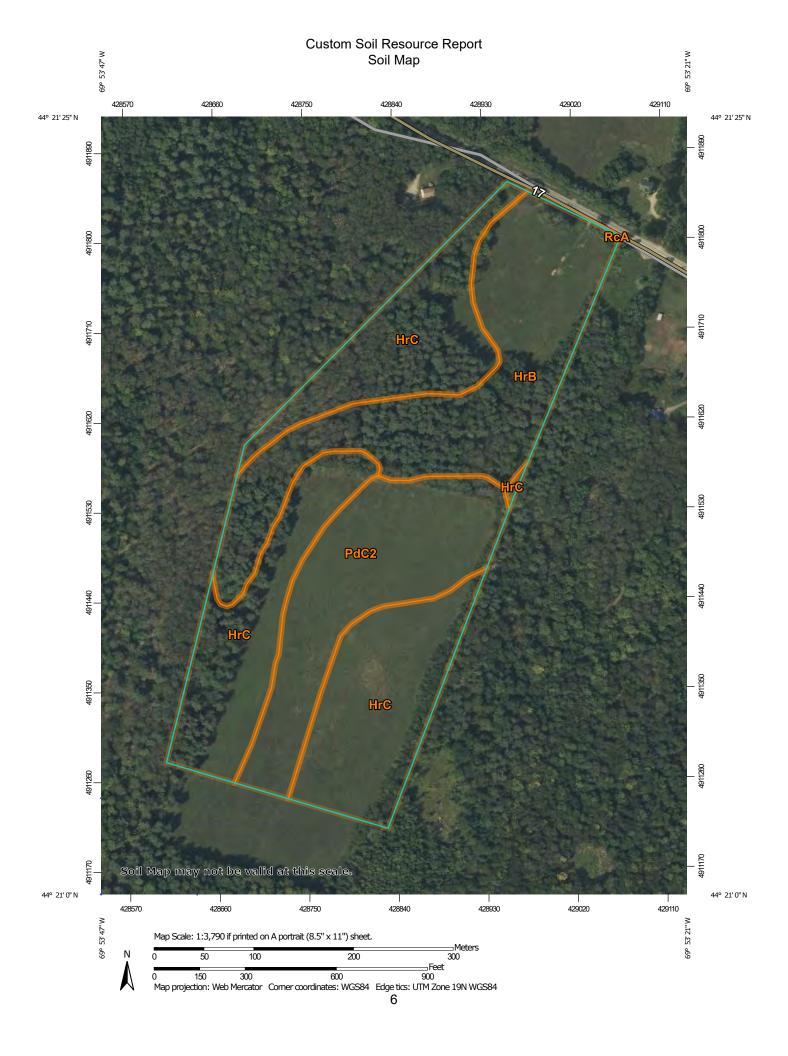
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, 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	
Soil Map	6
Legend	7
Map Unit Legend	8
Map Unit Descriptions	8
Kennebec County, Maine	10
HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	10
HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	11
PdC2—Paxton-Charlton fine sandy loams, 8 to 15 percent slopes,	
eroded	13
RcA—Ridgebury fine sandy loam	15

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.



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

(o)

Blowout

 \boxtimes

Borrow Pit

Ж

Clay Spot

Gravel Pit

 \Diamond

Closed Depression

~

'

.

Gravelly Spot

0

Landfill Lava Flow

٨.

Marsh or swamp

2

Mine or Quarry

0

Miscellaneous Water
Perennial Water

0

Rock Outcrop

Saline Spot

. .

Sandy Spot

Severely Eroded Spot

Sinkhole

6

Slide or Slip

Ø

Sodic Spot

J_11D

۵

Stony Spot

Spoil Area

Ø

Very Stony Spot

Ø

Wet Spot Other

Δ

Special Line Features

Water Features

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Streams and Canals

Transportation

ransp

Rails

~

Interstate Highways

US Routes

 \sim

Major Roads

~

Local Roads

Background

Marie Control

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.

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Hvdrologic 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

Custom Soil Resource Report

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

Custom Soil Resource Report

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

Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District

ATTACHMENT C: WETLAND AND WATERCOURSE DELINEATION 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.

METHODS 2.0

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). Wetland boundaries were determined using the technical criteria described in the United States Army Corps of Engineers (Corps) Corps of Engineers Wetlands Delineation Manual² 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). Wetlands of Special Significance (WoSS) were identified based on criteria in Chapter 310 of the NRPA⁶ 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.

⁷ Maine Department of Environmental Protection. 7 January 2014. Natural Resources Protection Act Chapter 335: Significant Wildlife Habitat.



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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.

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;

¹¹ Maine Association of Wetland Scientists Vernal Pool Technical Committee. 2014. Vernal Pool Survey Protocol. April 2014.



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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.

- 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 (<i>Fraxinus nigra</i>), green ash (<i>Fraxinus pennsylvanica</i>), eastern white pine, American beech Saplings / Shrubs: balsam fir, black ash, green ash, red raspberry, red maple, eastern hemlock Herbs: cinnamon fern (<i>Osmundastrum cinnamomeum</i>), sensitive fern, fringed sedge (<i>Carex crinita</i>), ostrich fern (<i>Matteuccia struthiopteris</i>), 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	PEM Saplings / Shrubs: eastern white pine, red raspberry Herbs: sensitive fern, royal fern, narrow-leaf cattail, wrinkleleaf goldenrod		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.

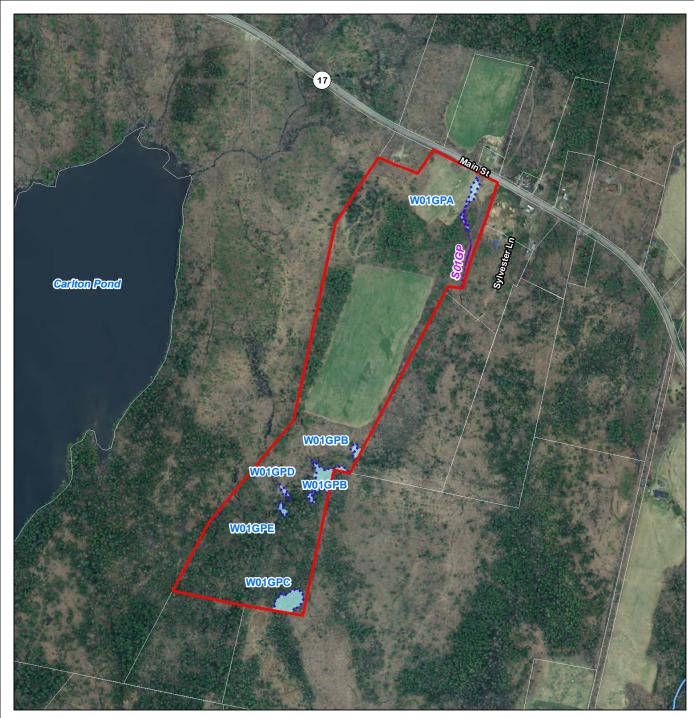


APPENDICES



Appendix A FIGURES







Legend -- Delineated Ephemeral Stream Delineated Wetland Area Approximate Delineation Limits Tax Parcel

Stantec

(At original document size of 8.5x11) 1:500,000



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Prepared by PWB on 2022-02-15 TR Review by KWH on 2022-02-15 IR Review by KM on 2022-02-15

Norwich Solar Technologies Norwich Solar Maine - Readfield

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.

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.



WETLAND AND WATERCOURSE DELINEATION AND VERNAL POOL SURVEY REPORT



Photo 3. PFO wetland 01GPC. Stantec, October 25, 2021.



Photo 4. Ephemeral stream S01GP, view south from upstream. Stantec, October 25, 2021.



