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

April 2, 2021
File: 195601958

Attention: Steve Wilson, Code Enforcement Officer **VIA FEDEX**
City of Belfast
131 Church Street
Belfast, ME 04915

Reference: Site Plan Review Application – Shining Solar Partners Project – Back Searsport Road, Belfast, Maine

Dear Mr. Wilson,

On behalf of Shining Solar Partners, LLC (the Applicant), Stantec Consulting Services Inc. (Stantec) is filing a Site Plan Review Application for construction of the Shining Solar Partners Project (Project). The proposed Project is an approximately 5.0-megawatt alternating current solar facility in the City of Belfast (City) on Back Searsport Road. The Project is proposed on a portion of Lot 2, City Tax Map 7. In accordance with the City's Site Plan Review Ordinance (Chapter 90), the Applicant and Stantec have prepared a Preliminary Site Plan Review submission. The Project will comply with applicable City Ordinances, specifically applicable sections of Chapter 90, Chapter 102 (Zoning Ordinance), and the recent Solar Energy Systems Ordinance (Chapter 102, Article VII, Division 9). Project compliance with applicable City Ordinances is detailed further in the attached written narrative (Attachment 1).

The enclosed Site Plan Review Application includes the following:

- Attachment 1 – Written Statement
- Attachment 2 – Boundary Survey and Site Plans
- Attachment 3 – Operations and Maintenance Plan
- Attachment 4 – Agency Correspondence
- Attachment 5 – Evidence of Financial and Technical Capacity
- Attachment 6 – Floodplain Mapping
- Attachment 7 – Wetland and Watercourse Delineation and Vernal Pool Survey Report
- Attachment 8 – Option to Lease Agreement
- Attachment 9 – Abutter Map
- Attachment 10 – Natural Resources Conservation Services Soil Mapping
- Attachment 11 – Public Utilities Commission Agreement and Interconnection Schematic
- Attachment 12 – Equipment Specifications
- Attachment 13 – Emergency Response Plan
- Attachment 14 – Decommissioning Plan and Draft Financial Assurance

Reference: **Site Plan Review Application – Shining Solar Partners Project – Back Searsport Road, Belfast, Maine**

This submittal includes 9 hard copies of the preliminary site plan application and one electronic copy. Also enclosed is a check payable to the City of Belfast for the $5,000 filing fees.

Please contact me if you have any questions regarding the enclosed materials.

Regards,

Stantec Consulting Services Inc.

Eben Baker PWS, Associate Ecologist
Project Scientist
Direct: 207 406 5459
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eben.baker@stantec.com

c. Jon Boynton, City of Belfast
Allen Tate, EDF Renewables
Yannick Tamm, EDF Renewables
Brooke Barnes, Stantec

ATTACHMENT 1: WRITTEN STATEMENT

PROJECT DESCRIPTION

Shining Solar Partners, LLC (the Applicant), a wholly owned subsidiary of EDF Renewables Distributed Solutions, Inc. (EDF), proposes to construct the Project, a distributed generation utility scale solar energy facility on Back Searsport Road in Belfast, Maine (Figure 1). The total Project area consists of approximately 19.05 acres on Map 7, Lot 2 (Project parcel). The solar arrays will have an installed capacity of approximately 5 megawatts alternating current (MWac) of electricity. A boundary survey of the approximately 80.6-acre parcel was conducted by a Licensed Professional Land Surveyor and is included in Attachment 2, Sheet S-1.0.

The topography of the Project area drops gradually to the south with elevations that range between 110 and 245 feet (ft) above sea level. The Project parcel is bordered on the east, west, and south by forested parcels. Existing residential development is present near the northeastern and northwestern boundary of the Project parcel along Back Searsport Road. The open areas of the parcel are primarily upland and consist of regularly mowed hay fields. Upland forest areas are dominated by typical mixed northern forest tree and understory species. Representative site photographs are included below.

The Project is designed to use photovoltaic (PV) panels mounted on fixed-tilt axes sited to maximize solar energy production through the year. Approximately 16,458 PV panels will be mounted on galvanized steel frames supported by driven posts or ground screws. PV panels will not exceed 16 ft at the highest point from the ground. Other project features will include construction of an approximately 16-ft-wide, 1,128-ft-long access road; two central inverters; two transformers; and a medium voltage electrical collector line (Collector) connecting to the electrical grid at a point of interconnection (POI) adjacent to Back Searsport Road at the existing distribution line. The site will be bounded by a minimum 7-ft-high wooden post agricultural style fence (i.e., sheep fencing) and will have approximately 6-inch gaps between the fencing wires to allow for wildlife passage. The Project entrance gate will be installed and secured with a knox box to ensure public safety and access by Belfast Emergency Services.

Power from the solar arrays will be collected and transmitted to the POI via the Collector buried in a trench located within or adjacent to the Project access road. Power will tie into the existing electrical grid at the POI on the existing distribution line on Back Searsport Road. The POI will require five poles over a total span of approximately 135 ft. No new access is required for the POI as it is sited adjacent to Back Searsport Road. Project Site Plans are provided in Attachment 2.

Following Project construction, the cleared area under and around the PV panels will be revegetated as a meadow. The Project area will be mowed up to twice per year to prevent vegetation from shading the PV panels. An Operations and Maintenance Plan for the Project is provided in Attachment 3. The anticipated life of the Project is 25 to 30 years. At the end of the useful life of the Project, the site will be decommissioned. During decommissioning, Project components will be removed, and land will be allowed to revert to prior land use following decommissioning.

The Applicant has completed studies of natural resources and wildlife in the Project area. As proposed, approximately 23 square ft of tree clearing within delineated wetlands are anticipated as a result of the Project. No impacts to delineated streams are anticipated as a result of the Project. The limited wetland clearing is exempt from permitting under the Natural Resources Protection Act (NRPA); however, portions of the Project vegetative clearing and fence line within 75 ft of streams will require a Permit-by-Rule (PBR) approval from the Maine Department of Environmental Protection (MDEP) pursuant to the NRPA.

REPRESENTATIVE SITE PHOTOGRAPHS

Photo 1. Portion of proposed solar array within typical forested uplands.

Photo 2. Portion of proposed solar array within typical open fields.

Photo 3. Existing gravel driveway to be utilized for Project access off Back Searsport Road.

CONSTRUCTION PLAN

The Applicant's owners have extensive experience constructing solar energy facilities in the Northeast, with numerous projects currently in operation. The Applicant is committed to constructing facilities that minimize environmental impacts and comply with regulatory requirements and recommendations.

Construction is projected to begin in August 2021 with the goal of Project completion set for the end of the first quarter of 2022. The sequence of Project construction will generally adhere to the timeline detailed below (Table 1), although adjustments may be necessary to accommodate seasonality and weather conditions.

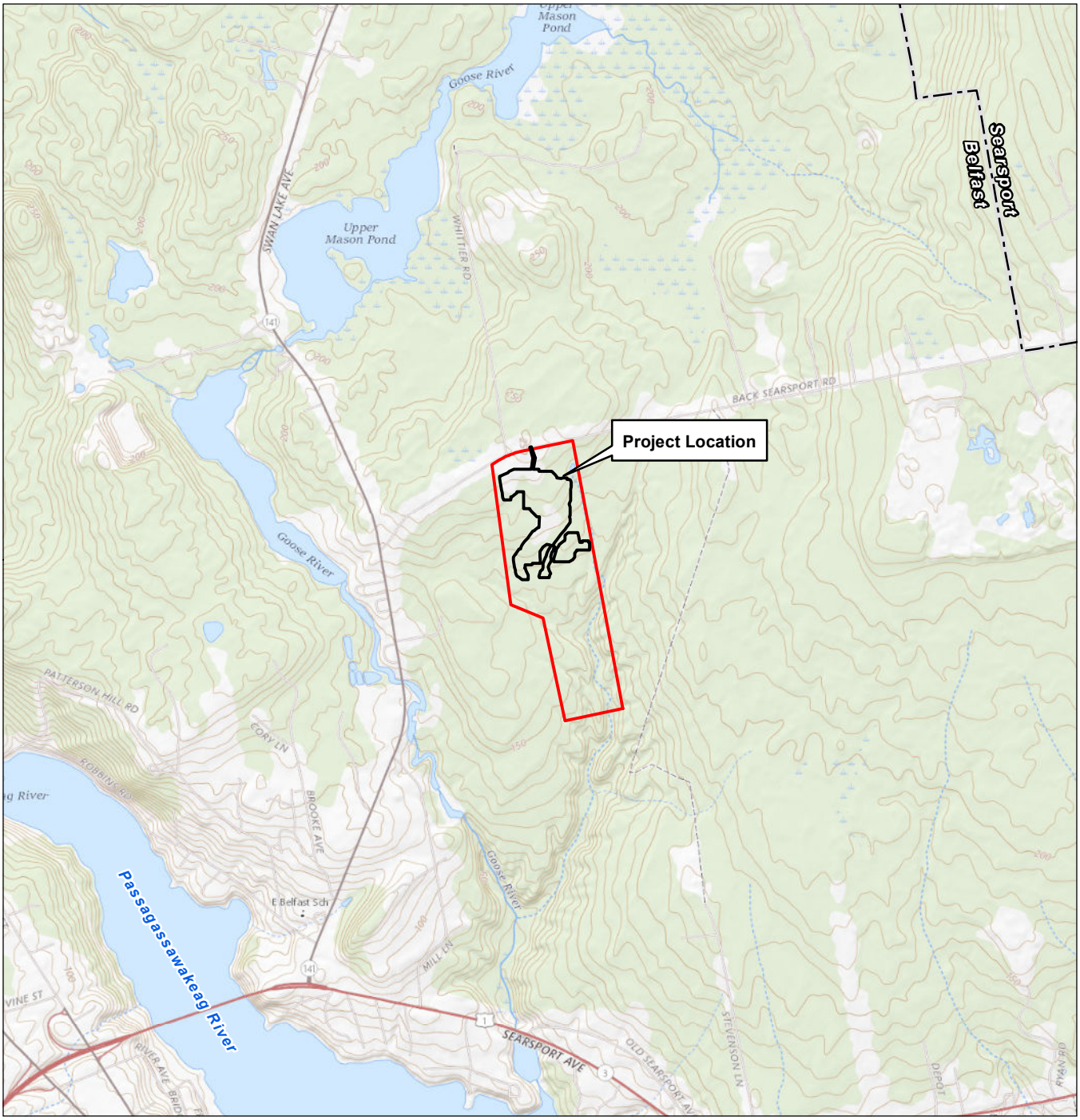
Once the Project area is cleared, areas will be grubbed as necessary, and earthwork to build the access road will commence. The Project area will be accessed by constructing a new access road originating from the existing driveway to the Project parcel.

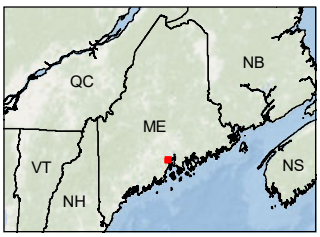
Once site preparation has been completed, underground electrical work (e.g., underground collection line burial) and solar racking systems installation will begin. The panel racking will utilize driven posts or ground screws, which require minimal grading. Panels and ancillary equipment will be delivered to the site and may be temporarily staged within suitable existing cleared upland areas of the Project. Following installation of the racking, panels will be placed on the racking. Erosion control measures will be in place per regulatory requirements and best management practices.

Table 1. Estimated Construction Activity Timeline

Task	Weeks
Install erosion control measures in areas to be disturbed	1–2
Preliminary layout and staking of new road segment and solar array/laydown areas	1–2
Clear for access road, Collector corridor, and solar array area	2–4
Grubbing and initial/final grading for access road and solar array area	3–6
Install racking foundations, underground Collector, and overhead Collector poles	7–11
Install panels, inverters, and overhead Collector	12–21
System commissioning and testing	22–25
Remove temporary erosion and sedimentation control measures upon final site stabilization and reseeding	25–28
Begin commercial operations	29

The following sections describe the standards and criteria governing site plan review, per applicable City Ordinances, along with the pertinent Project submission materials.





Legend
- Approximate Project Area
- Property Boundary
- Municipal Boundary

0 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
Belfast, Maine

Prepared by PWB on 2021-02-18
TR Review by KWH on 2021-02-18
IR Review by NG on 2021-02-18

Client/Project
195601958

Shining Solar Partners, LLC
Shining Solar Partners Project, Belfast, ME

Figure No.
1

Title
Site Location Map

Notes
1. Coordinate System: NAD 1983 StatePlane Maine East FIPS 1801 Feet
2. Data Sources: Maine Office of GIS (MEGIS). Property boundary: ALTA/NSPS Land Survey Title, Plisga & Day, 2/8/2021.
3. Topographic base map provided by USGS National Map Web Mapping Service. Belfast and Searsport Quadranges.

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CHAPTER 90, ARTICLE II. REVIEW CRITERIA AND PROCEDURES

SEC. 90-42. CRITERIA FOR REVIEW BY PLANNING BOARD

b) The criteria for review are as set out in this subsection. No development shall be approved unless the planning board makes an affirmative finding that the development meets or exceeds the following enumerated criteria:

1) Pollution. The proposed development will not result in undue water or air pollution. In making this determination, consideration shall be given to:

a) The elevation of the land above sea level and its relation to the floodplain (compliance with chapter 78, article II).

The proposed Project will not cause pollution based on its elevation above sea level, and there are no flood zones located within the Project parcel.

b) The nature of soils and subsoils and their ability to adequately support waste disposal.

The proposed Project does not require a waste disposal system.

c) The slope of the land and its effect on effluents.

The proposed Project area generally slopes gradually to the south, at slopes between 0% and 8%. The Project will maintain existing grades, to the extent practicable, and does not require a waste disposal system and will not affect existing effluent patterns on the property.

d) The availability of streams for disposal of effluents.

Stormwater from the proposed Project area eventually will flow into unnamed streams located to the east and west of the Project area. These streams later flow into the Goose River, which flows into Belfast Bay. The Project will not increase the volume of stormwater runoff as the entire area in and around the solar array will be revegetated to a meadow environment. The Project is not located within a Lake watershed, and the proposed impervious and developed areas associated with the Project are both under 1 acre. As such, it is not required to meet the phosphorus standards per MDEP's Stormwater Management Law. Additionally, no listed urban impaired streams are located within the watershed of the Project location.[1]

e) The applicable state and local health and water resource rules, regulations and codes.

The proposed Project will not adversely affect local health and water resources. Provisions for stormwater management and erosion and sedimentation control are depicted on the Site Plans and conform to municipal and state standards.

2) Sufficient water. The proposed development has sufficient water available for the reasonable foreseeable needs of the development and will not unreasonably affect other existing local drinking water resources.

[1] MDEP. 2018. Chapter 502. Direct Watersheds of Lakes Most at Risk from New Development, and Urban Impaired Streams. Available online at: https://www.maine.gov/dep/water/rules/index.html. Accessed January 31, 2021.

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

3) Municipal water supply. The proposed development will not cause an unreasonable burden on an existing municipal water supply, if one is to be used.

   The proposed Project will not require a municipal water supply.

4) Soil erosion and sediment control. The proposed development will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results. The criteria in Maine Erosion and Sediment Control Handbook for Construction, Best Management Practices, prepared by Cumberland County SWCD and the state department of environmental protection, 1991, shall be followed.

   The proposed Project will not cause substantial or avoidable erosion or significantly alter existing patterns of natural water flow in the City. The Project has been designed to manage stormwater in accordance with Maine's Stormwater Management Law (38 M.R.S.A.§ 420-D), and an Erosion and Sedimentation Control Plan has been prepared for the Project (see Site Plans in Attachment 2). The Project contractor will implement best management practices (BMPs) as required by the Maine Erosion and Sediment Control BMPs, Manual for Designers and Engineers[2] (BMP Manual). Additional BMPs may be implemented as dictated by site conditions. Provided the Project is constructed in conformance with the Project Site Plans and the basic standards described in the Erosion and Sedimentation Control Plan, the Project is not expected to result in significant erosion or sedimentation either on or off the site.

5) Highway or public road congestion. The proposed development will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed, and, furthermore, the developer has made adequate provision for traffic movement of all types into, out of or within the development area. The board shall consider traffic movement both on-site and off-site. Before issuing a permit, the board shall find that any traffic increase attributable to the proposed development will not result in unreasonable congestion or unsafe conditions on a road in the vicinity of the proposed development. A traffic study may be required.

   The proposed Project will provide adequate and safe turning movements and will not affect the existing traffic patterns on Back Searsport Road. There will be no new access road form Back Searsport Road. The Applicant is proposing to construct a new 16-ft-wide gravel road, extending from the current driveway for the parcel from Back Searsport Road, for construction and maintenance vehicle access.

   Traffic will be heaviest during the delivery and installation of the solar modules and racking. The maximum construction traffic load (approximately 40 truckloads) is expected to occur during the installation of racking and modules. Temporary vehicle parking areas within open upland areas of the Project site will be utilized as necessary during Project construction. During Project operations, traffic will be limited to approximately four to six visits per year by one to two vehicles for equipment and vegetative maintenance during normal business hours. As such, the proposed Project will not

[2] Maine Department of Environmental Protection's *Maine Erosion and Sediment Control Best Management Practices (BMPs), Manual for Designers and Engineers*, dated October 2016. Available at https://www.maine.gov/dep/land/erosion/escbmps/. (Accessed January 25, 2021).

result in unreasonable congestion or unsafe conditions on roads in the vicinity of the proposed Project.

6) Sewage waste disposal. The proposed development will provide adequate sewage waste disposal in compliance with federal, state and local laws, rules, ordinances and regulations.

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

7) Municipal solid waste and sewage waste disposal. The proposed development will not cause an unreasonable burden on the City's ability to dispose of solid waste and sewage. If municipal services are to be utilized, a letter from the City indicating current capacity and availability of municipal sewer shall be submitted for the record.

   Solid waste generated during construction will primarily consist of cardboard, pallets, and PVC conduit. Construction related solid waste will be placed in dumpsters and disposed of at a licensed disposal facility possessing adequate capacity to accept the Project's wastes During operation, no solid waste is anticipated to be generated by the Project.

   The proposed Project will not generate hazardous waste during construction or operation. In the event of a non-hazardous waste spill during construction (e.g., hydraulic fluid or diesel fuel), the MDEP spill response team and the Belfast Fire Department will be notified. The material would be characterized, and the waste would be transported and disposed of in compliance with applicable laws and regulations.

8) Aesthetic, cultural and natural values. The proposed development will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, archeological sites, significant wildlife habitat identified by the state department of inland fisheries and wildlife or the City as rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline.

   There are no historic buildings, historic districts, or known archaeological sites as identified in the City of Belfast Comprehensive Plan that will be impacted by the proposed Project. Additionally, the Applicant consulted with the Maine Historic Preservation Commission (MHPC) to request information on any significant cultural or historic resources associated with the proposed Project area. The MHPC concluded that there are no National Register listed or known eligible properties on or adjacent to the Project site, and the parcel is not considered sensitive for archaeological resources. Correspondence received from MHPC is provided in Attachment 4. The Applicant initiated consultation with Maine tribes (Penobscot, Maliseet, Passamaquoddy, and Micmac) to seek information about the presence of known or likely cultural or archaeological sites within the Project area. At the time of this application, a response has been received from the tribal historic preservation officer of the Passamaquoddy tribe (Attachment 4). The response from the Passamaquoddy tribe confirmed that there are no known cultural or archaeological sites within the Project area.

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

The Applicant also consulted with the Maine Department of Inland Fisheries and Wildlife (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 Habitats or inland fisheries habitats that will be affected by the Project. MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs within the Project area. 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. However, the Applicant does not anticipate undue adverse effects on bats as a result of Project construction or operations. This conclusion results from the lack of known hibernacula or maternity roost trees within the vicinity and the absence of other bat overwintering habitat (e.g., talus slopes, exposed rock faces) on the Project parcel. Therefore, necessary tree clearing will adhere to the protective guidelines for bats within the MDIFW Endangered Species Rule.[3]

Although the Project does not require federal (U.S. Army Corps of Engineers) permits, consultation with U.S. Fish and Wildlife Service (USFWS) was initiated through the Information for Planning and Consultation (IPaC) online service in 2020. Two federally listed species were noted within proximity of the Project. These include potential presence of the northern long-eared bat and Atlantic salmon (Salmo salar). No critical habitat is designated for either species within the Project parcel. There are no stream crossings within the Project area that would potentially affect downstream Atlantic salmon habitat and no known bat hibernacula on or near the Project parcel. Additionally, the Project erosion and sedimentation control plan is designed to protect downstream waters from potential Project related sedimentation.

Correspondence received from MDEP, MNAP, MDIFW, and the USFWS is provided in Attachment 4.

9) Conformity with City ordinances and plans. The proposed development conforms with the floodplain regulations (chapter 78, article II), the comprehensive plan, the zoning regulations (chapter 102), the shoreland zoning regulations (chapter 82), the subdivision ordinance, and the technical standards (chapter 98).

   There are no floodplains or shoreland zones located on the Project parcel. The proposed Project is in line with the City Comprehensive Plan, zoning regulations, and technical standards. Specific responses to applicable sections of the zoning regulations and the City's solar ordinance are provided within this application.

10) Financial and technical capacity. The developer has adequate financial and technical ability to develop the project in a manner consistent with state and local performance, environmental and technical standards.

    The Applicant, a wholly owned subsidiary of EDF, has a proven track record of solar development within the region, including financial and technical capacity to meet both local and state requirements. A statement of EDF's financial capacity and qualifications and experience of key personnel are included in Attachment 5.

11) Surface waters; outstanding river segments. Whenever situated entirely or partially within the watershed of any pond or lake or within 250 feet of any wetland, great pond or river as defined in

[3] MDIFW Endangered Species Rules for bats, Chapter 8.06. Available at: http://www.maine.gov/sos/cec/rules/09/137/137c008.docx. Accessed September 15, 2020.

38 M.R.S.A. chapter 3, subchapter I, article 2-B, the proposed development will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water.

The proposed Project is not located within the watershed of a great pond or river as defined in 38 M.R.S.A. chapter 3, subchapter I, article 2-B.

12) Groundwater. The proposed development will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater or any public or private water source.

The proposed Project will not require water withdrawal during the operation phase. Water required for dust control during construction will be provided by the construction contractor. The construction of this Project will incorporate the erosion and sedimentation BMPs as needed or applicable. These measures will be implemented, as needed, to protect natural resources, groundwater resources, and prevent erosion and sedimentation. Additionally, the construction contractor will be required to implement a Spill Prevention, Control, and Countermeasure plan.

13) Flood areas. If the development or any part of it is located in a flood prone area, based on the Federal Emergency Management Agency's flood boundary and floodway maps and flood insurance rate maps and information presented by the applicant, then the developer shall determine the one-hundred-year flood elevation and flood hazard boundaries within the development. All structures in the proposed development must be constructed with their lowest floor, including the basement, at least two feet above the one-hundred-year elevation.

The Project parcel is not located in Federal Emergency Management Agency (FEMA) mapped flood zones. The FEMA Flood Insurance Rate Map is included as Attachment 6.

14) Freshwater wetlands. All mapped freshwater wetlands within the proposed development shall be identified on plans submitted as part of the application.

Wetlands were field delineated on April 15 and 16, 2020, and are shown on the Project Site Plans (Attachment 2). Detailed results of the wetland delineation and vernal pool survey are included in Attachment 7.

15) Rivers or streams. Any river or stream within or abutting the proposed development shall be identified on maps submitted as part of the application. For purposes of this section, the terms "river" and "stream" are defined as provided in section 90-1.

Streams were field delineated on April 15 and 16, 2020, and are shown on the Project Site Plans (Attachment 2). Detailed results of the watercourse delineation are included in Attachment 7.

16) Stormwater. The proposed development will provide for adequate stormwater management.

The Project will be in compliance with Maine's Stormwater Management Law (38 M.R.S.A.§ 420-D) and applicable City of Belfast Stormwater Standards. The Project will result in less than 1 acre of impervious surfaces. Therefore, a Stormwater PBR application for the Project was submitted on March 26, 2021 to the MDEP in accordance with the Stormwater Management Law.

17) Access to direct sunlight for abutting property owner for solar energy system. The planning board may, to protect and ensure access to direct sunlight for solar energy systems, prohibit, restrict or control development. The developer shall, on request of the planning board or code enforcement officer, submit development plans which include either one or a combination of the following:

    a) Restrictive covenants.

b) Height restrictions.

c) Increased setback requirements.