WETLAND AND WATERCOURSE DELINEATION AND VERNAL POOL SURVEY REPORT

Appendix C CORPS WETLAND DETERMINATION DATA FORMS





WETLAND DETERMINATION DATA FORM Northeast and Northcentral Region

Applicant:	Norwich Sola	ır								County:	Kennebec
Investigator #1:	G. Pelletier			Investi	igator #2:					State:	ME
Soil Unit: Landform:	Depression			Loc	al Relief:		/I/WWI Classification:			Wetland ID:	01GPA Wetland
Slope (%):	0-3		44.355598		ongitude:			Datum:	NAD83	Sample Point: Community ID:	PEM/PSS
		ditions on the site ty							No	Community ID.	FEIW/F33
		or Hydrology □ sig				no, explain i	Are normal circumsta			-	
		or Hydrology □ signor Hydrology □ nat						□ No			
SUMMARY OF		or riyarology 🗀 riat	didily probl	cinatio:			_ 100				
Hydrophytic Ve		sent?		☑ Yes	. □ No			Hydric Soils	Present?		
Wetland Hydro					□ No					Within A Wetlan	
Remarks:									9		
HYDROLOGY											
Wetland Hydr	ology Indic	ators (Check here i	f indicators	are not	present	П					
Primary		(Secondary:	•	
	A1 - Surface				B9 - Wate					B6 - Surface Soil	
<u> </u>	A2 - High Wa A3 - Saturation				B13 - Aqu B15 - Mai					B10 - Drainage Pa B16 - Moss Trim I	
	B1 - Water N				C1 - Hydr					C2 - Dry-Season	
	B2 - Sedime						spheres on Living Roots			C8 - Crayfish Burr	
	B3 - Drift Dep B4 - Algal Ma						educed Iron duction in Tilled Soils			C9 - Saturation Vi D1 - Stunted or St	isible on Aerial Imagery
	B5 - Iron Dep				C7 - Thin				ä		
	B7 - Inundati	on Visible on Aerial Ima			Other (Ex	plain in Re	emarks)			D3 - Shallow Aqui	itard
	B8 - Sparsely	y Vegetated Concave S	Surface							D4 - Microtopogra D5 - FAC-Neutral	
F: 1101									Ц	D5 - FAC-Neutral	Test
Field Observa		-			(: \						
Surface Water Water Table Pr		☐ Yes ☑ No ☑ Yes ☐ No	Depth:		(in.)			Wetland Hy	drology Pr	resent?	Yes □ No
Saturation Pres		☑ Yes ☐ No	Depth: Depth:		(in.) (in.)						
		_	•		` '		\ '' '' '' '' '' '		N1/A		
		eam gauge, monitoring with ephemeral street		ai priotos	s, previous	sinspecii	ons), ii avaliable:		N/A		
Remarks:	associated	with ephemeral stre									
		mar opnomorar out	Jani OTO								
SOIL S		mar opnomorar oar	odin o roi								
SOILS Man Unit Name		•				S	eries Drainage Class:				
Map Unit Name	e:	0				S	eries Drainage Class:	:			
Map Unit Name Taxonomy (Sub	e: ogroup):	0		absence of indi	cators.) (Type: C		eries Drainage Class: D=Depletion, RM=Reduced Matrix, CS=C		ns; Location: PL=Po	ve Lining, M=Matrix)	
Map Unit Name Taxonomy (Sub	e: ogroup):	0		absence of indi	cators.) (Type: C		•		ns; Location: PL=Po	ve Lining, M=Matrix)	Texture
Map Unit Name Taxonomy (Sub Profile Descrip	e: ogroup): otion (Describe to	0		Matrix	cators.) (Type: C	=Concentration,	•	Covered/Coated Sand Grai	ns; Location: PL=Po	ve Lining, M=Matrix) Location	Texture (e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sul Profile Descrip Top	e: ogroup): otion (Describe to Bottom	0 the depth needed to document the inc	dicator or confirm the	Matrix		=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Grai		1	
Map Unit Name Taxonomy (Sul Profile Descrip Top Depth	e: ogroup): otion (Describe to Bottom Depth	0 the depth needed to document the inc	dicator or confirm the	Matrix Moist)	%	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Grai		1	(e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0	pgroup): potion (Describe to Depth 3 7 10	the depth needed to document the inc Horizon 1 2 3	Color (N	Matrix Moist) 2/1 3/2 4/2	% 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6	Covered/Coated Sand Grain Mottles % 10 10 10	Type C C	1	(e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4	e: pgroup): ption (Describe to Bottom Depth 3 7	the depth needed to document the inc Horizon 1 2 3 4	dicator or confirm the Color (N 10YR 10YR	Matrix Moist) 2/1 3/2	% 100 90	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6	Covered/Coated Sand Grain Mottles % 10	Type C C C	1	(e.g. clay, sand, loam) loam silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8	pgroup): potion (Describe to Depth 3 7 10	the depth needed to document the inc Horizon 1 2 3	Color (I 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2	% 100 90 90	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6	Covered/Coated Sand Grain Mottles % 10 10 10	Type C C	Location	(e.g. clay, sand, loam) loam silt loam silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11	pgroup): potion (Describe to Bottom Depth 3 7 10 14	the depth needed to document the inc Horizon 1 2 3 4	Color (I 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1	% 100 90 90 90	=Concentration, 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6	Mottles % 10 10 10	Type C C C	Location	(e.g. clay, sand, loam) loam silt loam silt loam loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11	pgroup): potion (Describe to Depth 3 7 10 14 20	the depth needed to document the inc Horizon 1 2 3 4 5	Color (I 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1	% 100 90 90 90 90	=Concentration, 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 4/6	Mottles 96 10 10 10 10	Type C C C C	Location 	(e.g. clay, sand, loam) loam silt loam silt loam loam
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15	pogroup): potion (Describe to Depth 3 7 10 14 20	the depth needed to document the inc Horizon 1 2 3 4 5	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1	% 100 90 90 90 90 	=Concentration, 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6	Mottles % 10 10 10	Type C C C	Location	(e.g. clay, sand, loam) loam silt loam silt loam loam
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field In	the depth needed to document the inc Horizon 1 2 3 4 5	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese	10YR 10YR 10YR 10YR 10YR 	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6	Mottles % 10 10 10 10 Indicator	C C C C s for Proble	Location matic Soils ¹	(e.g. clay, sand, loam) loam silt loam silt loam loam
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir A1- Histosol	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Vioist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Poly	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6	Mottles % 10 10 10 10 10 10 Indicator	Type C C C C s for Proble	Location matic Soils ¹ Muck (LRR K, L, MLRA 1	(e.g. clay, sand, loam) loam silt loam silt loam loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field In	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Poly \$9 - Thin F1 - Loan	10YR 10YR 10YR 10YR 10YR value Belo Dark Surfany Mucky I	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 w Surface (LRR R, MLRA 149B) 3CG (LRR R, MLRA 149B) dineral (LRR K, L)	Mottles % 10 10 10 10 10 10 Indicator	C C C C C S for Proble A16 - Coast	Location matic Soils ¹	(e.g. clay, sand, loam) loam silt loam silt loam loam
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir A1- Histosol A2 - Histic E; A3- Black H A4- Hydroge	Horizon 1 2 3 4 5 ndicators (check he	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Polyn \$9 - T - Loan \$7 - Loan \$7 - Loan \$7 - Loan	10YR 10YR 10YR 10YR 10YR ent ‡ value Belo Dark Surfa ny Mucky I ny Gleyed	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 w Surface (LRR R, MLRA 149B) dineral (LRR K, L) Matrix	Mottles % 10 10 10 Indicator	Type C C C s for Proble A10 - 2 cm A16 - Coast S3 - 5 cm Mi S7 - Dark S	Location	(e.g. clay, sand, loam) loam silt loam silt loam loam LRR K, L, R)
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he objection is stice an Sulfide d Layers	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese S8 - Poly S9 - Thin F1 - Loan F3 - Depl	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix K	Mottles % 10 10 10 10 10 Indicator	C C C C C C C C C C C C C C C C C C C	Location Locati	(e.g. clay, sand, loam) loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Poly \$9 - Thin \$f1 - Loan \$f2 - Loan \$f3 - Deple	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 w Surface (LRR R, MLRA 149B) ace (LRR R, MLRA 149B) dineral (LRR K, L) Matrix K trace	Mottles % 10 10 10 Indicator	C C C C C C C C C C C C C C C C C C C	Location	(e.g. clay, sand, loam) loam silt loam loam 49B) K, L, R) (LRR K, L, R)
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bogroup): otion (Describe to Depth 3 7 10 14 20 15 15 16 E 14 17 18 18 18 18 18 18 18 18 18 18 18 18 18	Horizon 1 2 3 4 5 ndicators (check hereign sulfide d Layers ed Below Dark Surface Dark Surface Dark Surface Dark Surface Muck Mineral	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 88 - Poly \$9 - Thin F1 - Loan F2 - Loan F3 - Depl F6 - Redc	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 W Surface (LRR R, MLRA 1498) Mineral (LRR K, L) Matrix (rface Surface Surface	Mottles % 10 10 10 Indicator	Type C C C C s for Proble A10 - 2 cm A16 - Coast S3 - 5 cm M S7 - Dark S S8 - Polyval S9 - Thin Da S9 - Thin Da F12 - Iron-M F19 - Piedm	Location Locati	(e.g. clay, sand, loam) loam silt loam loam loam 49B) K, L, R) LRR K, L, R) (LRR K, L, R) S (LRR K, L, R) S (MLRA 149B)
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bogroup): pogroup): potion (Describe to Depth 3 7 10 14 20 Soil Field Ir A1- Histosol A2 - Histic E, A3 - Black H 44 - Hydroge A5 - Stratifier A11 - Deplet A12 - Thick If S1 - Sandy N S4 - Sandy O S4 - Sandy O S4 - Sandy O	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he opipedon istic en Sulfide d Layers ed Below Dark Surface Oark Surface Oduck Mineral Bleyed Matrix	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Polyn \$9 - Thin \$1 - Loan \$7 - Depli \$6 - Redc(\$7 - Depli	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 W Surface (LRR R, MLRA 1498) Mineral (LRR K, L) Matrix (rface Surface Surface	Mottles % 10 10 10 Indicator	Type C C C C S for Proble A10 - 2 cm A16 - Coast S - 5 cm M S - Dark S S - Polyval S - Polyval S - Iron-M TA6 - Mesic	Location Locati	(e.g. clay, sand, loam) loam silt loam loam loam 49B) K, L, R) LRR K, L, R) (LRR K, L, R) S (LRR K, L, R) S (MLRA 149B)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A11 - Deplet A12 - Thick I S1 - Sandy N S4 - Sandy G S5 - Sandy F	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface Park Surface Park Surface Muck Mineral Sleyed Matrix ledox	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Polyn \$9 - Thin \$1 - Loan \$7 - Depli \$6 - Redc(\$7 - Depli	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 W Surface (LRR R, MLRA 1498) Mineral (LRR K, L) Matrix (rface Surface Surface	Mottles % 10 10 10 Indicator	Type C C C C s for Proble A16 - Coast S3 - 5cm M S7 - Dark S 88 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm T146 - Mesic TF2 - Red F	Location Locati	(e.g. clay, sand, loam) loam silt loam loam 49B) K, L, R) LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (MIRA 149B) 45, 149B)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir 41- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier A12 - Thick I S1 - Sandy N S4 - Sandy N S6 - Stripped S6 - Stripped	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface Park Surface Park Surface Muck Mineral Sleyed Matrix ledox	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Polyn \$9 - Thin \$1 - Loan \$7 - Depli \$6 - Redc(\$7 - Depli	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 W Surface (LRR R, MLRA 1498) Mineral (LRR K, L) Matrix (rface Surface Surface	Mottles % 10 10 10 Indicator	Type C C C C sfor Proble A10 - 2 cm M A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin De F12 - Iron-N F19 - Piedm TA6 - Mesic	Location Locati	(e.g. clay, sand, loam) loam silt loam loam 49B) K, L, R) LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (MIRA 149B) 45, 149B)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir 41- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier A12 - Thick I S1 - Sandy N S4 - Sandy N S6 - Stripped S6 - Stripped	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he pipedon istic an Sulfide d Layers ed Below Dark Surface Park Surface Park Surface Muck Mineral Sleyed Matrix Redox I Matrix	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Polyn \$9 - Thin \$1 - Loan \$7 - Depli \$6 - Redc(\$7 - Depli	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 W Surface (LRR R, MLRA 1498) Mineral (LRR K, L) Matrix (rface Surface Surface	Mottles % 10 10 10 Indicator	Type C C C C C sfor Proble A10 - 2 cm H36 - Coast S3 - 5 cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very Other (Expla	Location Locati	(e.g. clay, sand, loam) loam silt loam loam loam 49B) K, L, R) LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (S (MLRA 149B) 45, 149B)
Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	School Stripper S7 - Dark Su	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he pipedon istic an Sulfide d Layers ed Below Dark Surface Park Surface Park Surface Muck Mineral Sleyed Matrix Redox I Matrix	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Polyn \$9 - Thin \$1 - Loan \$7 - Depli \$6 - Redc(\$7 - Depli	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 W Surface (LRR R, MLRA 1498) Mineral (LRR K, L) Matrix (rface Surface Surface	Mottles % 10 10 10 Indicator Indicators cdisturbed cdi	Type C C C C C sfor Proble A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very Other (Expla	Location Locati	(e.g. clay, sand, loam) loam silt loam loam loam 49B) K, L, R) LRR K, L, R) (LRR K, L, R) S (LRR K, L, R) S (MLRA 149B) 45, 149B) face must be present, unless
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 4 8 11 15 NRCS Hydric	Bottom Depth 3 7 10 14 20 Soil Field Ir 41- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifier A12 - Thick I S1 - Sandy N S4 - Sandy N S6 - Stripped S6 - Stripped	the depth needed to document the inc Horizon 1 2 3 4 5 ndicators (check he pipedon istic an Sulfide d Layers ed Below Dark Surface Park Surface Park Surface Muck Mineral Sleyed Matrix Redox I Matrix	Color (II 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 2/1 3/2 4/2 4/1 6/1 tors are	% 100 90 90 90 90 not prese \$8 - Polyn \$9 - Thin \$1 - Loan \$7 - Depli \$6 - Redc(\$7 - Depli	10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 4/6 4/6 4/6 W Surface (LRR R, MLRA 1498) Mineral (LRR K, L) Matrix (rface Surface Surface	Mottles % 10 10 10 Indicator	Type C C C C C sfor Proble A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very Other (Expla	Location Locati	(e.g. clay, sand, loam) loam silt loam loam loam 49B) K, L, R) LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (S (MLRA 149B) 45, 149B)



WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site:	Readfield Delineation					Wetland ID: 01GPA Sample Point Netland
VEGETATION	(Species identified in all upper	case are non-native	e species.)			
Tree Stratum (Plo	t size: 10 meter radius)					Danibana Tari Wadahari
4	Species Name	=	% Cover [Dominant 	Ind.Status	Dominance Test Worksheet
1. 2.						Number of Deminent Species that are ODL FACIAL or FACI
3.						Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
3. 4.						Total Number of Deminant Coopies Agrees All Strates (D)
5.						Total Number of Dominant Species Across All Strata: 2 (B)
6.						Descent of Deminant Species That Are ODL FACIAL or FAC: 100.09/ (A/D)
7.						Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
8.	<u></u>					Prevalence Index Worksheet
9.						
10.						<u>Total % Cover of:</u> OBL spp. 51
10.		Total Cover =	0			··· ———
		Total Cover =	U			· · · · · · · · · · · · · · · · · · ·
Capling/Chruh Ctro	otum (Diet eizer E meter redice)					FAC spp. 8
1.	atum (Plot size: 5 meter radius) Rubus idaeus					FACU spp. 0
2.						Ο L spp
3.					-	Total 82 (A) 121 (B)
4.						10tal 02 (A) 121 (B)
5.						Prevalence Index = B/A = 1.476
6.						Trevalence muex = D/A = 1.470
7.					-	
8.						Hydrophytic Vegetation Indicators:
9.	<u></u>					
10.						☑ Yes☑ No☑ No
10.		Total Cover =	0			☑ Yes ☐ No Dominance Test is > 50%☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
		Total Cover =	U			
Harb Ctratum (Dla	t size. 2 meter redical					Yes No Morphological Adaptations (Explain) *
1.	t size: 2 meter radius) Typha angustifolia		25	Υ	OBL	☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
2.	Scirpus cyperinus		1	N	OBL	* Indicators of hydric soil and wetland hydrology must be
3.	Solidago rugosa		5	N	FAC	present, unless disturbed or problematic.
4.	Onoclea sensibilis		20	N	FACW	Definitions of Vegetation Strata:
5.	Phalaris arundinacea		3	N	FACW	Definitions of Vegetation Strata.
6	Euthamia graminifolia		3	N	FAC	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.	Lythrum salicaria		25	Y	OBL	height (DBH), regardless of height.
8.			23			
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft.
10.						tall.
11.					-	
12.						Herb - All herbaceous (non-woody) plants, regardless of size, and
13.						woody plants less than 3.28 ft. tall.
14.						
15.					-	Woody Vines - All woody vines greater than 3.28 ft. in height.
10.		Total Cover =				
		Total Cover =	02			
Moody Vino Strati	ım (Plot size: 10 meter radius)					
1.						
2.						
3.						Hydrophytic Vegetation Present ☑ Yes ☐ No
4.	<u></u>					Trydrophysio rogoldtion i leacht 🖸 165 🗀 100
5.						
J.		Total Cover =	0			
Remarks:		TOTAL COVEL	<u> </u>			
omano.						
Additional Rer	narke:					
Auditional Ker	iiai n3.					