The Project solar panels will not exceed 16 ft above grade and will be located 50 ft or more from lot lines. As such, the proposed Project is not expected to have a direct impact on sunlight to abutting properties.

18) Solid waste management. The proposed development will provide for adequate disposal of solid wastes. All solid waste will be disposed of at a licensed disposal facility having adequate capacity to accept the project's waste.

Solid waste generated during construction will primarily consist of cardboard, pallets, and PVC conduit. During operation, no solid waste is anticipated to be generated by the Project. Construction related solid waste will be disposed of by a licensed non-hazardous waste transporter at a licensed disposal facility possessing adequate capacity (e.g., Juniper Ridge, Old Town, ME[4]) to accept the Project's wastes.

19) Exterior lighting. The proposed development will provide for adequate exterior lighting to provide for the safe use of the development in nighttime hours if such use is contemplated. All exterior lighting will be designed and shielded to avoid undue glare and adverse impact on neighboring properties and rights-of-way.

The proposed Project will not be open to the public and will not require permanent exterior lighting. Temporary exterior lights may be utilized at the concrete equipment pads, supporting transformers, and inverters, if maintenance needs to be performed at night.

20) Buffering of adjacent uses. The development will provide for the buffering of adjacent uses where there is a transition from one type of use to another use and for the screening of service and storage areas. The buffer may be provided by distance, landscaping, fencing, changes in grade, and/or a combination of these or other techniques.

The proposed Project is surrounded by a forested setting, and existing trees and vegetation are present around the perimeter of the proposed Project area along the western, southern, and eastern boundaries. This existing vegetation will adequately buffer the Project from adjacent parcels in these areas. Supplemental plantings, as depicted in the conceptual landscaping plans (Attachment 2 – Sheets L0 through L3), are proposed to increase the screening from areas along the front portion of the Project. A minimum 7-ft-high wooden post agricultural style fence (i.e., sheep fencing) will surround the solar array and will have approximately 6-inch gaps between the fencing wires to allow for small wildlife passage. A gate will be installed in the fencing along the access road, south of the access driveway off Back Searsport Road, as seen on the Project Site Plans (Attachment 2, Sheet C-3.0).

21) Noise. The development will control noise levels such that it will not create unreasonable interference with use and enjoyment of neighboring properties.

[4] Maine Department of Environmental Protection. 2021. Maine Solid Waste Generation and Disposal Capacity Report: Calendar Years 2018 and 2019. Available at: https://www.maine.gov/dep/publications/reports/index.html. Accessed January 26, 2021.

During operation and electricity generation (i.e., during the daytime), the transformers and inverters will produce moderate sound immediately around the equipment, similar to an air conditioning unit.[5] *Transformers and inverters will be located within the solar array, greater than 950 ft from the nearest abutting building, greater than 1,200 ft from Back Searsport Road, and greater than 500 ft from the closest property line. Generally, noise levels decay by half as the distance from the source is doubled*[6]*; therefore, Project noise is expected to be inaudible at the lot lines. Existing vegetation along the parcel edges will further reduce the noise levels. The Project will not produce noise at night when the solar array is not producing electricity. Therefore, the proposed Project noise will not create unreasonable interference with use and enjoyment of neighboring properties.*

22) Storage of materials.

a) Exposed nonresidential storage areas, exposed machinery, and areas used for the storage or collection of discarded automobiles, auto parts, metals or other articles of salvage or refuse shall have sufficient setbacks and screening, such as a stockade fence or a dense evergreen hedge, to provide a visual buffer sufficient to screen the proposed use from abutting residential uses and users of public streets.

No refuse storage areas are proposed by the Project. Existing vegetated buffers/proposed plantings and a minimum 7-ft-tall agricultural style fence proposed around the perimeter of the panel array will provide adequate screening of the Project.

b) All dumpsters or similar large collection receptacles for trash or other waste shall be located on level surfaces which are paved or graveled. Where the dumpster or receptacle is located in a yard which abuts a residential or institutional use or a public street, it shall be screened by fencing or landscaping.

The Project does not propose permanent dumpsters or trash receptacles. Temporary containers will be required for construction related waste and will be placed either within the proposed Project area or within the Project parcel boundaries pending agreement of the landowner. Temporary containers will be setback from adjacent parcels.

c) Where a potential safety hazard to children is likely to arise, physical screening sufficient to deter small children from entering the premises shall be provided and maintained in good condition.

A minimum 7-ft-tall agricultural style fence is proposed around the perimeter of the panel array. The fence is expected to provide adequate screening to deter small children from entering the premises.

23) Landscaping. The development plan will provide for landscaping that breaks up parking areas, softens the appearance of the development and protects abutting properties from any significant adverse impacts of the development. (See chapter 98 for standards for landscaping parking lots.)

[5] Natural Resources Council of Maine.2019. Getting to Know Solar in Maine Frequently Asked Questions for Siting and Hosting Solar Projects at the Municipal Level. Available at: https://static1.squarespace.com/static/56defd4d044262eeaf72a5c8/t/5df27174d153a4617e0392f1/1576169844361/Municipal+Solar+FAQ+-+NRCM.pdf. Accessed January 27, 2021.

[6] Massachusetts Department of Environmental Protection. 2015. Questions & Answers: Ground--Mounted Solar Photovoltaic Systems. Available at: https://www.mass.gov/doc/ground-mounted-solar-pv-guide/download. Accessed January 27, 2021.

No parking lots are associated with the proposed Project. The proposed Project is setback from public roads and abutting properties and is sited in a forested area. As such, the natural features of the area are expected to provide adequate protection to neighboring properties following Project construction. Solar arrays will be approximately 230 ft from Back Searsport Road at the nearest point. Solar arrays will also be at least 50 ft from the nearest abutting properties located directly west and east of the Project. The visual effect of the Project is anticipated to be minimal due to the proposed Project setbacks, perimeter fencing, conceptual landscaping plan (Attachment 2 – Sheets L0 through L3), and existing forested buffers.

24) Buffering of residential uses.

a) Any lot within the urban compact line as now existing or as from time to time modified by the community that is used for nonresidential or multifamily residential purposes shall have a landscaped buffer on any property line that abuts a residential use or residentially zoned lot. The width of the buffer may vary depending on the treatment of the area. A buffer with dense planting, fencing, or changes in grade may be as little as five feet in width. A buffer with moderate levels of planting should be 10 feet to 15 feet in width.

Not applicable as the Project is located outside the urban compact line.

b) In all residential settings, the width of the vegetated buffer should be increased to a minimum of 25 feet. Areas adjacent to service, loading, or storage areas should be screened by dense planting, berms, or a combination thereof.

Not applicable as the Project is not located in a residential setting.

25) Location of off-street parking. See chapter 98.

During Project operations, traffic will be limited to approximately four to six visits per year by one to two vehicles for equipment and vegetative maintenance during normal business hours. The T-turning location depicted on the Project Site Plans (Attachment 2) will provide adequate parking for Project activities.

26) Hazardous waste. The applicant shall demonstrate compliance with federal and state laws and regulations when hazardous waste is generated or stored on-site.

There is no hazardous waste generation or storage associated with the proposed Project.

27) Prevention or control of air pollution. No use shall be allowed which creates a substantial risk of air pollution, whether by dust, chemicals, odor or otherwise, which would pose a significant risk of harm to local populations within the City or injury to wildlife, vegetation or to property, or harm to use and enjoyment or surrounding property. It is not the intent of this provision to merely require compliance with state or federal air quality standards, but rather to enforce a standard which may be more encompassing and strict than those state and federal standards as presently constituted.

There are no sources of air emissions or odors associated with the operation of solar facilities. Construction activities associated with Project installation may result in temporary effects on air quality in the form of dust and vehicular exhaust. As necessary, dust treatment will occur through the application of water. Overall, the temporary air quality impacts associated with Project construction will be minimal due to the limited duration of construction activities (approximately 6 months). There will be no sources of emissions from Project operations that would require an air emission license.

28) Protection of public health and safety. The proposed development shall provide for safe and healthful conditions. No proposed use may be approved which creates a substantial risk of causing damage to the public health or welfare.

The proposed Project is not expected to generate unsafe or unhealthy conditions nor will it create a substantial risk or cause damage to the public health or welfare.

29) Adequacy of waste disposal. The applicant shall clearly demonstrate to the planning board that all quantities and types of waste generated by the proposed use can be dealt with and disposed of while maintaining safe and healthful conditions.

During operation, no solid waste is anticipated to be generated by the Project. Solid waste generated during construction will be disposed of by a licensed non-hazardous waste transporter at a licensed disposal facility possessing adequate to accept the Project's wastes.

30) Additional standards for development that may substantially affect the environment. Additionally, if the proposed development meets the definition of development that may substantially affect the environment, as defined in 38 M.R.S.A. § 481 et seq., then section 484, Standards for Development, chapter 371, Definition of Terms used in the Site Location of Development Law and Regulations, chapter 372, Policies and procedures, chapter 373, Financial Capacity Standard, chapter 374, Traffic Movement Standard, chapter 375, No Adverse Environmental Effect Standard, chapter 376, Soil Types Standard, and chapter 377, Review of Roads and/or Major Development, and the provisions of section 90-17 shall apply.

To date, the Planning Board has not requested any additional standards.

CHAPTER 90, ARTICLE III. PRELIMINARY PLAN

SEC. 90-72. REQUIRED INFORMATION AND FORMAT

a) The preliminary plan shall contain the following minimum information:

1) The proposed name of the development.

Shining Solar Partners, LLC; Shining Solar Partners Project (noted on the Cover Sheet of the Site Plan).

2) The owner's name and address.

Applicant: Shining Solar Partners, LLC, 5 Commerce Avenue, West Lebanon, NH 03784

Land Owner: James K. Colcord, 51 Back Searsport Road, Belfast, ME 04915

3) A deed reference to land being developed and the identity of current immediate abutters.

The following are included: the existing deed (Book 1779, Page 350) is referenced on the Site Plans (Attachment 2), the Option to Lease Agreement (Attachment 8), and an abutter map (Attachment 9).

4) Engineer, registered in the state, including name, address, signature and seal.

The plan has been prepared by Stantec Consulting Services Inc., 2211 Congress Street, Suite 380, Portland, ME 04102. See Site Plan (Attachment 2) for the engineer's seal.

5) Surveyor, registered in the state, including name, address, signature and seal.

   A boundary survey was prepared by Plisga & Day Land Surveyors, 72 Main Street, Bangor, ME 04401. See the Boundary Survey (Attachment 2, Sheet S-1.0), for the surveyor's seal.

6) Scale, both graphic and written.

   Both a graphic and written scale are noted on the Site Plan, sheet C-3.0.

7) Date and revision box.

   A date and a revision box are depicted on each of the plans included in the site plan review submission packet.

8) Zoning designation (see chapter 102 and chapter 82).

   The zone, General Purpose "A" District, is noted in the General Site Notes on the Site Plans, sheet C-3.0.

9) North arrow (true, magnetic, dated or grid).

   A north arrow is included on the Site Plans.

10) The notation "Site Plan"

    Sheet C-3.0 is titled Site Plan.

11) The ownership, location, and present use of abutting properties.

    See attached abutter map (Attachment 9) for the immediate abutting property ownership, location, and the present land use.

12) A location map showing where the proposed development is situated in relation to existing streets and landmarks. This shall show the development's outline only. Upon final plan approval, the location map shall be updated, showing streets and lot lines accurately at the scale of applicable tax maps (or City maps as designated by the code enforcement officer). A broken line indication and distance to the nearest intersection or major topographic feature may be used.

    A location map is included (see Figure 1 above).

13) Streets. Street plans and profiles shall be at a scale of one inch equals 20 feet horizontal, and one inch equals four feet vertical, unless a different scale is approved by the code enforcement officer and/or the City engineer.

    There are no new streets associated with the proposed Project.

14) Drainage/erosion facilities. Type, location, profile of all existing surface water drainage and subsurface drainage as it relates to the affected watersheds both on and off the site. A written plan describing the existing and proposed drainage, with calculations, shall be submitted. Permanent and temporary erosion control plans are required in accordance with specifications outlined in chapter 98.

    There are no proposed changes to the existing drainage patterns. Specifications and locations of Project related erosion control features are located on the Site Plans.