WETLAND DETERMINATION DATA FORM Northeast and Northcentral Region

Project/Site:	Readfield De	lineation					Stantec Project #:	195602046	6	Date:	10/25/21
Applicant:	Norwich Sola	ır								County:	Kennebec
Investigator #1:	G. Pelletier			Investi	igator #2:			_		State:	ME
Soil Unit: Landform:	Doproccior			Loo	al Relief:		/I/WWI Classification:	:		Wetland ID:	01GPB Wetland
Slope (%):	Depressior 0-3		44.240675		ongitude:			Dotum	: NAD83	Sample Point: Community ID:	Wetland PFO
		ditions on the site ty	44.349675					☑ Yes □		Community ID.	PFO
		or Hydrology □ sig				no, explain	Are normal circumst			1	
		or Hydrology □ signor Hydrology □ nat					✓ Yes	□ No			
SUMMARY OF		or riyarology 🗀 riat	arany probi	ornatio.						ı	
Hydrophytic Ve		sent?			. □ No	ı		Hydric Soils	Present?		☑ Yes □ No
Wetland Hydrol				☑ Yes						Within A Wetlan	
Remarks:	- 37								1 5		
HYDROLOGY											
	ology Indic	ators (Check here i	f indicators	are not	present	П					
Primary				4.0	p. 000	L			Secondary:	1	
	A1 - Surface				B9 - Wate					B6 - Surface Soil	
	☑ A2 - High Water Table ☐ B1:									B10 - Drainage Pa	
	A3 - Saturation B1 - Water M				B15 - Mai C1 - Hydr					B16 - Moss Trim C2 - Dry-Season	
	B2 - Sedimer						spheres on Living Roots			C8 - Crayfish Bur	
	B3 - Drift De			_			educed Iron				isible on Aerial Imagery
	B4 - Algal Ma B5 - Iron Der				C6 - Rece C7 - Thin		eduction in Tilled Soils			D1 - Stunted or S D2 - Geomorphic	
		on Visible on Aerial Ima	agery						H		
		y Vegetated Concave S					,			D4 - Microtopogra	aphic Relief
										D5 - FAC-Neutral	Test
Field Observat	ions:										
Surface Water	Present?	☑ Yes □ No	Depth:	3	(in.)			Wetland Hy	drology Pr	resent?	Yes □ No
Water Table Pr		☑ Yes □ No	Depth:	6	(in.)			wettand my	urology i i	esent:	163 🗆 110
Saturation Pres	ent?	☑ Yes □ No	Depth:	0	(in.)						
Describe Record	ed Data (str	eam gauge, monitorir	ng well, aeri	al photos	s, previous	s inspecti	ons), if available:		N/A		
_											
Remarks:											
SOILS											
SOILS Map Unit Name		0				S	eries Drainage Class:	:			
SOILS Map Unit Name Taxonomy (Sub	group):										
SOILS Map Unit Name Taxonomy (Sub Profile Descrip	ogroup): otion (Describe to				cators.) (Type: C		eries Drainage Class:	Covered/Coated Sand Gra	ains; Location: PL=Po	ore Lining, M=Matrix)	
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	ogroup): otion (Describe to Bottom	the depth needed to document the inc	dicator or confirm the	Matrix			D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra			Texture
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	ogroup): otion (Describe to Bottom Depth	the depth needed to document the inc	dicator or confirm the	Matrix Moist)	%			Covered/Coated Sand Gra	ains; Location: PL=Po	xe Lining, M=Matrix) Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 12	the depth needed to document the inc Horizon 1	Color (N	Matrix Moist) 4/1	% 100		D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra			(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	ogroup): otion (Describe to Bottom Depth	the depth needed to document the inc	dicator or confirm the	Matrix Moist)	%		D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra			(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 12	the depth needed to document the inc Horizon 1	Color (N	Matrix Moist) 4/1	% 100		D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra			(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 12	the depth needed to document the inc Horizon 1	Color (N	Matrix Moist) 4/1	% 100		D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra			(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): htton (Describe to Bottom Depth 12 20	the depth needed to document the inc Horizon 1 2	Color (I	Matrix Moist) 4/1 4/1	% 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=0	Covered/Costed Sand Gra Mottles %	Туре	Location	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): htion (Describe to Bottom Depth 12 20	the depth needed to document the inc Horizon 1 2	Color (P	Matrix Moist) 4/1 4/1	% 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra Mottles %	Type	Location	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): htton (Describe to Bottom Depth 12 20	the depth needed to document the inc Horizon 1 2	Color (I	Matrix Moist) 4/1 4/1	% 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=0	Covered/Costed Sand Gra Mottles %	Туре	Location	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): tion (Describe to Bottom Depth 12 20	the depth needed to document the inc Horizon 1 2	Color (N	Matrix Moist) 4/1 4/1	% 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra Mottles %	Type	Location	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): htion (Describe to Depth 12 20 Soil Field In	the depth needed to document the inc Horizon 1 2	Color (N	Matrix Voist) 4/1 4/1 tors are	% 100 100 not prese	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=0	Covered/Coated Sand Gra Mottles % Indicator	Type rs for Proble	Location	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): ption (Describe to Depth 12 20 Soil Field Ir A1- Histosol	Horizon 1 2 ndicators (check he	Color (N	Matrix Voist) 4/1 4/1 tors are	% 100 100 not prese \$8 - Polyn	=Concentration.	D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 1498)	Mottles % Indicato		Location	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 13	group): htion (Describe to Depth 12 20 Soil Field In	Horizon 1 2 ndicators (check he	Color (N	Matrix Voist) 4/1 4/1 tors are	% 100 100 not prese \$8 - Polyn \$9 - Thin	ent 🗘:	D=Depletion, RM=Reduced Matrix, CS=0	Mottles % Indicato	Type rs for Proble A10 - 2 cm A16 - Coast	Location	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): htion (Describe to Depth 12 20 20 20 20 20 20 20 20 20 20 20 20 20	the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon istic en Sulfide	Color (N	Matrix Moist) 4/1 4/1 tors are	% 100 100 100 not prese S8 - Poly S9 - Thi F1 - Loan F2 - Loan		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) ace (LRR R, MLRA 149B) Wineral (LRR K, L) Matrix	Mottles % Indicato		Location Locati	(e.g. clay, sand, loam) loam sandy loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): ption (Describe to Depth 12 20 20 20 20 20 20 20 20 20 20 20 20 20	Horizon 1 2	Color (N	Matrix Voist) 4/1 4/1 tors are	% 100 100 not prese S8 - Poly S9 - Thin F1 - Loan F3 - Depl		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix X	Mottles % Indicato		Location Locati	(e.g. clay, sand, loam) loam sandy loam (LAPB) (LRR K, L, R) (LRR K, L, R)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13 NRCS Hydric	group): ption (Describe to Depth 12 20 20 20 20 20 20 20 20 20 20 20 20 20	Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface	Color (N	Matrix Moist) 4/1 4/1 tors are	% 100 100 100	ent ‡: value Belo Dark Surf ny Mucky ny Gleyed eted Matri ox Dark So	D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) ACE (LRR R, MLRA 149B) Wineral (LRR K, L) Matrix X urface	Mottles % Indicato	Type rs for Proble A10 - 2 cm A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da	Location Locati	(e.g. clay, sand, loam) loam sandy loam (LRR K, L, R)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13 NRCS Hydric	group): htion (Describe to Depth 12 20 20 20 20 20 20 20 20 20 20 20 20 20	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface	Color (N	Matrix Moist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicato	Type rs for Proble A10 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Dc F12 - Iron-N	Location Locati	(e.g. clay, sand, loam) loam sandy loam (LASB) (LKR K, L, R) (LKR K, L, R) (LKR K, L, R)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 13	group): ption (Describe to Depth 12 20 20 20 20 20 20 20 20 20 20 20 20 20	the depth needed to document the inc Horizon 1 2	Color (N	Matrix Moist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicato	Type	Location Locati	(e.g. clay, sand, loam) loam sandy loam (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (S (MLRA 149B)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 13 NRCS Hydric	group): ption (Describe to Depth 12 20 12 20 14 14 14 15 15 15 16 14 14 14 15 15 16 14 14 15 16 14 15 16 16 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface duck Mineral Sleyed Matrix ledox	Color (N	Matrix Moist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicator	Type rs for Proble A10 - 2 cm A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F	Location Locati	(e.g. clay, sand, loam) loam sandy loam (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (MIRA 149B) 145, 149B)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 13 NRCS Hydric	group): htton (Describe to Depth 12 20 12 20 12 20 14 14 14 15 15 16 14 15 16 14 15 16 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface Auck Mineral Beleyed Matrix Ledox I Matrix	Color (N	Matrix Moist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicato	Type rs for Proble A10 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Dz F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very	Location Locati	(e.g. clay, sand, loam) loam sandy loam (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (MIRA 149B) 145, 149B)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 13 NRCS Hydric	group): htton (Describe to Depth 12 20 12 20 12 20 14 14 14 15 15 16 14 15 16 14 15 16 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface duck Mineral Sleyed Matrix ledox	Color (N	Matrix Voist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicator 'Indicators	rs for Proble A10 - 2 cm A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very of hydrophytic veget	Location Locati	(e.g. clay, sand, loam) loam sandy loam 149B) K. L. R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) IS (MLRA 149B) 145, 149B)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 13 NRCS Hydric	group): htton (Describe to Depth 12 20 12 20 12 20 14 14 14 15 15 16 14 15 16 14 15 16 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface Auck Mineral Beleyed Matrix Ledox I Matrix	Color (N	Matrix Voist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicator Indicators disturbed to	rs for Proble A10 - 2 cm A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very Orlydrophytic veget or problematic.	Location Locati	(e.g. clay, sand, loam) loam sandy loam 149B) K. L. R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) IS (MLRA 149B) 145, 149B)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 13 NRCS Hydric	group): htton (Describe to Depth 12 20 12 20 12 20 14 14 14 15 15 16 14 15 16 14 15 16 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface Auck Mineral Beleyed Matrix Ledox I Matrix	Color (N	Matrix Voist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicator 'Indicators	rs for Proble A10 - 2 cm A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very Orlydrophytic veget or problematic.	Location Locati	(e.g. clay, sand, loam) loam sandy loam 149B) K. L. R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) IS (MLRA 149B) 145, 149B)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 13	group): ption (Describe to Depth 12 20 12 20 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface Auck Mineral Beleyed Matrix Ledox I Matrix	Color (N	Matrix Moist) 4/1 4/1 tors are	% 100 100 100		D=Depletion, RM=Reduced Matrix, CS=COlor (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x virface Surface Surface	Mottles % Indicator Indicators disturbed to	rs for Proble A10 - 2 cm A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very Orlydrophytic veget or problematic.	Location Locati	(e.g. clay, sand, loam) loam sandy loam



WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site:	Readileid Delineation				Wetland ID: OTGPB Sample Point Wetland
VEGETATION	(Species identified in all uppercase are non-native	e species	.)		
Tree Stratum (Pl	ot size: 10 meter radius)				[
	Species Name		Dominant	Ind.Status	Dominance Test Worksheet
1.	Fraxinus nigra	5	Y	FACW	
2.	Fraxinus pennsylvanica	2	N	FACW	Number of Dominant Species that are OBL, FACW, or FAC:1(A)
3.	Pinus strobus	2	N	FACU	
4.	Fagus grandifolia	1	N	FACU	Total Number of Dominant Species Across All Strata: 1 (B)
5.					(',
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
					refer to bottimal species that Ale Obc, FACW, of FAC.
7.					
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. $10 X 1 = 10$
	Total Cover =	10			FACW spp. 22
					FAC spp. 11 X 3 = 33
Sanling/Shrub Str	ratum (Plot size: 5 meter radius)				FACU spp. 15 X 4 = 60
1.	Abies balsamea	2	N	FAC	UPL spp. 0 x 5 = 0
2.		5	N	FACW	Λ 0 =
	Fraxinus nigra				T. (1) 50 (A) (7)
3.	Fraxinus pennsylvanica	3	N	FACW	Total 58 (A) 147 (B)
4.	Rubus idaeus	10	N	FACU	
5.	Acer rubrum	5	N	FAC	Prevalence Index = B/A = 2.534
6.	Tsuga canadensis	2	N	FACU	
7.				-	
8.					Hydrophytic Vegetation Indicators:
9.					✓ Yes ☐ No Rapid Test for Hydrophytic Vegetation
10.					☑ Yes ☐ No Dominance Test is > 50%
	Total Cover =	27			yes □ No Prevalence Index is ≤ 3.0 *
					☐ Yes ☑ No Morphological Adaptations (Explain) *
Herb Stratum (Pl	ot size: 2 meter radius)				☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	Osmundastrum cinnamomeum	2	N	FACW	
2.	Scirpus cyperinus	5	N	OBL	* Indicators of hydric soil and wetland hydrology must be
3.	Carex crinita	5	N	OBL	present, unless disturbed or problematic.
4.	Onoclea sensibilis	5	N	FACW	Definitions of Vegetation Strata:
5.	Matteuccia struthiopteris	2	N	FAC	Definitions of Vegetation offata.
	·	2	N	FAC	Troo
6	Solidago rugosa		IN	FAC	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
7.					rieight (DDi 1), regardiess of neight.
8.					
9.					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.				-	tall.
11.				-	
12.					Herb - All herbaceous (non-woody) plants, regardless of size, and
13.					woody plants less than 3.28 ft. tall.
14.					Woody Vines - All woody vines greater than 3.28 ft. in height.
15.					Woody Vines - All Woody Vines greater than 3.26 ft. in height.
	Total Cover =	21			
Woody Vine Stra	tum (Plot size: 10 meter radius)				
1.					
2.					
3.					Hydrophytic Vegetation Present ☑ Yes ☐ No
					inyurophytic vegetation riesent 🖂 168 🗀 100
4.					
5.					
	Total Cover =	0			
Remarks:					
Additional Re	marke:				
Auditional Re	iliai no.				
İ					



WETLAND DETERMINATION DATA FORM Northeast and Northcentral Region

Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Bottom Depth 4 6 12 12 12 12 12 12 12 12 12 12 12 12 12	Horizon 1 2 3 adicators (check here) bipedon stic in Sulfide blayers blad Below Dark Surface black Mineral bleyed Matrix ledox	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 not prese \$8 - Polyn \$9 - Thin		x urface Surface	Mottles % Indicator 'Indicators	Type rs for Proble A10 - 2 cm A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very of hydrophytic veget or problematic.	Location Locati	(K, L, R) (LRR K, L, R) ((LRR K, L) -) 5 (LRR K, L, R) IS (MLRA 149B) 45, 149B)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Bottom Depth 4 6 12 12 12 12 12 12 12 12 12 12 12 12 12	Horizon 1 2 3 adicators (check here) bipedon stic en Sulfide di Layers ad Below Dark Surface Dark Surface luck Mineral sleyed Matrix ledox Matrix	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 100 st - Polyo S8 - Polyo S9 - Thin F1 - Loan F2 - Loan F3 - Depli F6 - Redc F7 - Depli		D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ACE (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x urface Surface	Mottles % Indicator 'Indicators	rs for Proble A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very Other (Expla	Location Locati	(e.g. clay, sand, loam) loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Depth 4 6 12 12 12 14 14 15 15 15 16 14 17 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 3	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 100 st - Polyo S8 - Polyo S9 - Thin F1 - Loan F2 - Loan F3 - Depli F6 - Redc F7 - Depli		D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ACE (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x urface Surface	Mottles % Indicato	rs for Proble A16 - Coast S3 - 5cm M S7 - Dark S S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F	Location Locati	(e.g. clay, sand, loam) loam loam loam 49B) K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (S (LRR K, L, R) (S (MLRA 149B) 145, 149B)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Depth 4 6 12 12 12 14 14 15 15 16 14 14 14 15 15 16 14 14 15 16 14 15 16 14 15 16 14 15 16 14 15 16 14 15 16 14 15 16 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 3 adicators (check he bipedon stic in Sulfide d Layers ed Below Dark Surface bleyed Matrix	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 100 st - Polyo S8 - Polyo S9 - Thin F1 - Loan F2 - Loan F3 - Depli F6 - Redc F7 - Depli		D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ACE (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x urface Surface	Mottles % Indicato	Type rs for Proble A10 - 2 cm A16 - Coast S3 - 5 cm M S7 - 5 cm K S8 - Polyval S9 - Thin D-M F12 - Iron-M TA6 - Mesic	Location Locati	(e.g. clay, sand, loam) loam loam loam 49B) K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (MLRA 149B)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Bottom Depth 4 6 12 12 12 12 12 12 12 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 3 3	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 100 st - Polyo S8 - Polyo S9 - Thin F1 - Loan F2 - Loan F3 - Depli F6 - Redc F7 - Depli		D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ACE (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x urface Surface	Covered/Coated Sand Gra Mottles % Indicato		Location Locati	(e.g. clay, sand, loam) loam loam loam 49B) K, L, R) (LRR K, L, R) (LRR K, L, R) (LRR K, L, R) (MLRA 149B)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Bottom Depth 4 6 12 12 12 12 12 12 12 12 12 12 12 12 12	Horizon 1 2 3 adicators (check here) bipedon stic in Sulfide d Layers ad Below Dark Surface bark Surface	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2	% 100 100 100 100 s8 - Poly S9 - Thin F1 - Loan F2 - Loan F3 - Deply F6 - Redc	ent ‡: value Belc Dark Surf ny Mucky ny Gleyed eted Matri ox Dark So	D=Depietion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ACE (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix X urface	Mottles % Indicato	Type rs for Proble A16 - Coast S3 - 5cm M S7 - Dark S 88 - Polyval S9 - Thin Da	Location Locati	(e.g. clay, sand, loam) loam loam loam (49B) K, L, R) (LRR K, L, R)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Depth 4 6 12 12 12 14 14 15 15 16 14 14 14 14 14 14 14 14 14 14 14 14 14	Horizon 1 2 3 adicators (check he objeedon stic in Sulfide d Layers	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 100 not prese S8 - Poly S9 - Thin F1 - Loan F3 - Depl	ent ‡: value Belc Dark Surfny Gleyed eted Matri	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix X	Mottles % Indicato		Location Locati	(e.g. clay, sand, loam) loam loam loam (49B) K, L, R) (LRR K, L, R)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	ogroup): ption (Describe to Bottom Depth 4 6 12 12 12 14 14 15 15 15 16 16 17 17 16 17 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16 17 16	Horizon 1 2 3 adicators (check he objedon stic an Sulfide	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 not prese \$8 - Polyn \$9 - Thin F1 - Loan F2 - Loan		D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix	Mottles % Indicato		Location Locati	(e.g. clay, sand, loam) loam loam loam LLRR K, L, R)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	pogroup): ption (Describe to Bottom Depth 4 6 12	Horizon 1 2 3 adicators (check he	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 not prese S8 - Poly S9 - Thin F1 - Loan		D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ace (LRR R, MLRA 149B) Mineral (LRR K, L)	Mottles % Indicato	Type	Location matic Soils Muck (LRR K, L, MLRA 1 Prairie Redox (LRR LUCK) Peat of Peat ((e.g. clay, sand, loam) loam loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10 NRCS Hydric	ogroup): ption (Describe to Bottom Depth 4 6 12	Horizon 1 2 3 adicators (check he	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 not prese \$8 - Polyn	=Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 1498)	Mottles % Indicato		Location matic Soils ¹ Muck (LRR K, L, MLRA 1	(e.g. clay, sand, loam) loam loam loam 49B)
SOILS Map Unit Name Taxonomy (Sul Profile Descri Top Depth 0 5 10	ogroup): ption (Describe to Bottom Depth 4 6 12 Soil Field In	Horizon 1 2 3	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2 tors are	% 100 100 100 not prese	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles % Indicator	Type rs for Proble	Location matic Soils ¹	(e.g. clay, sand, loam) loam loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descri Top Depth 0 5 10	ogroup): ption (Describe to Bottom Depth 4 6 12	Horizon 1 2 3	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2	% 100 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	Type	Location	(e.g. clay, sand, loam) loam loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10	ogroup): ption (Describe to Bottom Depth 4 6 12	Horizon 1 2 3	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2	% 100 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	Type	Location	(e.g. clay, sand, loam) loam loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0 5 10	ogroup): ption (Describe to Bottom Depth 4 6 12	Horizon 1 2 3	Color (N 10YR 10YR 5YR	Matrix Moist) 3/1 4/1 5/2	% 100 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	Туре	Location	(e.g. clay, sand, loam) loam loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descri Top Depth 0 5	pogroup): ption (Describe to Bottom Depth 4 6	Horizon 1	Color (N 10YR 10YR	Matrix Moist) 3/1 4/1	% 100 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra		1	(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descri Top Depth 0 5	pogroup): ption (Describe to Bottom Depth 4 6	Horizon 1	Color (N 10YR 10YR	Matrix Moist) 3/1 4/1	% 100 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra		1	(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descri Top Depth 0 5	pogroup): ption (Describe to Bottom Depth 4 6	Horizon 1	Color (N 10YR 10YR	Matrix Moist) 3/1 4/1	% 100 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra		1	(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth 0	pogroup): ption (Describe to Bottom Depth 4	the depth needed to document the inc Horizon 1	Color (N	Matrix Moist) 3/1	% 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra		1	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth	ogroup): ption (Describe to Bottom Depth	the depth needed to document the inc	dicator or confirm the	Matrix Moist)	%		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra		1	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sul Profile Descri	ogroup): ption (Describe to Bottom	the depth needed to document the inc	dicator or confirm the	Matrix			D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra		1	
SOILS Map Unit Name Taxonomy (Sul Profile Descri	ogroup): ption (Describe to		licator or confirm the		cators.) (Type: C			Covered/Coated Sand Gra	ains; Location: PL=Po	re Lining, M=Matrix)	Texture
SOILS Map Unit Name Taxonomy (Sul	ogroup):			absence of indi	cators.) (Type: C				ains; Location: PL=Po	re Lining, M=Matrix)	
SOILS Map Unit Name		0				S	Geries Drainage Class:	:			
SOILS	j.	n				Ś	Geries Drainage Class				
Remarks:											
Pomarko:											
	ueu Dala (SII	eam gauge, monitorir	ig weil, aeri	ai pi10108	s, previous	mspecti	ons), ii available:		IN/A		
			· ·		,	inena ati	one) if available:		N/A		
Saturation Pres		☑ Yes ☐ No ☑ Yes ☐ No	Depth: Depth:	0	(in.) (in.)						
Surface Water Water Table Pr		☑ Yes ☐ No ☑ Yes ☐ No	Depth:	3 6	(in.) (in.)			Wetland Hy	drology Pr	esent?	Yes □ No
Field Observa		ElV E N-	Danatha	2	(in)						
Field Observe									Ц	D5 - FAC-Neutral	rest
	B8 - Sparsely	Vegetated Concave S	Surface							D4 - Microtopogra D5 - FAC-Neutral	
		on Visible on Aerial Ima			Other (Ex	plain in R	emarks)				
	B5 - Iron Dep				Co - Rece C7 - Thin					D2 - Geomorphic	
	B3 - Drift Dep B4 - Algal Ma						educed Iron eduction in Tilled Soils			C9 - Saturation Vi D1 - Stunted or Si	isible on Aerial Imagery
	B2 - Sedime	nt Deposits			C3 - Oxid	ized Rhizo	spheres on Living Roots			C8 - Crayfish Buri	rows
	A3 - Saturation B1 - Water M				B15 - Mai C1 - Hydr					B16 - Moss Trim C2 - Dry-Season	
_	A2 - High Water Table					atic Faun	a			B10 - Drainage Pa	
	A1 - Surface	Water		√	B9 - Wate	er-Stained	Leaves			B6 - Surface Soil	Cracks
Wetland Hydr Primary		ators (Check here i	t indicators	are not	present				Secondary:		
HYDROLOGY											
Remarks:											
Wetland Hydro				☑ Yes						Within A Wetlan	
Hydrophytic Ve		sent?			. □ No			Hydric Soils	Present?		☑ Yes □ No
SUMMARY OF		or riyarology 🗀 riat	urally probl	emane:			_ 100				
		or Hydrology □ sig or Hydrology □ nat					Are normal circumsta ☑ Yes	ances presen	11.7		
		ditions on the site ty				no, explain					
Slope (%):	0-3		44.346054		ongitude:				NAD83	Community ID:	PFO
	Depression	1		Loc	al Relief:					Sample Point:	Wetland
Landform:	G. Felletlei			IIIVESII	igator #2.		/I/WWI Classification:			Wetland ID:	01GPC
Soil Unit: Landform:	C Pollotion	r		Invocti	igator #2:	I Pollo	tion			County: State:	Kennebec ME
Landform:	Norwich Sola						Stantec Project #:	195602046	Ď	Date:	10/25/21



WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site:	Readfield Delineation				Wetland ID: 01GPC Sample Point Netland
VEGETATION	(Species identified in all uppercase are non-native	e species)			
	ot size: 10 meter radius)	эрсоюз.,			
	Species Name	% Cover		Ind.Status	Dominance Test Worksheet
1.	Fraxinus nigra	10	N	FACW	
2.	Acer rubrum	10	N	FAC	Number of Dominant Species that are OBL, FACW, or FAC:(A)
3. 4.	Fraxinus pennsylvanica Fagus grandifolia	10 5	N N	FACU	Total Number of Dominant Species Across All Strata: 1 (B)
5.	Thuja occidentalis	10	N	FACW	Total Number of Dominant Species Across All Strata.
6.	Abies balsamea	20	Y	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.					(12)
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. 7
	Total Cover =	65			FACW spp. $\frac{43}{}$ $x 2 = \frac{86}{}$
					FAC spp. 37 $\times 3 = 111$
	atum (Plot size: 5 meter radius)				FACU spp 5
1.	Abies balsamea	2	N	FAC	UPL spp. $0 x 5 = 0$
2.	Acer rubrum	2	N	FAC	
3.	Fraxinus pennsylvanica	1	N	FACW	Total 92 (A) 224 (B)
4.					Double of the DA
5. 6.					Prevalence Index = B/A = 2.435
7.					
8.					Hydrophytic Vegetation Indicators:
9.					✓ Yes ☐ No Rapid Test for Hydrophytic Vegetation
10.					✓ Yes ☐ No Dominance Test is > 50%
	Total Cover =	5			
					☐ Yes ☑ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	ot size: 2 meter radius)				☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	Osmundastrum cinnamomeum	10	N	FACW	* Indicators of hydric soil and wetland hydrology must be
2.	Scirpus cyperinus	5	N	OBL	present, unless disturbed or problematic.
3.	Dryopteris intermedia	3	N	FAC	
4.	Onoclea sensibilis	2	N	FACW	Definitions of Vegetation Strata:
5.	Typha angustifolia	2	N	OBL	Trac
6					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
7. 8.					Holgh (557), regulation of holgh
9.					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft.
10.					tall.
11.					
12.					Herb - All herbaceous (non-woody) plants, regardless of size, and
13.					woody plants less than 3.28 ft. tall.
14.					
15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Cover =	22			
	um (Plot size: 10 meter radius)				
1.					
2.					Hydrophytic Vogetetien Brecent Vog D. N.
3. 4.					Hydrophytic Vegetation Present ☑ Yes ☐ No
5.					
<u> </u>	Total Cover =	0			
Remarks:	. 3.2. 30701 –				
Additional Ren	marks:				



WETLAND DETERMINATION DATA FORM Northeast and Northcentral Region

Project/Site: Applicant: Investigator #1: Soil Unit:		ar			gator #2:	NW	/I/WWI Classification:	195602046	;	Date: County: State: Wetland ID:	10/25/21 Kennebec ME 01GPD
Landform: Slope (%):	Depressior 0-3		44.348649		al Relief: ongitude:			Datum:	NAD83	Sample Point: Community ID:	Wetland PEM/PFO
		ditions on the site ty							No	Community ID.	PEIW/PFO
		or Hydrology □ sig					Are normal circumsta			1	
		or Hydrology □ nat					Yes	□ No ˙			
SUMMARY OF											
Hydrophytic Ve				Yes				Hydric Soils			☑ Yes □ No
Wetland Hydro	logy Present	!?		Yes	□ No			Is This Sam	pling Point \	Within A Wetlar	nd? 🛮 Yes 🗏 No
Remarks:											
HYDROLOGY											
	alamata di	-1 (Obb	f !!! t								
Wetland Hydr Primary		ators (Check here i	findicators	are not	present				Secondary:		
	A1 - Surface A2 - High Wa A3 - Saturati B1 - Water N B2 - Sedimel B3 - Drift Del B4 - Algal Ma B5 - Iron Da B7 - Inundati B8 - Sparsel	ater Table on Aarks nt Deposits posits at or Crust			C4 - Pres	uatic Fauna of Deposits ogen Sulfi ized Rhizo ence of Ra ent Iron Re Muck Sur	de Odor sspheres on Living Roots educed Iron eduction in Tilled Soils face			B6 - Surface Soil B10 - Drainage P B16 - Moss Trim C2 - Dry-Season C8 - Crayfish Bur C9 - Saturation V D1 - Stunted or S D2 - Geomorphic D3 - Shallow Aqu D4 - Microtopogr. D5 - FAC-Neutra	atterns Lines Water Table rows isible on Aerial Imagery tressed Plants Position itard aphic Relief
Field Observa		_		_							
Surface Water Water Table Pr		☑ Yes ☐ No ☑ Yes ☐ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes □ No
Saturation Pres		☑ Yes □ No ☑ Yes □ No	Depth: Depth:		(in.) (in.)						
					(,	. !	ifil-bl		N/A		
	ieu Dala (Sil	eam gauge, monitori	ng wen, aen	iai priotos	s. Dievious	รากรอยเดิน			IN/A		
Romarke:					,,		ono), ii availabio.				
Remarks:					,,		ono), ii availabio.				
Remarks:				·	71		ono), ii availabio.				
	e:	0			,,	·	eries Drainage Class:				
SOILS Map Unit Name Taxonomy (Sul	ogroup):					S	eries Drainage Class:				
SOILS Map Unit Name Taxonomy (Sul Profile Descri	ogroup): otion (Describe to			absence of indi		S		Covered/Coated Sand Gra		re Lining, M=Matrix)	
SOILS Map Unit Name Taxonomy (Sul Profile Descrip	ogroup): otion (Describe to Bottom	the depth needed to document the in	dicator or confirm the	absence of indi	cators.) (Type: C	S	eries Drainage Class: D-Depletion, RM-Reduced Matrix, CS-C	Covered/Coated Sand Gra	ins; Location: PL=Por		Texture
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth	ogroup): otion (Describe to Bottom Depth	the depth needed to document the in-	dicator or confirm the	e absence of indi Matrix Moist)	cators.) (Type: C	S	eries Drainage Class:	Covered/Coated Sand Gra		re Lining, M=Matrix) Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 12	the depth needed to document the in-	dicator or confirm the Color (I	Matrix Moist) 2/1	cators.) (Type: C	S=Concentration,	eries Drainage Class: D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	ins; Location: PL=Po		(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sul Profile Descrip Top Depth	ogroup): otion (Describe to Bottom Depth	the depth needed to document the in-	dicator or confirm the	e absence of indi Matrix Moist)	cators.) (Type: C	S	eries Drainage Class: D-Depletion, RM-Reduced Matrix, CS-C	Covered/Coated Sand Gra	ins; Location: PL=Por		(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 12	the depth needed to document the in-	dicator or confirm the Color (I	Matrix Moist) 2/1	cators.) (Type: C	S=Concentration,	eries Drainage Class: D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	ins; Location: PL=Po		(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 12	the depth needed to document the in-	dicator or confirm the Color (I	Matrix Moist) 2/1	cators.) (Type: C	S=Concentration,	eries Drainage Class: D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	ins; Location: PL=Po		(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0	pgroup): otion (Describe to Bottom Depth 12	the depth needed to document the in-	dicator or confirm the Color (I	Matrix Moist) 2/1	cators.) (Type: C	S=Concentration,	eries Drainage Class: D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	ins; Location: PL=Po		(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 2	ogroup): otion (Describe to Bottom Depth 12 12	the depth needed to document the inc Horizon 1 2	color (I	absence of indi Matrix Moist) 2/1 3/2	% 100 90	S=-Concentration.	eries Drainage Class: D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6	Covered/Coated Sand Gra Mottles % 10	ins; Location: PL=Por	Location	(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 2	ogroup): btion (Describe to Bottom Depth 12 12	the depth needed to document the incompany to the incom	dicator or confirm the Color (I 10YR 10YR	habsence of India Matrix Moist) 2/1 3/2	96 100 90	SS=Concentration.	eries Drainage Class: D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) 4/6	Covered/Coated Sand Gra Mottles % 10	Type C	Location	(e.g. clay, sand, loam) loam loam
SOILS Map Unit Name Taxonomy (Sult Profile Descrip Top Depth 0 2 NRCS Hydric	pgroup): Dition (Describe to Depth 12 12 12 12 12 12 12 12 12 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	the depth needed to document the incidence of the depth needed to document the incidence of the depth of the	Color (I 10YR 10YR ere if indica	Matrix Moist) 2/1 3/2 ttors are	% 100 90 not prese S8 - Poly S9 - Thin F1 - Loan F3 - Depli F6 - Redc F7 - Depli F8 - Redc	SS=-Concentration. 10YR 10YR	eries Drainage Class: D=Depietion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 w Surface (LRR R, MLRA 149B) AGE (LRR R, MLRA 149B) Wineral (LRR K, L) Matrix c Irface Surface	Covered/Coated Sand Gra Mottles % 10 Indicator	Type C C Type C Fig. 400 - 2 cm l A16 - Coast S3 - 5cm Mt S7 - Dark Si S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red P TF12 - Very Other (Expla of hydrophytic vegetar or problematic.	Location Location Location Location Location Location Location Location Muck (LRR K, L MLRA Prairie Redox (LRR K, L MLRA Prairie Redox (LRR K, L MLRA Prairie Redox (LRR K, L MLRA Location Locat	(e.g. clay, sand, loam) loam loam 149B) K, L, R) (LRR K, L, R) (LRR K, L, R) (IS (MLRA 149B) 145, 149B) face must be present, unless
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 2 NRCS Hydric	Degroup): Describe to Describe to Depth 12 12 12 12 Soil Field Ir A1- Histosol A2 - Histic E, A3 - Black H A4 - Hydroge A5 - Stratifiee A12 - Thick I S1 - Sandy N S4 - Sandy N S4 - Sandy S S5 - Sandy F S6 - Stripped	the depth needed to document the incomplete the depth needed to document the incomplete the depth of the dept	Color (I 10YR 10YR ere if indica	Matrix Moist) 2/1 3/2 tors are	% 100 90 not prese S8 - Poly S9 - Thin F1 - Loan F3 - Depli F6 - Redc F7 - Depli F8 - Redc	SS=-Concentration. 10YR 10YR	eries Drainage Class: D=Depietion, RM=Reduced Matrix, CS=C Color (Moist) 4/6 w Surface (LRR R, MLRA 149B) AGE (LRR R, MLRA 149B) Wineral (LRR K, L) Matrix c Irface Surface	Covered/Coated Sand Gra Mottles % 10 Indicator Indicators Indicators	Type C C Type C Fig. 400 - 2 cm l A16 - Coast S3 - 5cm Mt S7 - Dark Si S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red P TF12 - Very Other (Expla of hydrophytic vegetar or problematic.	Location Location Location Location Location Location Location Location Muck (LRR K, L MLRA Prairie Redox (LRR K, L MLRA Prairie Redox (LRR K, L MLRA Prairie Redox (LRR K, L MLRA Location Locat	(e.g. clay, sand, loam) loam loam 149B) RK, L, R) (LRR K, L, R) (LRR K, L, R) 5 (LRR K, L, R) ils (MLRA 149B) 145, 149B)



WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site:	Readfield Delineation				Wetland ID: 01GPD Sample Point Netland
VEGETATION	(Species identified in all uppercase are nor	n-native species.)			
Tree Stratum (Pl	ot size: 10 meter radius)				
	Species Name	% Cover Do		Ind.Status	Dominance Test Worksheet
1.	Fraxinus nigra	10	N	FACW	
2.					Number of Dominant Species that are OBL, FACW, or FAC:(A)
3.				-	
4.					Total Number of Dominant Species Across All Strata: 1 (B)
5.					· ——·
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.					(.,
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.			-		
10.	Total Co				
	Total Co	ver = 10			
					FAC spp. 7
	atum (Plot size: 5 meter radius)			E40	FACU spp. 10 $x 4 = 40$
1.	Pinus strobus	2	N	FAC	UPL spp. 0 x 5 = 0
2.	Rubus idaeus	10	N	FACU	
3.					Total 42 (A) 106 (B)
4.					
5.					Prevalence Index = B/A = 2.524
6.					
7.				-	
8.				-	Hydrophytic Vegetation Indicators:
9.					☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
10.				-	
	Total Co	ver = 12			Yes ☐ No Prevalence Index is ≤ 3.0 *
					☐ Yes ☑ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	ot size: 2 meter radius)				☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	Onoclea sensibilis	10	Υ	FACW	1 100 E 110 1 1000 E 1100 T 1000 E 1100 T 1000 E 1100 T 1000 E 1100 E
2.	Solidago rugosa	5	N	FAC	* Indicators of hydric soil and wetland hydrology must be
3.	Osmunda spectabilis	2	N	OBL	present, unless disturbed or problematic.
4.	Typha angustifolia	3	N	OBL	Definitions of Vegetation Strata:
5.		3	IN	ODL	Definitions of Vegetation Strata.
					Troo
6					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
7.					noight (BBH), regardeds or holght.
8.					O I' (OI I Wearly plants less than 2 in DRII and exector than 2 20 ft
9.					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.					
11.					
12.					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
13.					woody plants less tildit 3.20 it. tall.
14.					
15.				-	Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Co	ver = 20			
Woody Vine Strat	um (Plot size: 10 meter radius)				
1.					
2.					
3.					Hydrophytic Vegetation Present ☑ Yes ☐ No
4.					, ap, 1030 a. 1000 a. 100
5.					
J.	Total Co				
Remarks:	i diai Co	voi – U			
Remarks.					
Additional Re	marks:				