15) Utilities

a) Preliminary location, profile, contours, and typical cross sections on all proposed utilities, drainage and streets shall be included, designed in accordance with chapter 98. Provisions of the Traffic Corridor Overlay District as defined in chapter 102 may apply.

Proposed utilities and contours are shown on the Site Plans.

b) The location of existing utilities, including water, electricity, telephone, hydrants, municipal sewer or other utilities, shall be shown.

Existing utilities along Back Searsport Road, and proposed utilities associated with the Project, are shown on the Site Plans.

c) The location of all existing sanitary and storm sewers showing size and profile, or the description, plan, and location of other means of sewage disposal with evidence of a successful soil test, shall be included. In areas outside of those presently sewered where disposal is proposed on-site, the code enforcement officer will require a written statement from a licensed Maine soil evaluator or engineer, as applicable, that the land is considered suitable for subsurface disposal systems using tanks or other approved methods according to the state subsurface wastewater disposal rules.

There are no proposed existing sanitary and storm sewers associated with the Project. Known utilities are shown on the Site Plans.

d) Should any expansion of municipal sewer be required for the development, the developer shall provide the code enforcement officer with a design of the sewer extension.

The Project will not require an expansion of the municipal sewer system.

16) Topography at two-foot contour intervals, unless otherwise prescribed by the code enforcement officer or the City engineer. In addition, the location of existing natural or manmade features influencing the layout of the proposed development shall be shown.

Topography at 2-foot contours are shown on the Boundary Survey and Site Plans, sheet 3.0.

17) Lot lines and approximate dimensions.

Lot lines and approximate dimensions are shown on the Boundary Survey and Site Plans, sheet C-3.0.

18) Proposed uses of the property.

The Project parcel currently consists of residential housing and undeveloped pasture/forested land. The proposed use will be a 5.0-MWac solar energy project, access road originating from the existing driveway, and accompanying equipment area.

19) Proposed public or common areas, if any.

No public or common areas are proposed by the Project.

20) Standard boundary survey and description, provided by a registered land surveyor, of entire contiguous holdings. Such survey shall have been within the past five years.

A standard boundary survey, dated December 29, 2020, is included in the Site Plans (Attachment 3, sheet S-1.0).

21) Traffic estimates and controls and off-street parking needs and facilities. A traffic study may be required by the City.

Traffic will be heaviest during the delivery and installation of the solar modules and racking. The maximum construction traffic load (approximately 40 truckloads) is expected to occur during the installation of racking and modules. Temporary vehicle parking areas within open upland areas of the Project site will be utilized as necessary during Project construction. During Project operations, traffic will be limited to approximately four to six visits per year by one to two vehicles for equipment and vegetative maintenance during normal business hours. The T-turning location depicted on the Site Plans will provide adequate parking for Project operation activities. Therefore, the proposed Project is not expected to result in unreasonable congestion or unsafe conditions on roads in the vicinity of the Project.

22) Fire protection needs and plans.

A fire hydrant is located directly adjacent to the parcel, on Back Searsport Road, as noted on the Boundary Survey.

23) Landscaping and buffer plans.

Please see the conceptual landscaping plans including with the Site Plans (Attachment 2: Sheets L0 through L3).

24) Road names. The developer shall name all development roads. Road names are subject to the approval of the City council.

There are no roads proposed.

25) A copy of the development plan with slash marks every 50 feet from the entrance to the development. The purpose of this plan is to assist in the assigning of street numbers for the E-911 emergency system.

There are no new developments proposed.

26) A statement from the City sewage treatment plant indicating present capacity of the wastewater treatment facility for the development.

The Project will not require wastewater treatment.

27) The location on the plan of all existing buildings on the property being developed.

All existing buildings located on the Project parcel are shown on the Site Plans.

28) Results of any and all soil tests or soil reports completed for the proposed development.

The results of Natural Resources Conservation Services soil mapping are included as Attachment 10.

29) Location of the limits of the floodplain, as defined on the flood insurance rate maps for the City. If not applicable, a note should be on the plan stating that no portion of the development is located in the floodplain.

There are no floodplains located on the Project parcel. In addition, the Project parcel flood zone mapping is included as Attachment 6.

30) A note on the plan referencing the current City tax map number and lot number.

The Project parcel (Tax Map 7, Lot 2) tax map information is indicated on the Site Plans.

b) Each sheet of the preliminary plan shall be 36 inches by 24 inches. If more than one sheet is required, match lines will be on each. The scale shall be one inch equals 100 feet or as determined by the code enforcement officer and/or the City engineer. In addition to the preliminary plan, the code enforcement officer and/or planning board may require the developer to undertake studies where deemed necessary or desirable to protect the public convenience, safety, health and welfare in accordance with the guidelines stated in this chapter and all other ordinances, rules, regulations and codes adopted by the City.

Please see the Project's Site Plans (Attachment 2).

CHAPTER 102, ARTICLE V, DIVISION II. GENERAL PURPOSE "A" DISTRICT

SEC. 102-324. STANDARDS

a) The general standards of performance of article IX of this chapter shall be observed in the General Purpose "A" District.

b) The following standards shall also apply:

1) Residential uses.

Not applicable. The Project is not a residential use.

2) Commercial, industrial, and other nonresidential uses.

a) Minimum lot size is one net acre. A commercial or nonresidential use may be located on the same one net acre lot as a dwelling structure.

The Project parcel is approximately 80.6 acres.

b) Minimum lot frontage is 150 feet.

The frontage of the Project parcel is approximately 682.4 ft.

c) The minimum rear and side yard setback is 20 feet.

The minimum Project rear setback is approximately 2,038 ft and the minimum side setback of the Project is 50.7 ft.

3) Setback from, right-of-way. The minimum setback shall be 30 feet from the road right-of-way line as determined by either measuring a distance from the center of the traveled way that equals 1/2 the right-of-way distance plus 30 feet, or determining the right-of-way boundary by a survey at the

owner's expense and adding 30 feet. Where the right-of-way width is unavailable or uncertain, the setback shall be 60 feet from the center of the traveled way.

No Project structures are proposed within 200 ft of Back Searsport Road. There are no other known right-of-way easements located on the Project parcel.

CHAPTER 102, ARTICLE VII, DIVISION 9. SOLAR ENERGY SYSTEMS

SEC. 102-1095. PERMIT APPLICATION REQUIREMENTS FOR LARGE-SCALE SOLAR ENERGY SYSTEMS

a) A description of the owner of the system, the operator if different, and detail of qualifications and technical ability of the owner or operator to construct, maintain and operate the facility.

A description of EDF's technical capacity to construct, maintain, and operate the proposed Project is provided in Attachment 5.

b) If the operator is leasing the site, a copy of the lease agreement (minus financial compensation) and any and all related easements clearly outlining the relationship of the respective parties, inclusive of the rights and responsibilities of the operator, landowner and any other responsible party with regard to the large-scale solar energy system and the term or duration of the agreement. Further, the operator shall identify any and all agreements or obligations of the landowner to the operator regarding any premises that are not specifically subject to the lease agreement, but which the operator has certain rights to use as part of the operation of the solar energy system.

The Applicant's Option to Lease Agreement is included as Attachment 8.

c) A description of the amount to energy to be produced and a general description of to whom the energy is intended to be sold.

The proposed Project is expected to generate ±8,351 megawatt hours (MwH) in the first year, the annual energy use of approximately 780 homes. Net energy billing credits will be sold to an assortment of universities, colleges, and commercial customers in the Central Maine Power territory. The exact customers are confidential at this time.

d) A copy of the agreement and schematic details of the connection arrangement with the transmission system that clearly indicates who is responsible for various requirements and how such will be operated and maintained.

Please see the Public Utilities Commission (PUC) Chapter 324 – Forms and Agreements and Interconnection schematic details included as Attachment 11.

e) A basic description of the number and configuration of panels to be installed, including make and model, and associated major system components.

The proposed Project is comprised of ±16,458 solar panel modules. The proposed modules will consist of CS3W-400 and CS3W-440 by Canadian Solar. A specification sheet for the panels and a brochure for the proposed transformer type are included as Attachment 12. Shining Solar Partners, LLC reserves the right to replace the proposed equipment with comparable Tier 1 equipment prior to construction, subject to availability, price, and/or technological improvements.

f) A construction plan and timeline that identifies known contractors, site control, when project construction will commence and the anticipated date that the system will be on-line.

Construction is anticipated to start in August 2021. EDF will act as the contractor for the Project. An approximated construction timeline is included in the Project Description above.

g) An operations and maintenance plan for the projected operating life of the system.

Please see the Operations and Maintenance (O&M) Plan included as Attachment 3.

h) An emergency management plan that identifies potential hazards and the response to such hazards.

Please see the Emergency Response Plan included as Attachment 13.

i) Evidence of financial capacity to construct and operate the proposed facility.

Evidence of the Applicant's financial capacity is included as Attachment 5.

j) Identification of methods that the operator shall use to manage on-site vegetation.

Please see the O&M Plan included as Attachment 3.

k) Identification of how the applicant shall address buffering requirements identified in this Division.

The Applicant is proposing to install a minimum 7-ft-tall agricultural style fence around the perimeter of the Project. Additionally, existing vegetation and the conceptual landscaping plan will buffer the Project from adjacent properties, as detailed in Sec. 90-42 (20).

l) Submission of a decommissioning plan that addresses the requirements of this Division.

Please see the Project decommissioning plan and draft decommissioning security included as Attachment 14.

m) Evidence that the owner or operator, prior to issuance of the Site Plan permit by the Planning Board, has applied for any and all non-City permits that may be required for the installation of the proposed system; for example, a stormwater management permit form the State Department of Environmental Protection.

A NRPA PBR application for proposed activities adjacent to protected natural resources (e.g., streams) was submitted to the MDEP on March 26, 2021. Additionally, the Project qualifies for a MDEP Stormwater PBR application, submitted to the MDEP on March 26, 2021, due to the limited amount of proposed impervious surface area. No wetland or stream impacts are anticipated that would require permitting with the U.S. Army Corps of Engineers.

SEC. 102-1097. DIMENSIONAL STANDARDS

a) Height.

2) Ground-mounted solar energy systems. A ground-mounted solar energy system that is setback less than fifty (50) feet from any property line shall not exceed sixteen (16) feet in height when oriented at maximum tilt. A ground-mounted system that is setback fifty (50) feet or more from any property line may be a maximum of thirty (30) feet in height when oriented at maximum tilt.

The proposed ground-mounted solar panels will be installed at a 20-degree angle. The highest point of the panels will not exceed 16 ft above grade. As proposed, the highest point of the panels is 8 ft above grade. Shining Solar Partners, LLC reserves the right to modify the maximum height of equipment, in

conformance with the Dimensional Standards, subject to final equipment selection prior to the issuance of building and electrical permits.

b) Setbacks for Ground-Mounted Energy Solar Systems.

Setback Standards for ground-mounted solar energy systems shall be as follows:

1) Minimum front yard setback: The minimum front yard setback for a ground-mounted solar energy system shall be as follows:

c) Large-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifty (50) feet from any adjacent street.

The Project will be setback a minimum of 219 ft from Back Searsport Road.

2) Minimum side yard setback. The minimum side yard setback requirement for any ground-mounted solar energy system shall be as follows:

c) Large-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifty (50) feet from any side lot line.

The Project will be setback a minimum of 50.7 ft from the adjacent parcels to the west and east of the Project.

3) Minimum rear yard setback. The minimum rear yard setback requirement for any ground-mounted solar energy system shall be as follows:

c) Large-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifty (50) feet from any rear lot line.

The Project will be setback a minimum of 2,038 ft from rear lot lines.

4) Minimum setback requirements for ground-mounted solar energy systems located in a Shoreland Zoning District.

The proposed Project is not located within a Shoreland Zoning District.

c) Lot Coverage

A solar energy system (in combination with other uses on a property), regardless of its size, shall comply with lot coverage standards that apply to a respective Zoning or Shoreland Zoning District. Only the paved, mounting block, or otherwise impervious areas of sites on which a ground-mounted solar energy system is installed shall be counted in the lot coverage calculation.

The proposed Project and existing structures on the property will result in a total lot coverage of approximately 0.4%. In accordance with this section of the Ordinance, the total lot coverage numbers account for ±5,568 driven posts (0.01 acre), which will be used to support the panels, the mechanical equipment (0.04 acres), and the existing structures on the property (0.26 acres).

d) Vegetation Management

The owner or operator of a medium-scale or large-scale ground-mounted solar energy system shall prepare a vegetation management plan associated with the operation of the system. A large-scale ground-mounted solar energy system, by its nature, may occupy a large land area. An application for a

large-scale ground-mounted system shall identify measures it will use to effectively manage vegetation. Methods include but are not limited to vegetating the solar array are in a pollinator-friendly manner or allowing the area for the grazing of farm animals.

As specified in the O&M Plan (Attachment 3), ground cover shall be mowed a maximum of twice per year. Mowing will be scheduled, to the extent practicable, to allow for pollinator and grassland bird utilization of the revegetated areas within the solar array. Growth of trees or other vegetation shading the arrays should be trimmed as needed and noted in the annual report. Vegetation growth (saplings, bushes, large weeds, etc.) within array fences or inverter enclosures shall be removed as necessary.

SEC. 102-1099. ADDITIONAL STANDARDS FOR MEDIUM-SCALE AND LARGE-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEMS

a) Utility Connections. An applicant shall make reasonable efforts, as determined by the respective City reviewing authority, to locate all utility connections from the solar photovoltaic installation underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections can be located above ground.

Existing and proposed utilities are shown on the Site Plans, sheet C-3.0. In addition, proposed utility schematics are included as Attachment 11. The Project electrical collection consists of buried medium voltage cabling except for five new overhead poles to be located near the POI at the existing Central Maine Power distribution line on Back Searsport Road.

b) Safety.

The Applicant will discuss and review the Emergency Response Plan for the proposed Project with the City Fire Department prior to commencement of construction.

SEC. 102-1100. ADDITIONAL STANDARDS FOR LARGE-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEMS

a) Visual Impact and Buffering. An applicant shall make reasonable efforts, as determined by the Planning Board, to minimize visual impacts associated with the installation of a large-scale solar energy system. The Board shall consider the size, location and topography of the site and the characteristics of the surrounding property and the amount and type of development on said properties in determining the amount and type of screening and buffering that it deems appropriate. Screening measures are required and may include but are not necessarily limited to the following: preserving natural vegetation, particularly in the setback area for the solar energy system; planting new vegetation, particularly in the setback area for the solar energy system; installing a raised berm and appropriate plantings, particularly in the setback area; and installing a fence.

The Applicant is proposing to install a minimum 7-ft-tall agricultural style fence around the perimeter of the Project. Additionally, existing vegetation and the conceptual landscaping plan will buffer the Project from adjacent properties, as detailed in Sec. 90-42 (20).

b) Glare. Solar panels are designed to absorb (not reflect) sunlight; and, as such, solar panels are generally less reflective than other varnished or glass exterior housing pieces. However, solar panel placement should be prioritized to minimize or negate any solar glare onto nearby properties or roadways to the maximum extent practical. Further, in the case of a solar energy system that could have an adverse impact on the safety of operations associated with the Belfast Airport, the Planning Board requires assurances that the installation and operation of the solar energy system would not have an unreasonable adverse impact on public safety. As such, the Belfast Planning Board has the

authority to require any Applicant that proposes to install a large-scale ground-mounted solar energy system in an area that could affect the safety of airport operations to conduct a solar glare gauge analysis study as an element of the application submitted to the Planning Board. The Planning Board shall consider the results of the glare analysis in rendering a decision to approve or deny an application and any conditions of approval that it establishes on a permit application.

Solar panels are designed to absorb solar energy and convert it to electricity. As such, most solar panels are designed with anti-reflective materials to capture and retain as much of the solar spectrum as possible. Typical solar panels reflect only about 2% of incoming sunlight, which is less than bare soil and vegetation.[6] Therefore, the Project is not expected to produce light or a reflection of light onto neighboring properties, nor will the Project produce glare that will impair the vision of drivers on nearby roads. Additionally, the Project is located approximately 3 miles to the northeast of the Belfast Municipal Airport and is not aligned with the runway take-off or landing directions. Thus, the Project is not expected to have an impact on airport operations.

c) Operations and Maintenance Plan. The applicant shall submit a plan for the operation and maintenance of the large-scale solar energy system. The plan shall include measures for maintaining safe access to the installation as well as other general procedures for operational maintenance of the installation.

An O&M Plan is included as Attachment 3.

d) Emergency Management and Services. The owner of a large-scale solar energy system or operator shall prepare and provide a project summary, electric schematic, and site plan to the Code Enforcement Officer, the Fire Chief and the Chief of Police. Upon request of the Fire Chief, the owner or operator shall cooperate with the Fire Department and other interested parties in preparing an emergency response plan. All City and County emergency management personnel shall be provided the name and contact information of the party responsible for the operation of the system.

An Emergency Response Plan is included as Attachment 13. If requested, the Applicant will conduct a site orientation with the City Fire Department prior to commencement of operations.

e) Installation Conditions. The owner or operator of the large-scale solar energy system shall maintain the facility in good condition on an ongoing basis during the time period that the solar energy system is in operation. Maintenance shall include but is not limited to the following: painting, structural repairs, ground maintenance around the array, maintaining buffering measures required by the Planning Board, maintaining the access road to the solar array, maintaining any stormwater management features required by the State or the City, and maintaining the integrity of security measures.

Please see the O&M Plan, included as Attachment 3.

f) Vegetation Management. The owner or operator of a large-scale ground-mounted solar energy system shall prepare a vegetation management plan associated with the operation of the system. A large-scale ground-mounted solar energy system, by its nature, may occupy a large land area. An application for a large-scale ground-mounted system shall identify measures it will use to effectively manage vegetation. Methods may include but are not limited to vegetating the solar array area in a pollinator-friendly manner and allowing the area for the grazing of farm animals.

Details regarding vegetation management are included in the O&M Plan (Attachment 3).

g) Signage. The owner or operator shall install a sign that identifies the name of the owner, the name of the operator, and a 24 hour emergency contact phone number for the operator. The sign shall be no greater than 36 inches by 60 inches in size and shall be no more than 8 feet in height from the adjacent

ground grade. The sign shall not be internally illuminated, however, if necessary, it can be illuminated by minimal lighting that complies with the following standards: LED lighting that has a rating of no greater than 3,000 on the kelvin scale, the lighting is down-directed and shielded, and the lighting does not create any unreasonable glare on any adjacent road or neighboring property. The sign shall not display any advertising except for reasonable identification of the manufacturer or operator of the solar energy system.

The Applicant is proposing to install a sign on the gate at the main access. The proposed sign will be designed per the City of Belfast Ordinances. There is no proposed lighting for the sign.

h) Removal of Solar Energy System. A large-scale ground-mounted solar energy system that has reached the end of its useful life or that has been abandoned and not produced power for a period of twelve (12) consecutive months, shall be removed. The owner or operator shall provide notification to the Code Enforcement Officer by certified letter of the proposed date of discontinued operations, and shall prepare and submit a plan to the Code Enforcement Officer that identifies how all components of the solar energy system, including but not necessarily limited to the solar collectors, the mounting equipment, the transmission lines, and any security barriers shall be removed from the site. The Code Enforcement Officer must review and approve the removal plan, and the owner or operator, no more than 150 days after the date of discontinued operations, must complete the removal of the solar energy system in accordance with the approved plan. Further, the owner or operator shall dispose of all solid and hazardous waste in accordance with all applicable local, state and federal waste disposal regulations. Post removal of the solar energy system, the owner or operator shall stabilize and re-vegetate the site as necessary to minimize soil erosion. The owner or operator shall contact the Code Enforcement Officer for a final inspection of the removal of the system and to obtain a receipt of approval that the removal was performed successfully.

The Applicant is not proposing to remove a solar project as part of this application. However, a Decommissioning Plan (Attachment 14) has been provided to detail the removal of the Project at a later date.

i) Community Donation Option. The operator of a ground-mounted solar energy system that has chosen to discontinue use of the system, may submit a plan for the review and approval of the Belfast Planning Board that identifies how the system can be donated to an appropriate community organization. Said plan shall identify the projected useful remaining life of the system, how the transfer shall occur, the responsibilities of the party that will receive the donation regarding the operation and maintenance of the system, the financial and technical ability of the party that the system is donated to successfully operate the system, and how the receiving party will fulfill the responsibility to decommission the system upon the end of its useful life. The Board shall have the authority to approve or deny the requested donation option. If the Board denies the donation option, the owner operator shall proceed to remove the system.

The Applicant is not proposing to discontinue the use of a solar project as part of this application.

j) Request to reactivate a discontinued large-scale solar energy system. Request to reactivate a discontinued large-scale solar energy system. An owner or operator may submit a written request to the Belfast Planning Board to reactivate a large-scale solar energy system that has been discontinued or abandoned due to extenuating circumstances. The Belfast Planning Board shall be responsible for the review and approval or denial of any written request to reactivate a solar energy system, subject to applicable review criteria for a new permit to operate the system. Unless the Board approves a request to reactivate the system, the solar energy system shall be considered abandoned.

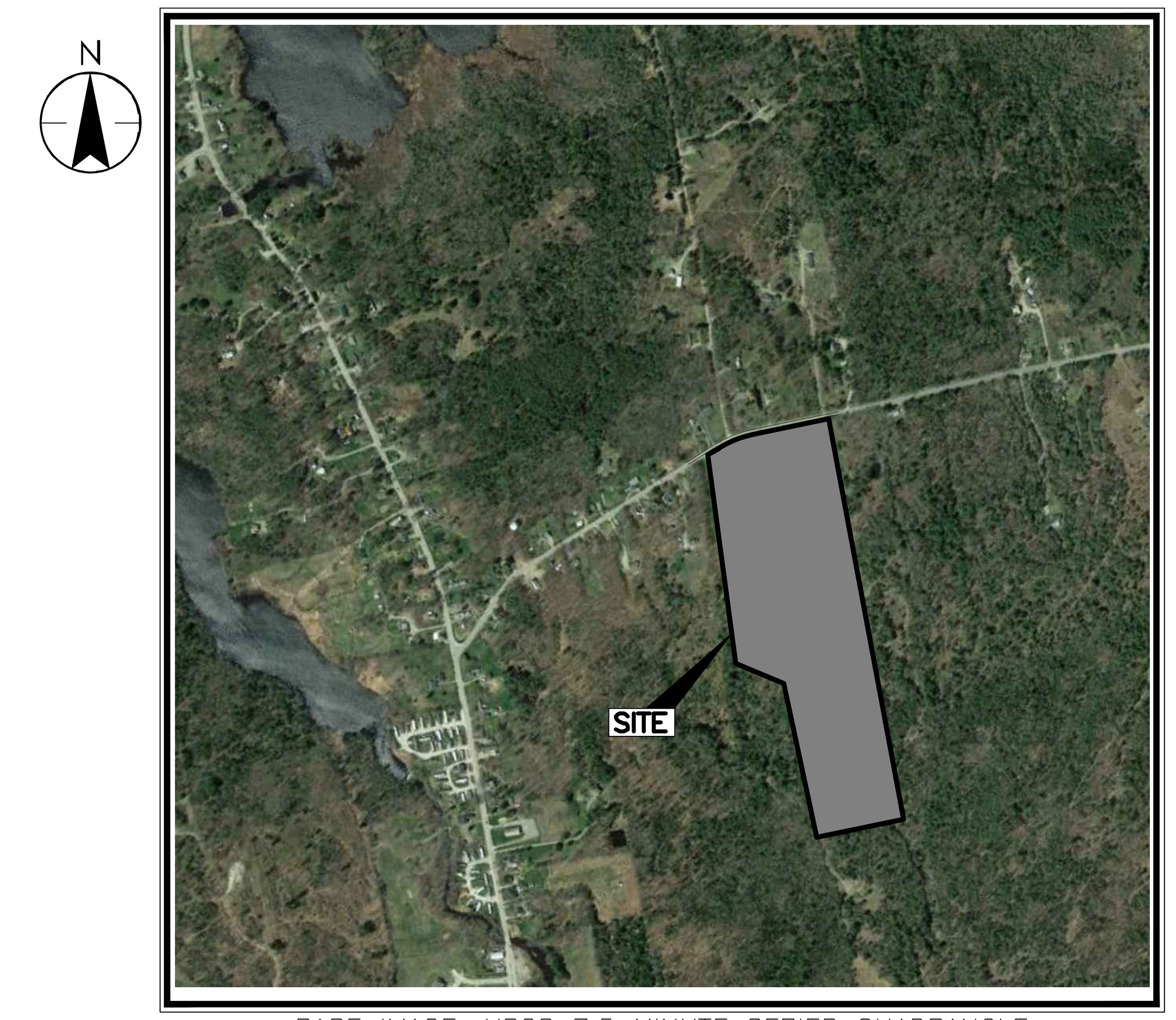
The Applicant is not proposing to reactivate a solar project as part of this application.

k) Decommissioning of large-scale solar energy system and abandonment guarantee.