WETLAND DETERMINATION DATA FORM Northeast and Northcentral Region

Applicant: Norwich Solar Investigator #1: G. Pelletier Investigator #2: L. Pelletier Soil Unit: NWI/WWI Classification: State: ME Wetland flow: Depression	Project/Site:	Readfield De	lineation					Stantec Project #:	195602046	;	Date:	10/25/21
Welland Dispression		Norwich Sola	ır					•			County:	Kennebec
Landform: Depression Landform: Load Relief: Concave Beyes Song (We) Concave Song (We) Concave Song (We) Concave	Investigator #1:	G. Pelletier			Investi	gator #2:	L. Pelle	tier			State:	ME
Sope (%) O.S Latitude: 41 542598 Longitude: -68 56055 Datum: NADB3 Ave Climatorhydrologic conditions on the site bytecial or this time of year? me oceann memors 7 4 8	Soil Unit:						NW	/I/WWI Classification:			Wetland ID:	01GPE
Are communicationly clouds conditions on the site byteral for this time of year? one sepanners	Landform:	Depression	n .		Loc	al Relief:	Concav	e			Sample Point:	Wetland
Ace Vegetation Soll Or PHydrology adjuntantly plotolematic? Ace normal circumstances present? Yes No No Hydroc Soits Present? Yes No No Hydroc Soits Present? Yes No No No No No No No N									Datum:	NAD83	Community ID:	PEM
Acc Vegetation Soil Or Hydrology naturally problematic? Yes No No Hydrology Resent? Yes No No No Strike Sangling Persont? Yes No No No No No No No N	Are climatic/hyd	drologic cond	ditions on the site ty	pical for thi	s time of	year? (If	no, explain i	n remarks)	☑ Yes □	No	1	
SUMMARY OF FINDINGS Wetland Hydrology Present?	Are Vegetation	□, Soil □,	or Hydrology □ sig	nificantly di	sturbed?	?		Are normal circumst	ances presen	t?		
Mydrach Mydrology Present?	Are Vegetation	□, Soil □,	or Hydrology □ nat	urally probl	lematic?			Yes	□ No			
Magnatic	SUMMARY OF	FINDINGS										
Wetland Hydrology Indicators (Check here if indicators are not present	Hydrophytic Ve	getation Pre	sent?		Yes	□ No)		Hydric Soils	Present?		
Wetland Hydrology Indicators (Check here if Indicators are not present	Wetland Hydrol	ogy Present	?		☑ Yes	□ No	ı		Is This Sam	pling Point \	Within A Wetlar	nd? □ Yes ■ No
Metiand Hydrology Indicators (Check here if indicators are not present	Remarks:											
Metiand Hydrology Indicators (Check here if indicators are not present												
A1 - Surface Water	HYDROLOGY											
A1 - Surface Water	Wetland Hydro	oloav Indic	ators (Check here i	f indicators	are not	present	П					
A2 - High Water Table					4.0	p. 000	ı			Secondary:		
2 A3 - Saturation												
B 1 - Water Marks C1 - Hydrogen Sulfide Odor C2 - Dry-Season Water Table C3 - Oddized Rhitospheres on Living Roots C3 - Cry-Season Water Table C3 - Oddized Rhitospheres on Living Roots C3 - Cry-Season Water Table C3 - Oddized Rhitospheres on Living Roots C3 - Cry-Season Water Table C3 - Oddized Rhitospheres on Living Roots C3 - Cry-Season Water Table C3 - Oddized Rhitospheres on Living Roots C3 - Cry-Season Water Table C3 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C4 - Cartifical Rhitospheres C												
B2 - Sediment Deposits												
B3 - Drift Deposits	_											
B4 - Agal Mail or Crust												
B5 - Inch Deposits												
B8 - Sparsely Vegetated Concave Surface		B5 - Iron Dep	oosits			C7 - Thin	Muck Sur	face			D2 - Geomorphic	Position
Seried Observations: Surface Water Present? Yes						Other (Ex	plain in Re	emarks)				
Field Observations: Surface Water Present?		B8 - Sparsely	y Vegetated Concave S	Surface								
Surface Water Present?								ı			D5 - FAC-Neuliai	rest
Water Table Present?												
Saturation Present?				Depth:		, ,			Wetland Hy	drology Pr	esent?	Yes □ No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A Remarks: SOILS			_	Depth:	6	(in.)			Trottana 119	u. 0.0gy		100 = 110
Remarks:	Saturation Pres	ent?	☑ Yes 🔲 No	Depth:	0	(in.)						
Solis Soli	Describe Record	led Data (str	eam gauge, monitorii	ng well, aeri	al photos	, previous	s inspecti	ons), if available:		N/A		
Map Unit Name:	D											
Map Unit Name:	Remarks:											
Taxonomy (Subgroup):	Remarks:											
Profile Description Descri	SOILS											
Profile Description Descri	SOILS	e:	0				S	eries Drainage Class:				
Depth Depth Horizon Color (Moist) % Color (Moist) % Type Location (e.g. clay, sand, loam)	SOILS Map Unit Name		0				S	eries Drainage Class:	:			
Depth Depth Horizon Color (Moist) % Color (Moist) % Type Location (e.g. clay, sand, loam)	SOILS Map Unit Name Taxonomy (Sub	group):			absence of indic	cators.) (Type: C		<u> </u>		ins; Location: PL=Po	re Lining, M=Matrix)	
11	SOILS Map Unit Name Taxonomy (Sub Profile Descrip	ogroup): otion (Describe to				cators.) (Type: C		<u> </u>	Covered/Coated Sand Gra	ins; Location: PL=Po	re Lining, M=Matrix)	Texture
12 14 2 2.5Y 5/2 100	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	ogroup): otion (Describe to Bottom	the depth needed to document the inc	dicator or confirm the	Matrix			D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra	•	1	
NRCS Hydric Soil Field Indicators (check here if indicators are not present	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	ogroup): otion (Describe to Bottom Depth	the depth needed to document the inc	dicator or confirm the	Matrix Moist)	%		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra	•	1	(e.g. clay, sand, loam)
NRCS Hydric Soil Field Indicators (check here if indicators are not present	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 11	the depth needed to document the inc Horizon 1	Color (I	Matrix Moist) 4/1	% 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra	•	1	(e.g. clay, sand, loam)
NRCS Hydric Soil Field Indicators (check here if indicators are not present	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 11	the depth needed to document the inc Horizon 1	Color (I	Matrix Moist) 4/1	% 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra	•	1	(e.g. clay, sand, loam)
NRCS Hydric Soil Field Indicators (check here if indicators are not present	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 11	the depth needed to document the inc Horizon 1	Color (I	Matrix Moist) 4/1	% 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra	•	1	(e.g. clay, sand, loam)
NRCS Hydric Soil Field Indicators (check here if indicators are not present	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup): otion (Describe to Bottom Depth 11	the depth needed to document the inc Horizon 1	Color (I	Matrix Moist) 4/1	% 100		D=Depletion, RM=Reduced Matrix, CS=C	Covered/Coated Sand Gra	•	1	(e.g. clay, sand, loam)
NRCS Hydric Soil Field Indicators (check here if indicators are not present	SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12	ogroup): tion (Describe to Bottom Depth 11 14	the depth needed to document the inc Horizon 1 2	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2	% 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	Туре	Location	(e.g. clay, sand, loam)
A1- Histosol S8 - Polyvalue Below Surface (LRR R, MLRA 1498) A10 - 2 cm Muck (LRR K, L, MLRA 1498) A16 - Coast Prairie Redox (LRR K, L, R) A18 - Loamy Mucky Mineral (LRR K, L) S3 - 5 cm Mucky Peat of Peat (LRR K, L, R) S7 - Dark Surface (LRR K, L) S3 - 5 cm Mucky Peat of Peat (LRR K, L, R) S7 - Dark Surface (LRR K, L) S7 - Dark Surface (LRR K, L) S7 - Dark Surface (LRR K, L) S8 - Polyvalue Below Surface (LRR K, L) S9 - Thin Dark Surface (LRR K, L) S9 - Thin Dark Surface (LRR K, L) S1 - Sandy Muck Mineral S1 - Sandy Muck Mineral S4 - Sandy Gleyed Matrix S6 - Stripped Matrix T46 - Mesic Spodic (MLRA 1498) T72 - Red Parent Material T72 - Red Parent Material T74 - Very Shallow Dark Surface Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Restrictive Layer (If Observed) Type: rock Depth:14' Hydric Soil Present? Yes No	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12	ogroup): htion (Describe to Bottom Depth 11 14	the depth needed to document the inc Horizon 1 2	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2	% 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	Type	Location	(e.g. clay, sand, loam) loam
A1- Histosol S8 - Polyvalue Below Surface (LRR R, MLRA 1498) A10 - 2 cm Muck (LRR K, L, MLRA 1498) A16 - Coast Prairie Redox (LRR K, L, R) A18 - Loamy Mucky Mineral (LRR K, L) S3 - 5 cm Mucky Peat of Peat (LRR K, L, R) S7 - Dark Surface (LRR K, L) S3 - 5 cm Mucky Peat of Peat (LRR K, L, R) S7 - Dark Surface (LRR K, L) S7 - Dark Surface (LRR K, L) S7 - Dark Surface (LRR K, L) S8 - Polyvalue Below Surface (LRR K, L) S9 - Thin Dark Surface (LRR K, L) S9 - Thin Dark Surface (LRR K, L) S1 - Sandy Muck Mineral S1 - Sandy Muck Mineral S4 - Sandy Gleyed Matrix S6 - Stripped Matrix T46 - Mesic Spodic (MLRA 1498) T72 - Red Parent Material T72 - Red Parent Material T74 - Very Shallow Dark Surface Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Restrictive Layer (If Observed) Type: rock Depth:14' Hydric Soil Present? Yes No	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12	ogroup): htion (Describe to Bottom Depth 11 14	the depth needed to document the inc Horizon 1 2	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2	% 100 100	=Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %	Type	Location	(e.g. clay, sand, loam) loam
A2 - Histic Epipedon S9 - Thin Dark Surface (LRR R, MLRA 1498) A16 - Coast Prairie Redox (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) S4 - Stratified Layers S4 - Sandy Muck Surface F3 - Depleted Matrix S8 - Polyvalue Below Surface (LRR K, L) S6 - Redox Dark Surface S9 - Thin Dark Surface (LRR K, L) S6 - Sandy Muck Mineral F8 - Redox Depressions F12 - Iron-Manganese Masses (LRR K, L, R) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 1498) F19 - Piedmont Floodplain Soils (MLRA 1498) T746 - Mesic Spodic (MLRA 144A, 145, 1498) T746 - Mesic Spodic (MLRA 144A, 145, 1498) T742 - Very Shallow Dark Surface Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12	ogroup): tion (Describe to Bottom Depth 11 14	the depth needed to document the inc Horizon 1 2	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2	% 100 100	==Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles %		Location	(e.g. clay, sand, loam) loam
A3 - Black Histic F1 - Loamy Mucky Mineral (LRR K, L) S3 - 5cm Mucky Peat of Peat (LRR K, L, R) F2 - Loamy Gleyed Matrix S7 - Dark Surface (LRR K, L, M) S7 - Dark Surface (LRR K, L) S8 - Polyvalue Below Surface (LRR K, L) S8 - Polyvalue Below Surface (LRR K, L) S9 - Thin Dark Surface (LRR K, L) S9 - Thin Dark Surface (LRR K, L) S1 - Sandy Muck Mineral F6 - Redox Depressions F12 - Iron-Manganese Masses (LRR K, L, R) F19 - Piedmont Floodplain Soils (MLRA 149B) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F19 - Piedmont Floodplain Soils (MLRA 149B) T16 - Mesic Spodic (MLRA 144A, 145, 149B) T16 - Very Shallow Dark Surface Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12	pgroup): htion (Describe to Bottom Depth 11 14 14 14 14 14 15 15 15 15 15 15 15 15 15 15 15 15 15	the depth needed to document the inc Horizon 1 2	Color (I 10YR 2.5Y	Matrix Voist) 4/1 5/2 tors are	% 100 100 not prese	==Concentration,	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist)	Covered/Coated Sand Gra Mottles % Indicator	Type s for Proble	Location matic Soils ¹	(e.g. clay, sand, loam) loam
A4 - Hydrogen Sulfide	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	ogroup): otion (Describe to Bottom Depth 11 14 Soil Field Ir A1- Histosol	Horizon 1 2 ndicators (check he	Color (I 10YR 2.5Y	Matrix Voist) 4/1 5/2 tors are	% 100 100 not prese \$8 - Polyn	ent 📮	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 1498)	Mottles % Indicatoi		Location matic Soils ¹ Muck (LRR K, L, MLRA 1	(e.g. clay, sand, loam) loam
A5 - Stratified Layers F3 - Depleted Matrix S8 - Polyvalue Below Surface (LRR K, L) F6 - Redox Dark Surface S9 - Thin Dark Surface (LRR K, L) F7 - Depleted Dark Surface F7 - Depleted Dark Surface F7 - Poleted Dark Surface F12 - Iron-Manganese Masses (LRR K, L, R) F13 - Piedmont Floodplain Soils (MLRA 1498) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 1498) T46 - Mesic Spodic (MLRA 144A, 145, 1498) T46 - Mesic Spodic (MLRA 144A, 145, 1498) T72 - Red Parent Material T72 - Red Parent Material T712 - Very Shallow Dark Surface Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless Restrictive Layer (If Observed) Type: rock Depth:14' Hydric Soil Present? Yes No	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	ogroup): ption (Describe to Bottom Depth 11 14 14 14 14 14 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check he	Color (I 10YR 2.5Y	Matrix Voist) 4/1 5/2 tors are	% 100 100 not prese S8 - Polyn S9 - Thin	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ace (LRR R, MLRA 149B)	Mottles % Indicator		Location matic Soils ¹ Muck (LRR K, L, MLRA L, Prairie Redox (LRR	(e.g. clay, sand, loam) loam
A12 - Thick Dark Surface F7 - Depleted Dark Surface F12 - Iron-Manganese Masses (LRR K, L, R) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F12 - Very Shallow Dark Surface F12 - Iron-Manganese Masses (LRR K, L, R) F19 - Piedmont Floodplain Soils (MLRA 149B) F19 - Piedmont Floodplain Soils (ML	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	pgroup): httion (Describe to Depth 11 14 14 14 14 14 14 14 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon istic	Color (I 10YR 2.5Y	Matrix Voist) 4/1 5/2 tors are	% 100 100	ent Dark Surfinny Mucky	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) ace (LRR R, MLRA 149B) Mineral (LRR K, L)	Covered/Coated Sand Gra Mottles % Indicator		Location matic Soils Muck (LRR K, L, MLRA † Prairie Redox (LRR ucky Peat of Peat	(e.g. clay, sand, loam) loam
S1 - Sandy Muck Mineral S4 - Sandy Gleyed Matrix S5 - Sandy Redox S6 - Stripped Matrix S7 - Dark Surface (LRR R, MLRA 149B) Restrictive Layer (If Observed) Type: rock S1 - Sandy Muck Mineral F8 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F14 - Mesic Spodic (MLRA 149B) F15 - Piedmont Floodplain Soils (MLRA 149B) F16 - Piedmont Floodplain Soils (MLRA 149B) F17 - Piedmont Floodplain Soils (MLRA 149B) F18 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F18 - Redox Depressions F19 - Piedmont Floodplain Soils (MLRA 149B) F10 - Piedmont Floodplain Soils (MLRA 149B) F11 - Piedmont Floodplain Soils (MLRA 149B) F11 - Piedmont Floodplain Soils (MLRA 149B) F11 - Piedmont Floodplain Soils	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	group): tion (Describe to Depth 11 14 14 14 14 14 14 14 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon istic en Sulfide	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100 not prese \$8 - Polyn \$9 - Thin F1 - Loan F2 - Loan		D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) aCe (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix	Mottles % Indicato		Location Locati	(e.g. clay, sand, loam)
S4 - Sandy Gleyed Matrix S5 - Sandy Redox S6 - Stripped Matrix S7 - Dark Surface (LRR R, MLRA 149B) Restrictive Layer (If Observed) Type: rock S4 - Sandy Gleyed Matrix TF12 - Red Parent Material TF12 - Very Shallow Dark Surface Characteristic Layer (If Observed) Type: rock Depth:14' Hydric Soil Present? TA6 - Mesic Spodic (MLRA 144A, 145, 149B) TF12 - Red Parent Material TF12 - Red Parent Material TF12 - Red Parent Material TF12 - Very Shallow Dark Surface Characteristic Layer Cliff Observed) Type: rock Depth:14' Hydric Soil Present? Yes No	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	pgroup): ption (Describe to Depth 11 14 14 14 14 14 14 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check he opipedon istic an Sulfide d Layers	Color (I 10YR 2.5Y	Matrix Voist) 4/1 5/2 tors are	% 100 100 not prese 88 - Poly 99 - Thin F2 - Loan F3 - Depli	ent Circular Surfus Sur	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Matrix X	Mottles % Indicatoi		Location Locati	(e.g. clay, sand, loam)
S5 - Sandy Redox S6 - Stripped Matrix S7 - Dark Surface (LRR R, MLRA 149B) Restrictive Layer (If Observed) Type: rock Depth:14' TF2 - Red Parent Material TF12 - Very Shallow Dark Surface TF12 -	SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	pgroup): htion (Describe to Depth 11 14 14 14 14 14 14 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface park Surface park Surface	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x Inface Surface	Mottles % Indicator	Type s for Proble A10 - 2 cm I A16 - Coast S3 - 5cm M S7 - Dark S1 S8 - Polyval S9 - Thin Da F12 - Iron-N	Location Locati	(e.g. clay, sand, loam)
S6 - Stripped Matrix S7 - Dark Surface (LRR R, MLRA 149B) Restrictive Layer (If Observed) Type: rock Depth:14' TF12 - Very Shallow Dark Surface Cher (Explain in Remarks) Indicators of hydrophytic vegetation and vetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	group): tion (Describe to Depth 11 14 14 14 14 14 14 14 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	the depth needed to document the inc Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface Auck Mineral	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x Inface Surface	Covered/Coated Sand Gra Mottles % Indicato		Location Locati	(e.g. clay, sand, loam)
CREStrictive Layer (If Observed) Type: rock Depth: 14' Depth: 14' Cher (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	pgroup): ption (Describe to Depth 11 14 14 14 14 14 14 14 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Horizon 1 2 ndicators (check he pipedon istic an Sulfide d Layers ed Below Dark Surface Dark Surface Dark Surface Dark Surface Bleyed Matrix	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x Inface Surface	Mottles % Indicator		Location Locati	(e.g. clay, sand, loam)
Restrictive Layer (If Observed) Type: rock Depth:14' Depth:14' Hydric Soil Present? Yes Depth:14' No	SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 12 NRCS Hydric	pgroup): ption (Describe to Depth	Horizon 1 2 ndicators (check he pipedon istic en Sulfide d Layers ed Below Dark Surface Jack Surface Jack Mineral Sleyed Matrix ledox	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x Inface Surface	Covered/Costed Sand Gra Mottles % Indicator	Type rs for Proble A16 - Coast S3 - 5cm Mt S7 - Dark S7 S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red F	Location Locati	(e.g. clay, sand, loam)
Restrictive Layer (If Observed) Type: rock Depth:14' Hydric Soil Present? Yes □ No	SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Bottom Depth 11 14 14 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifiee A11 - Deplet A12 - Thick I S1 - Sandy N S4 - Sandy S S5 - Sandy F S6 - Strippec	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface Auck Mineral Sleyed Matrix Ledox I Matrix	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x Inface Surface	Covered/Coated Sand Gra Mottles % Indicator	Type s for Proble A10 - Coast S3 - 5cm M S7 - Dark S1 S8 - Polyval S9 - Thin Da F12 - Iron-N F19 - Piedm TA6 - Mesic TF2 - Red F TF12 - Very	Location Locati	(e.g. clay, sand, loam)
(If Observed) Type: rock Deptin:14 Hydric Soil Present? Yes \(\text{NO} \)	SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Bottom Depth 11 14 14 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifiee A11 - Deplet A12 - Thick I S1 - Sandy N S4 - Sandy S S5 - Sandy F S6 - Strippec	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface Auck Mineral Sleyed Matrix Ledox I Matrix	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x Inface Surface	Covered/Costed Sand Gra Mottles % Indicator 'Indicators 'Indicators	Type rs for Proble A16 - Coast S3 - 5cm Mt S7 - Dark S7 S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red P TF12 - Veryl Other (Expla	Location Locati	(e.g. clay, sand, loam)
Remarks: Rock refusal at 14"	SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Bottom Depth 11 14 14 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifiee A11 - Deplet A12 - Thick I S1 - Sandy N S4 - Sandy S S5 - Sandy F S6 - Strippec	Horizon 1 2 ndicators (check here) pipedon istic en Sulfide d Layers ed Below Dark Surface Dark Surface Auck Mineral Sleyed Matrix Ledox I Matrix	Color (I 10YR 2.5Y	Matrix Moist) 4/1 5/2 tors are	% 100 100 100	e-Concentration.	D=Depletion, RM=Reduced Matrix, CS=C Color (Moist) w Surface (LRR R, MLRA 149B) Mineral (LRR K, L) Matrix x Inface Surface	Covered/Costed Sand Gra Mottles % Indicator 'Indicators 'Indicators	Type rs for Proble A16 - Coast S3 - 5cm Mt S7 - Dark S7 S8 - Polyval S9 - Thin Da F12 - Iron-M F19 - Piedm TA6 - Mesic TF2 - Red P TF12 - Veryl Other (Expla	Location Locati	(e.g. clay, sand, loam)
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WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site:	Readfield Delineation					Wetland ID: 01GPE Sample Point Netland
						·
VEGETATION	(Species identified in all upperd	ase are non-native	species	.)		
Tree Stratum (Pic	ot size: 10 meter radius) Species Name		% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.	Fraxinus nigra	-	10	N	FACW	Dominando rest Worksheet
2.						Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
3.						· · ·
4.						Total Number of Dominant Species Across All Strata:(B)
5.						
6.						Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7.						
8.						Prevalence Index Worksheet
9. 10.						Total % Cover of: Multiply by: OBL spp. 5 x 1 = 5
10.		Total Cover =	10			OBL spp. 5
		Total Cover =	10			FAC spp. 7 X 3 = 21
Sapling/Shrub Str	atum (Plot size: 5 meter radius)					FACU spp. 10 X 4 = 40
1.	Pinus strobus		2	N	FAC	UPL spp. 0 x 5 = 0
2.	Rubus idaeus		10	N	FACU	
3.						Total 42 (A) 106 (B)
4.						
5.						Prevalence Index = B/A = 2.524
6.						
7.	-					Hedronhode Wennieden bedeuten
8. 9.						Hydrophytic Vegetation Indicators:
10.						✓ Yes ☐ No Rapid Test for Hydrophytic Vegetation✓ Yes ☐ No Dominance Test is > 50%
10.		Total Cover =	12			☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
		rotar cover =	12			☐ Yes ☐ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	t size: 2 meter radius)					Yes ✓ No Problem Hydrophytic Vegetation (Explain) *
1.	Onoclea sensibilis		10	Υ	FACW	
2.	Solidago rugosa		5	N	FAC	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.	Osmunda spectabilis		2	N	OBL	
4.	Typha latifolia		3	N	OBL	Definitions of Vegetation Strata:
5.						Tour
6 7.						Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.
8.						ioigit (551), regulation of rought.
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft.
10.						tall.
11.						
12.						Herb - All herbaceous (non-woody) plants, regardless of size, and
13.						woody plants less than 3.28 ft. tall.
14.						
15.						Woody Vines - All woody vines greater than 3.28 ft. in height.
		Total Cover =	20			
	(5)					
1.	um (Plot size: 10 meter radius)					
2.	<u></u>					
3.						Hydrophytic Vegetation Present ☑ Yes ☐ No
4.						, , , , , , , , , , , , , , , , , , ,
5.						
		Total Cover =	0			
Remarks:						
Additional Rei	marks:					
I						

Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District

ATTACHMENT D: AGENCY CORRESPONDENCE





STATE OF MAINE DEPARTMENT OF INLAND FISHERIES & WILDLIFE 353 WATER STREET 41 STATE HOUSE STATION AUGUSTA ME 04333-0041



December 2, 2021

Eben Baker Stantec 30 Park Drive Topsham, ME 04086

PHONE: (207) 287-5254

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 ½ 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

Letter to Eben Baker, Stantec Comments RE: Norwich Solar Technologies Solar, Readfield December 2, 2021

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

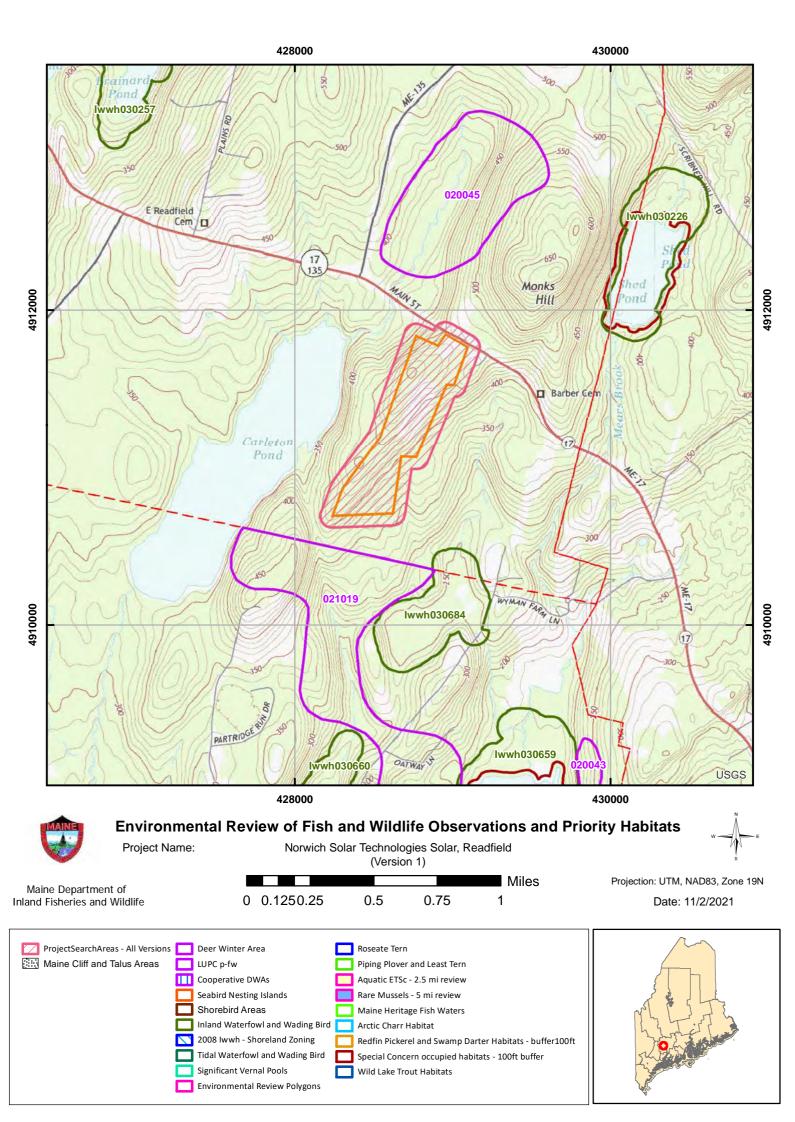
To enhance the use of the project area by smaller animals, and in consideration of the need for site safety and security, we recommend the use of wildlife-permeable fencing. Options for wildlife-permeable fencing includes the use of larger mesh fencing, similar to typical highway right-of-way fencing, 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



Representative Photographs of Suitable Bat Rock-Roosting Sites
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



















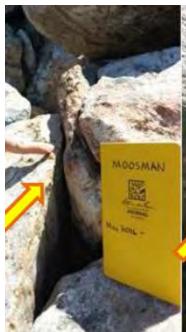




















STATE OF MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

177 STATE HOUSE STATION AUGUSTA, MAINE 04333

AMANDA E. BEAL COMMISSIONER

JANET T. MILLS GOVERNOR

November 5, 2021

Eben Baker Stantec 30 Park Drive Topsham, ME 04086

Via email: <u>eben.baker@stantec.com</u>

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 Letter to Stantec Comments RE: Norwich Solar, Readfield November 5, 2021 Page 2 of 2

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,

Krit Pung

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 Ferr	n					
	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						
	Е	S3	G3G4	1907-07-28	18	Hardwood to mixed forest (forest, upland)
Blunt-lobed Woodsia	Э					
	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-me	al					
	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 Honeysucl	kle					
	Е	S2	G5	1975-pre	1	Dry barrens (partly forested, upland), Hardwood to mixed forest (forest, upland)
Northern Hardwoods	s Forest					
	<null></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						
	Е	S1	G5T4T5	1878-06	15	Forested wetland

Maine Natural Areas Program Page 2 of 2 www.maine.gov/dacf/mnap

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	Critically Imperiled – At very high risk of extinction or elimination due to very restricted		
G1	range, very few populations or occurrences, very steep declines, very severe threats, or		
	other factors.		
S2	Imperiled – At high risk of extinction or elimination due to restricted range, few		
G2	populations or occurrences, steep declines, severe threats, or other factors.		
S3	Vulnerable – At moderate risk of extinction or elimination due to a fairly restricted range,		
G3	relatively few populations or occurrences, recent and widespread declines, threats, or		
	other factors.		
S4	Apparently Secure – At fairly low risk of extinction or elimination due to an extensive		
G4	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	Secure – At very low risk or extinction or elimination due to a very extensive range,		
G5	abundant populations or occurrences, and little to no concern from declines or threats.		
SX	Presumed Extinct – Not located despite intensive searches and virtually no likelihood of		
GX	rediscovery.		
SH	Possibly Extinct – Known from only historical occurrences but still some hope of		
GH	rediscovery.		
S#S#	Range Rank – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of		
G#G#	uncertainty about the status of the species or ecosystem.		
SU	Unrankable – Currently unrankable due to lack of information or due to substantially		
GU	conflicting information about status or trends.		
GNR	Unranked – Global or subnational conservation status not yet assessed.		
SNR			
SNA	Not Applicable – A conservation status rank is not applicable because the species or		
GNA	ecosystem is not a suitable target for conservation activities (e.g., non-native species or		
	ecosystems.		
Qualifier	Definition		
S#?	Inexact Numeric Rank – Denotes inexact numeric rank.		
G#?			
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.
Т	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
Α	Excellent – Excellent estimated viability/ecological integrity.
В	Good – Good estimated viability/ecological integrity.
С	Fair – Fair estimated viability/ecological integrity.
D	Poor – Poor estimated viability/ecological integrity.
E	Extant – Verified extant, but viability/ecological integrity not assessed.
Н	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



Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District

ATTACHMENT E: SOUND ASSESSMENT





INVERTER AND TRANSFORMER NOISE ANALYSIS Readfield Main Solar LLC Readfield, Maine

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

Commercial	Industrial	Residential	dB Level	
Threshold For Hearing				
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	

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

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:

 $RN = 10*LOG(\Sigma(10^{R2}/10))$

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

Reference: Readfield Main Street Solar Project – Zoning Designation Request – Commercial, Industrial and Infrastructure District

ATTACHMENT F: 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