A Decommissioning Plan, including cost estimates and a draft decommissioning security, is included in Attachment 14.

ATTACHMENT 2: BOUNDARY SURVEY AND SITE PLANS

Stantec



BASE IMAGE: USGS 7.5 MINUTE SERIES QUADRANGLE

PERMITTING PLANS FOR PROPOSED SOLAR PROJECT

SHINING SOLAR PARTNERS PROJECT

BACK SEARSPORT ROAD

BELFAST, MAINE

DEP STORMWATER PERMIT-BY-RULE - NRPA
AND
CITY OF BELFAST REVIEW

PROJECT NUMBER: 195601958

STATE OF MAINE
DAVID P NADEAU
No. 10683
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR SITE PLAN APPLICATION
MARCH 2021

Stantec Consulting Services Inc.
2211 Congress Street
Suite 380
Portland, ME 04102
Tel. 207.883.3355
www.stantec.com

DRAWING LIST

ORIGINAL SHEET - ISO A1
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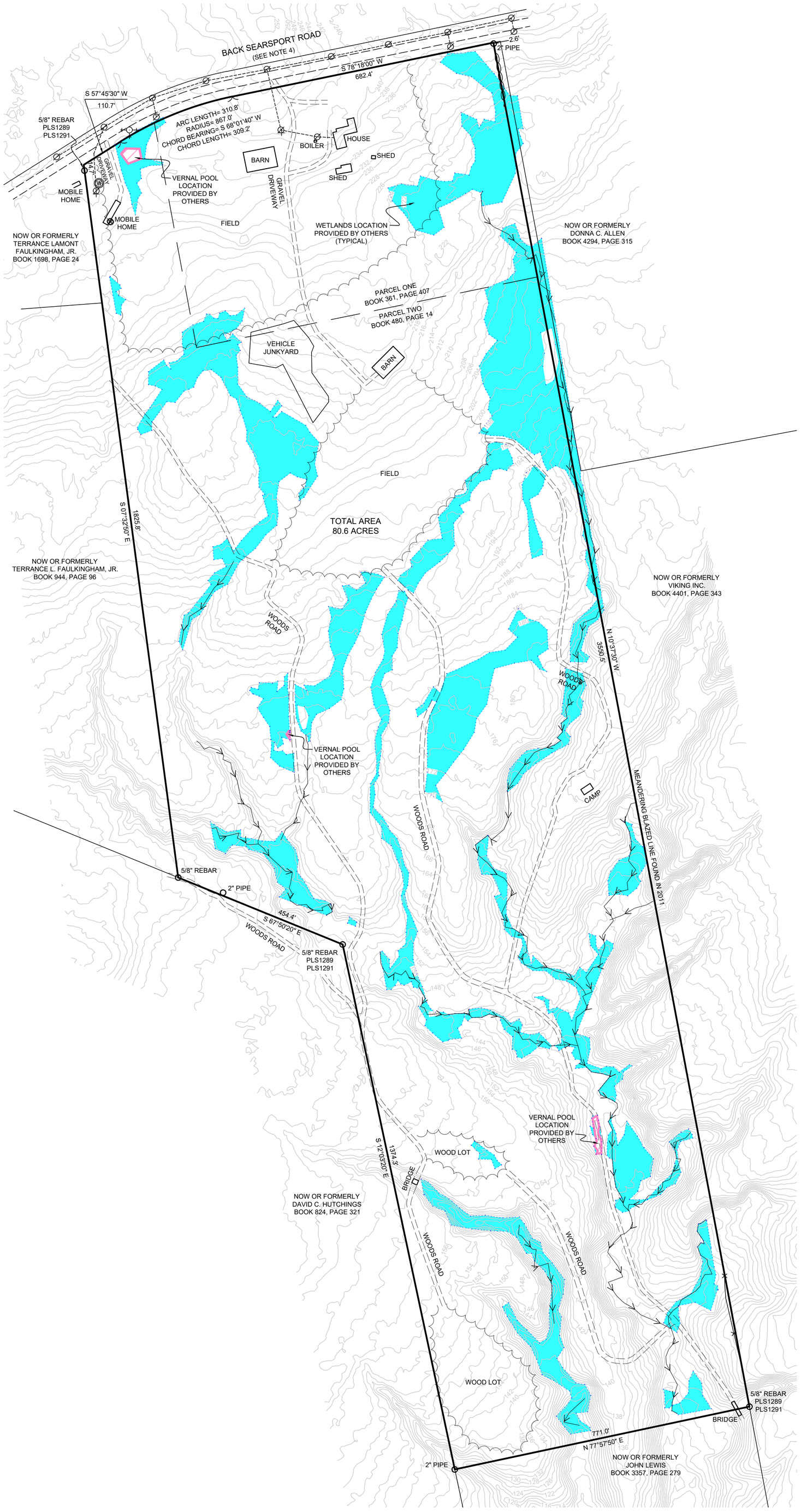
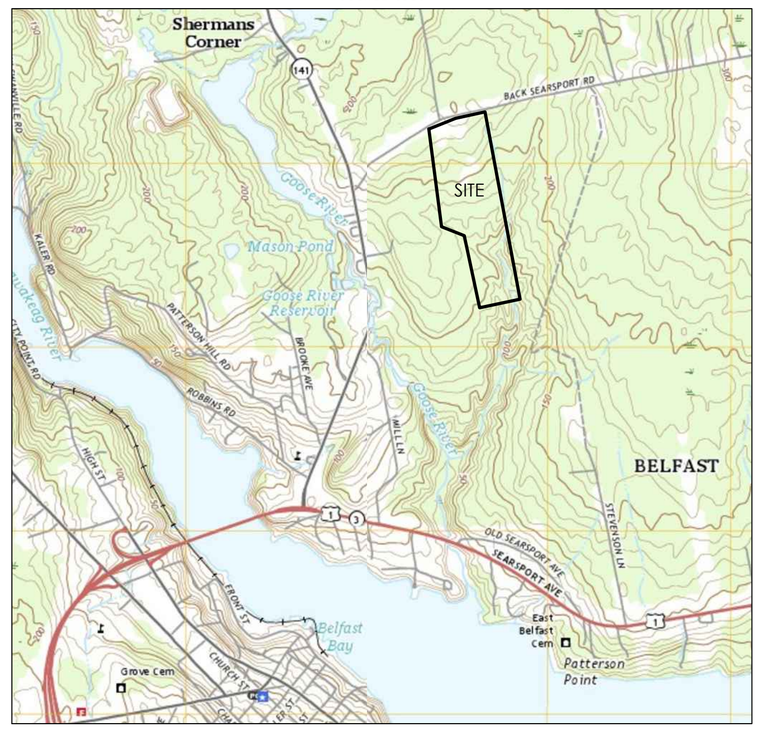
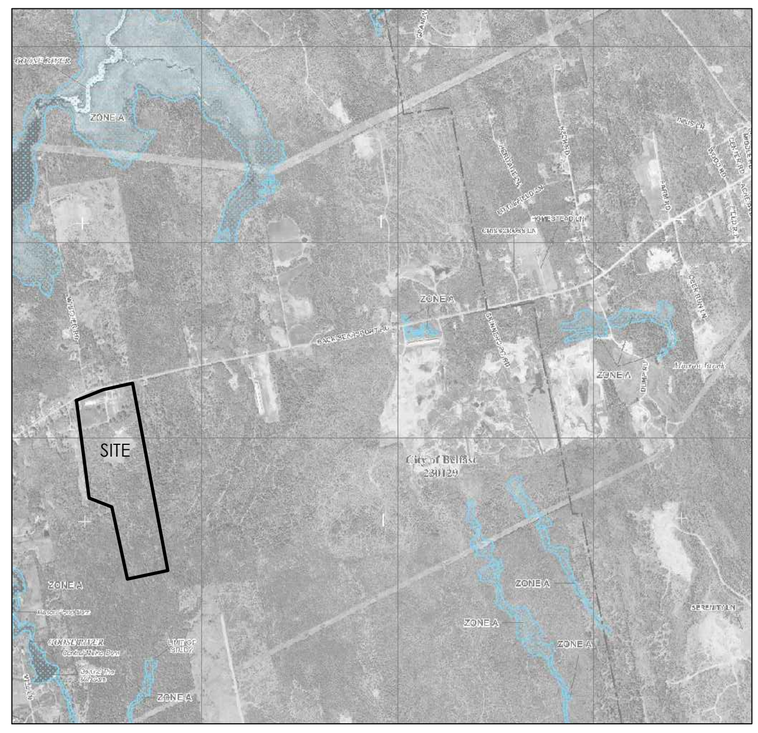


LOCATION MAP- NOT TO SCALE
SOURCE- USGS



FLOOD MAP- NOT TO SCALE
SOURCE- FEMA MAP No. 23027C0455E
EFFECTIVE DATE- JULY 6, 2015



NOTES:

(1) DOCUMENTS REFERENCED ON THIS PLAN ARE RECORDED IN THE WALDO COUNTY REGISTRY OF DEEDS UNLESS OTHERWISE NOTED.
(2) NO SURVEYOR'S REPORT WAS PREPARED.
(3) CONTOURS WERE DOWNLOADED FROM THE MAINE OFFICE OF GIS AND ARE ON NAD88 (GEOID18).
(4) THE BACK SEARSPORT ROAD WAS ACCEPTED AS A 4 ROD (66 FOOT) WIDE RIGHT OF WAY BY THE CITY OF BELFAST ON APRIL 78, 1812 (SEE HISTORY OF THE CITY OF BELFAST, VOL. I BY JOSEPH WILLIAMSON, PAGE 608). RIGHTS AND OWNERSHIP WITHIN THE RIGHT OF WAY OF THE BACK SEARSPORT ROAD WERE NOT INVESTIGATED.
(5) THIS SURVEY ACCOMPANIES FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NUMBER 3020-1015138 DATED AUGUST 27, 2020.
(6) SUBJECT PARCEL IS ZONED GENERAL PURPOSE "A" DISTRICT. SEE SETBACK AND HEIGHT REQUIREMENTS AT THE BOTTOM OF THIS PLAN SHEET.

MAINE COORDINATE
SYSTEM OF 1983
EAST ZONE
NAD 83 (2011)(EPOCH 2010.000)

SCALE: 1"= 150'

150' 0 150' 300' 450' 600'

LEGEND

- 3/4 INCH DIAMETER REBAR WITH IDENTIFICATION CAP SET
- MONUMENT FOUND AS LABELED
- UTILITY POLE
- UTILITY POLE ANCHOR
- WATER SHUT OFF
- WELL
- FIRE HYDRANT
- VERNAL POOL BOUNDARY
- DELINEATED WETLAND
- EDGE OF TRAVELED WAY
- STONE WALL
- OVERHEAD WIRES
- EDGE OF RIGHT OF WAY
- PROPERTY LINE
- PROPERTY LINE NOT SURVEYED
- DELINEATED STREAM
- TREELINE

SCHEDULE A, 5. DESCRIPTION

PARCEL ONE:
A CERTAIN LOT OR PARCEL OF LAND WITH THE BUILDINGS THEREON, IN SAID BELFAST, SITUATED ON THE SOUTHERLY SIDE OF THE SEARSPORT BACK ROAD, SO-CALLED, BOUNDED AND DESCRIBED AS FOLLOWS, TO WIT:

BOUNDED NORTHERLY BY SAID SEARSPORT BACK ROAD; EASTERLY AND SOUTHERLY BY LAND OF CHESTER STEPHENSON; AND WESTERLY BY LAND FORMERLY OF WILLIAM T. ROGERS; CONTAINING TWELVE ACRES, MORE OR LESS.

ALSO ANOTHER LOT OR PARCEL OF LAND TOGETHER WITH THE BUILDINGS THEREON, SITUATED IN BELFAST, COUNTY OF WALDO, STATE OF MAINE, MORE PARTICULARLY BOUNDED AND DESCRIBED IN 1950 AS FOLLOWS, TO WIT:

PARCEL TWO:
ON THE SOUTHERLY SIDE OF SEARSPORT BACK ROAD, BOUNDED NORTHERLY BY SEARSPORT BACK ROAD AND LAND NOW OR FORMERLY OF KENNETH W. COLCORD; EASTERLY BY LAND NOR (SIC) OR FORMERLY OF R. W. STEPHENSON; SOUTHERLY BY LAND NOW OR FORMERLY OF P. B. CROSBY AND WESTERLY BY LAND NOW OR FORMERLY OF ROBERT HOLT AND BEING THE SAME PROMISES CONVEYED TO ME BY FOSTER K. GROSS BY HIS DEED OF WARRANTY DATED SEPTEMBER 29, 1950, RECORDED IN THE WALDO REGISTRY OF DEEDS IN BOOK 474, PAGE 386.

SURVEY STANDARD

TO FIRST AMERICAN TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1,2,3,4,5,6(a),6(b),8,11,13,18,19 AND 20 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON FEBRUARY 8, 2021.

DATE OF PLAT OR MAP: FEBRUARY 8, 2021

CLARK STAPLES, PLS2332

STATE OF MAINE
CLARK G. STAPLES
NO. 2332
PROFESSIONAL LAND SURVEYOR

From City of Belfast

Sec. 102-1097. Dimensional Standards.
(a) Height.
(2) Ground-mounted solar energy systems. A ground-mounted solar energy system that is setback less than fifty (50) feet from any property line shall not exceed sixteen (16) feet in height when oriented at maximum tilt. A ground-mounted system that is setback fifty (50) feet or more from any property line may be a maximum of thirty (30) feet in height when oriented at maximum tilt, .
3) Pole mounted solar energy system. A pole mounted solar energy system that is located less than 50 feet from any property line may be a maximum of sixteen (16) feet in height. A pole mounted solar energy system that is located fifty (50) feet or more from a property line may be a maximum of thirty (30) feet in height.
(b) Setbacks for Ground-Mounted Solar Energy Systems. Setback standards for ground-mounted solar energy systems shall be as follows:
(1) Minimum front yard setback: The minimum front yard setback for a ground-mounted solar energy system shall be as follows:
a) Small-scale ground-mounted solar energy systems. In all Inside the Bypass zoning districts, reference Article V, Division 9 of this Chapter, the solar energy system shall not be located directly in front of the principal structure or in the front yard area which is the area between the principal structure and the adjacent street. In all other zoning districts, the minimum front yard setback shall be thirty (30) feet.
(b) Medium-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifty (50) feet from any adjacent street.
(c) Large-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifty (50) feet from any adjacent street.
(2) Minimum side yard setback. The minimum side yard setback requirement for any ground-mounted solar energy system shall be as follows:
a) Small-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifteen (15) feet from any side lot line, provided the solar energy system, at full tilt, does not exceed a maximum height of sixteen (16) feet. Any solar energy system that is greater than sixteen (16) feet in height shall be setback a minimum of fifty (50) feet.
b) Medium-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of thirty (30) feet from any side lot line, provided the solar system, at full tilt, does not exceed a maximum height of sixteen (16) feet. Any solar energy system that is greater than sixteen (16) feet in height shall be setback a minimum of fifty (50) feet.
c) Large-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifty (50) feet from any side lot line.
(3) Minimum rear yard setback. The minimum rear yard setback requirement for any ground-mounted solar energy system shall be as follows:
a) Small-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifteen (15) feet from any rear lot line, unless the height of the solar energy system exceeds sixteen (16) feet, in which case the solar energy system shall be setback a minimum of fifty (50) feet.
b) Medium-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of thirty (30) feet from any rear lot line, unless the height of the solar energy system exceeds sixteen (16) feet, in which case the solar energy system shall be setback a minimum of fifty (50) feet.
c) Large-scale ground-mounted solar energy system. The solar energy system shall be setback a minimum of fifty (50) feet from any rear lot line.

ALTA/NSPS LAND TITLE SURVEY

LANDS OF

JAMES K. COLCORD

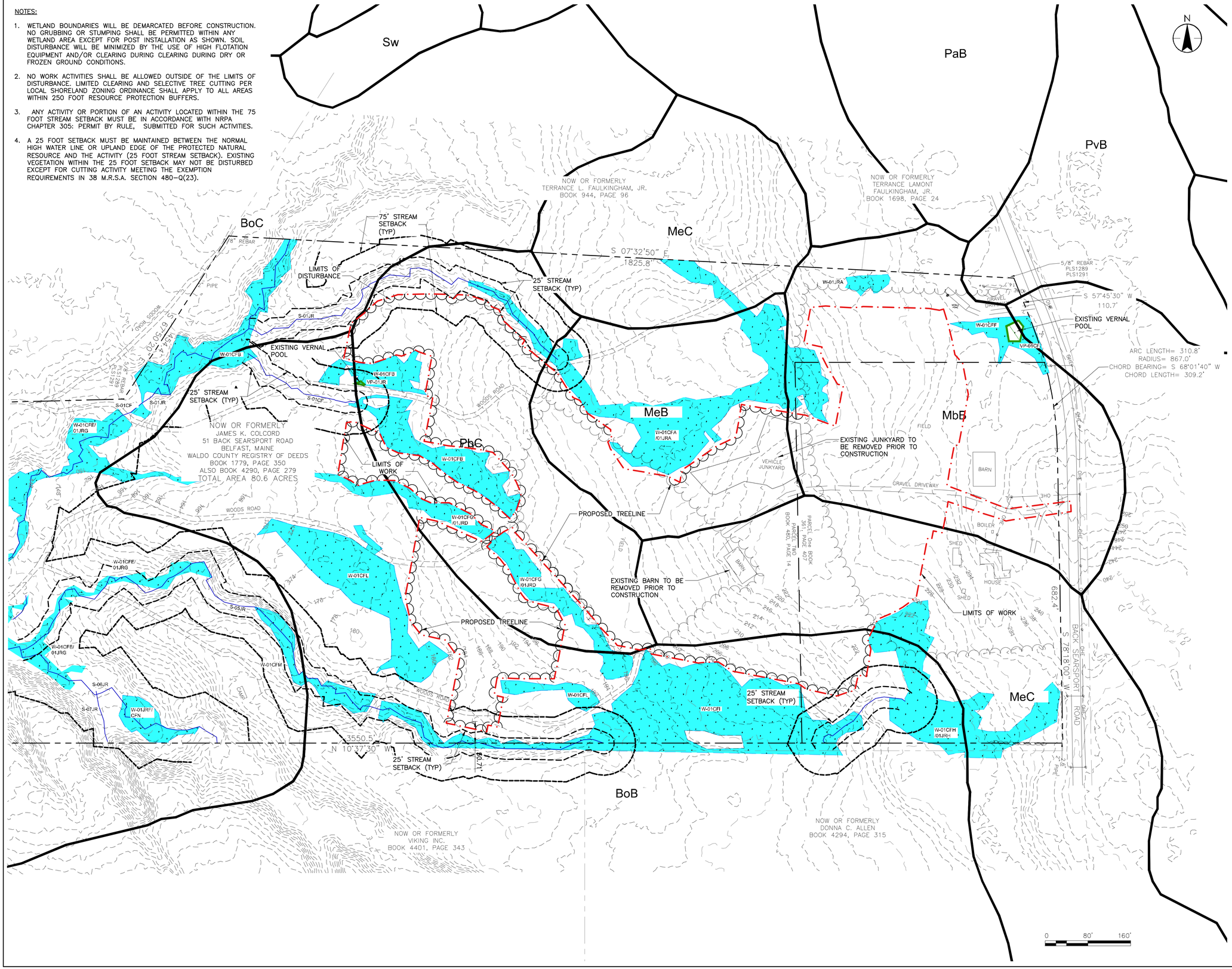
51 BACK SEARSPORT ROAD
BELFAST, MAINE
WALDO COUNTY REGISTRY OF DEEDS
BOOK 1779, PAGE 350
ALSO BOOK 4290, PAGE 279
FOR
STANTEC CONSULTING SERVICES INC.

PLISGA & DAY
LAND SURVEYORS
72 MAIN STREET
BANGOR, ME 04401
(207) 947-0019

DRAWING: 20099
DATE: 2-8-2021
SCALE: 1"=150'
SHEET: 1 of 1

NOTES:

1. WETLAND BOUNDARIES WILL BE DEMARCATED BEFORE CONSTRUCTION. NO GRUBBING OR STUMPING SHALL BE PERMITTED WITHIN ANY WETLAND AREA EXCEPT FOR POST INSTALLATION AS SHOWN. SOIL DISTURBANCE WILL BE MINIMIZED BY THE USE OF HIGH FLOTATION EQUIPMENT AND/OR CLEARING DURING CLEARING DURING DRY OR FROZEN GROUND CONDITIONS.
2. NO WORK ACTIVITIES SHALL BE ALLOWED OUTSIDE OF THE LIMITS OF DISTURBANCE. LIMITED CLEARING AND SELECTIVE TREE CUTTING PER LOCAL SHORELAND ZONING ORDINANCE SHALL APPLY TO ALL AREAS WITHIN 250 FOOT RESOURCE PROTECTION BUFFERS.
3. ANY ACTIVITY OR PORTION OF AN ACTIVITY LOCATED WITHIN THE 75 FOOT STREAM SETBACK MUST BE IN ACCORDANCE WITH NRPA CHAPTER 305: PERMIT BY RULE, SUBMITTED FOR SUCH ACTIVITIES.
4. A 25 FOOT SETBACK MUST BE MAINTAINED BETWEEN THE NORMAL HIGH WATER LINE OR UPLAND EDGE OF THE PROTECTED NATURAL RESOURCE AND THE ACTIVITY (25 FOOT STREAM SETBACK). EXISTING VEGETATION WITHIN THE 25 FOOT SETBACK MAY NOT BE DISTURBED EXCEPT FOR CUTTING ACTIVITY MEETING THE EXEMPTION REQUIREMENTS IN 38 M.R.S.A. SECTION 480-Q(23).



ORIGINAL SHEET - ARCH D

Stantec

Stantec Consulting Services Inc.
482 Payne Road
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Tel. 207.883.3355
Fax. 207.883.3376
www.stantec.com

Legend

LEGEND

- 3/4 INCH DIAMETER REBAR WITH IDENTIFICATION CAP SET
- MONUMENT FOUND AS LABELED
- STONE CAIRN FOUND
- GRANITE HIGHWAY MONUMENT
- UTILITY POLE
- UTILITY POLE ANCHOR
- SIGNIFICANT VERNAL POOL BOUNDARY
- VERNAL POOL BOUNDARY
- 250' SIGNIFICANT VERNAL POOL CRITICAL TERRESTRIAL HABITAT
- POTENTIAL VERNAL POOL BOUNDARY
- 250' POTENTIAL SIGNIFICANT VERNAL POOL CRITICAL TERRESTRIAL HABITAT
- DELINEATED WETLAND
- DELINEATED PERENNIAL STREAM
- DELINEATED INTERMITTENT STREAM
- OHE — OVERHEAD WIRES
- EDGE OF RIGHT OF WAY
- PROPERTY LINE
- PROPERTY LINE NOT SURVEYED
- EDGE OF PAVEMENT

PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04
Issued	By	Appd.	YY.MM.DD

File Name: C-2_ex_conditions.dwg

Permit-Seal

STATE OF MAINE — DAVID P NADEAU — No. 10683 — LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

MARCH 25, 2021

Client/Project

SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

51 BACK SEARSPORT ROAD
BELFAST, MAINE

Title

EXISTING CONDITIONS AND CLEARING PLAN

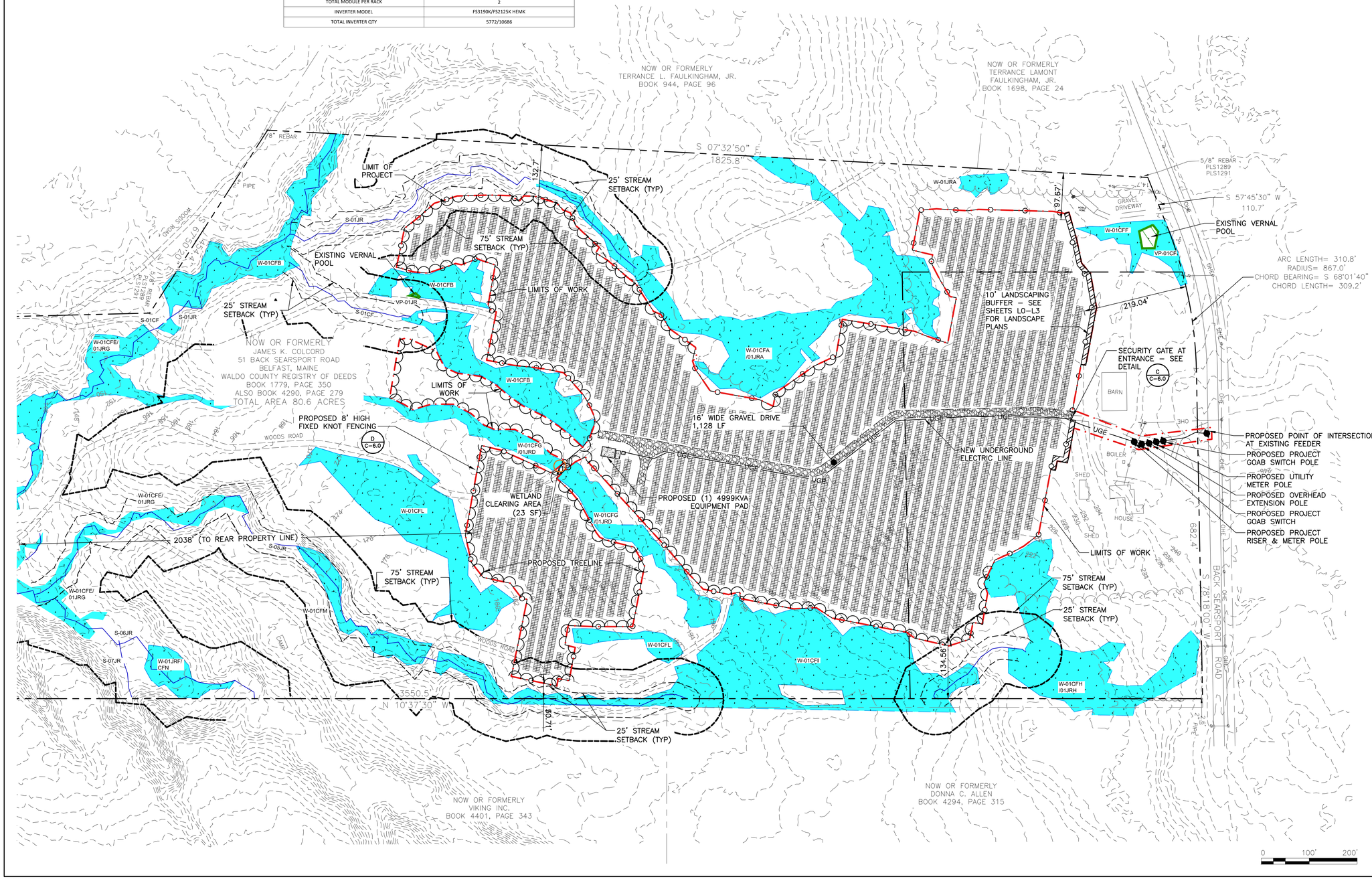
Project No.	Scale	
195601958	AS NOTED	
Drawing No.	Sheet	Issued
C-2	2 of 14	0

BELFAST LAND USE ORDINANCE SETBACKS:

1. 50' FROM EDGE OF ANY ADJACENT STREET.
2. 50' FROM ANY PROPERTY SIDE YARD LOT LINE.
3. 50' FROM REAR YARD LOT LINE.

PROJECT INFORMATION	
PARCEL AREA	80.6 ACRES (DEEDED)
TOTAL PROJECT AREA	19.04 ACRES
FENCED AREA	17.99 ACRES
TOTAL LENGTH OF FENCE	6,668 LF
NEW IMPERVIOUS AREA	0.52 ACRES
DEVELOPED AREA	0.52 ACRES
DISTURBED AREA	10.41 ACRES
ACCESS DRIVE LENGTH	1,128 FT
TOTAL IMPERVIOUS IMPACT IN WETLANDS	0 SF
TOTAL CLEARING IMPACT IN WETLANDS	23 SF
FENCE POSTS IN WETLANDS	0
PANEL POSTS IN WETLANDS	0
AREA OF POSTS IN WETLANDS	0
AREA OF SHADING WITHIN WETLANDS	N/A
SYSTEM SIZE DC	7010.64 kWp
SYSTEM SIZE AC	4999 kWp
DC/AC RATIO	1.4
SOLAR MODULE MODEL	JAM72S09-395/PR
TOTAL MODULE QUANTITY	16,458
TOTAL MODULE PER RACK	2
INVERTER MODEL	FS3190K/FS2125K HEMK
TOTAL INVERTER QTY	5772/10686

WETLAND IMPACTS			
IMPACTED DELINEATED WETLAND	CEARING IMPACT (SF)	FILL IMPACT (SF)	WETLAND SHADING (SF)
W-01CFA/01JRA	0 SF	0 SF	0 SF
W-01CFB	0 SF	0 SF	0 SF
W-01CFI	0 SF	0 SF	0 SF
W-01CFL	0 SF	0 SF	0 SF
W-01CFG/01JRD	23 SF	0 SF	0 SF
W-01CFH/01JRH	0 SF	0 SF	0 SF



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Legend

LEGEND

- VERNAL POOL BOUNDARY
- DELINEATED WETLAND
- DELINEATED PERENNIAL STREAM
- 25' STREAM SETBACK
- EDGE OF GRAVEL
- PROPERTY LINE
- LIMITS OF WORK
- OHE — OVERHEAD POWER LINE
- CONCRETE PAD

PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04
Issued	By	Appd.	YY.MM.DD

File Name: c-3.0_site-plan.dwg

Permit-Seal

DAVID P. NADEAU No. 10683 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

ISSUED FOR PERMIT

MARCH 25, 2021

Client/Project

SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

51 BACK SEARSPORT ROAD
BELFAST, MAINE

Title

SITE & UTILITY PLAN

Project No.	Scale	
195601958	AS NOTED	
Drawing No.	Sheet	Issued
C-3.0	4 of 14	0

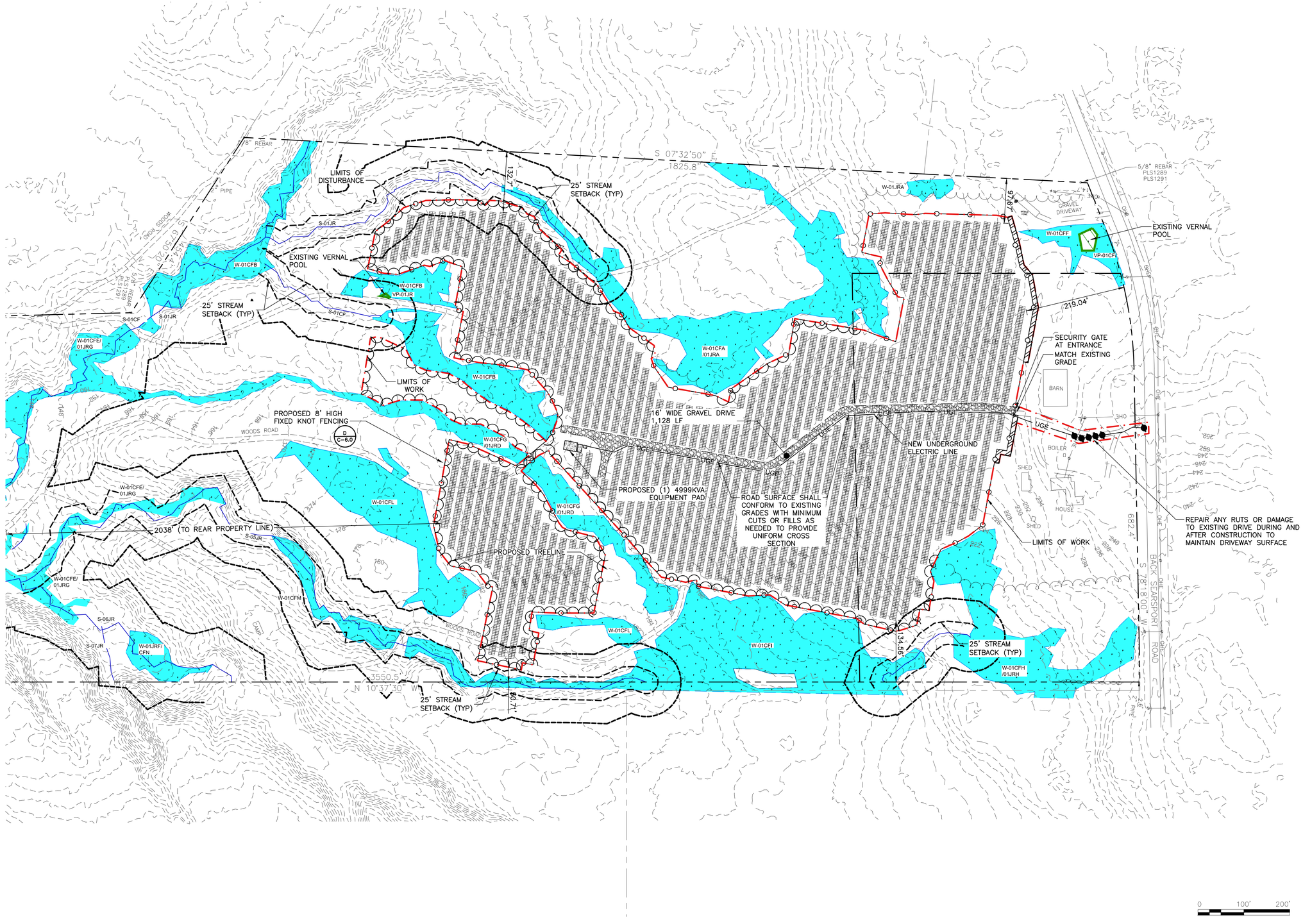
ORIGINAL SHEET - ARCH D

1. EXISTING TOPOGRAPHY AND GRADES WILL BE MAINTAINED EXCEPT FOR VERY LIMITED GRADING, IF NECESSARY, FOR THE ACCESS ROAD AND INVERTER PADS WHICH WILL FOLLOW EXISTING GRADES TO MAXIMUM EXTENT PRACTICABLE. NO GRADING OR RE-GRADING OF THE SITE IS ANTICIPATED EXCEPT AS NECESSARY TO PROVIDE UNIFORM SURFACES FOR THE ROAD AND ARRAY SITE. AREAS CLEARED AND GRUBBED SHALL BE SMOOTHED TO RESTORE EXISTING GRADES AND SURFACE.

2. ALL DISTURBED, GRADED AND CLEARED AREAS SHALL BE RE-VEGETATED AS MEADOW UPON COMPLETION OF DISTURBANCE.

3. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. ACTIVE AREAS INVOLVING SOIL DISTURBANCE SHALL BE LIMITED TO A TOTAL AREA OF LESS THAN 10 ACRES AT ANY TIME.

4. NO GRUBBING, GRADING OR SOIL DISTURBANCE IS PERMITTED WITHIN ANY WETLAND AREA



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Legend

LEGEND

- SIGNIFICANT VERNAL POOL BOUNDARY
- VERNAL POOL BOUNDARY
- 250' SIGNIFICANT VERNAL POOL CRITICAL TERRESTRIAL HABITAT
- POTENTIAL VERNAL POOL BOUNDARY
- 250' POTENTIAL SIGNIFICANT VERNAL POOL CRITICAL TERRESTRIAL HABITAT
- DELINEATED WETLAND
- DELINEATED PERENNIAL STREAM
- EDGE OF GRAVEL
- PERIMETER FENCE
- PROPERTY LINE
- PROJECT LIMITS
- OHE — OVERHEAD POWER LINE
- UGE — UNDERGROUND ELECTRIC LINE
- CONCRETE UTILITY PAD
- PROPOSED TREE LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04
Issued	By	Appd.	YY.MM.DD

File Name: C-4_grading-plan.dwg PBF SML WAG 2020.07.17

Permit-Seal

STATE OF MAINE
DAVID P NADEAU
No. 10683
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

MARCH 25, 2021

Client/Project

SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

51 BACK SEARSPORT ROAD
BELFAST, MAINE

Title

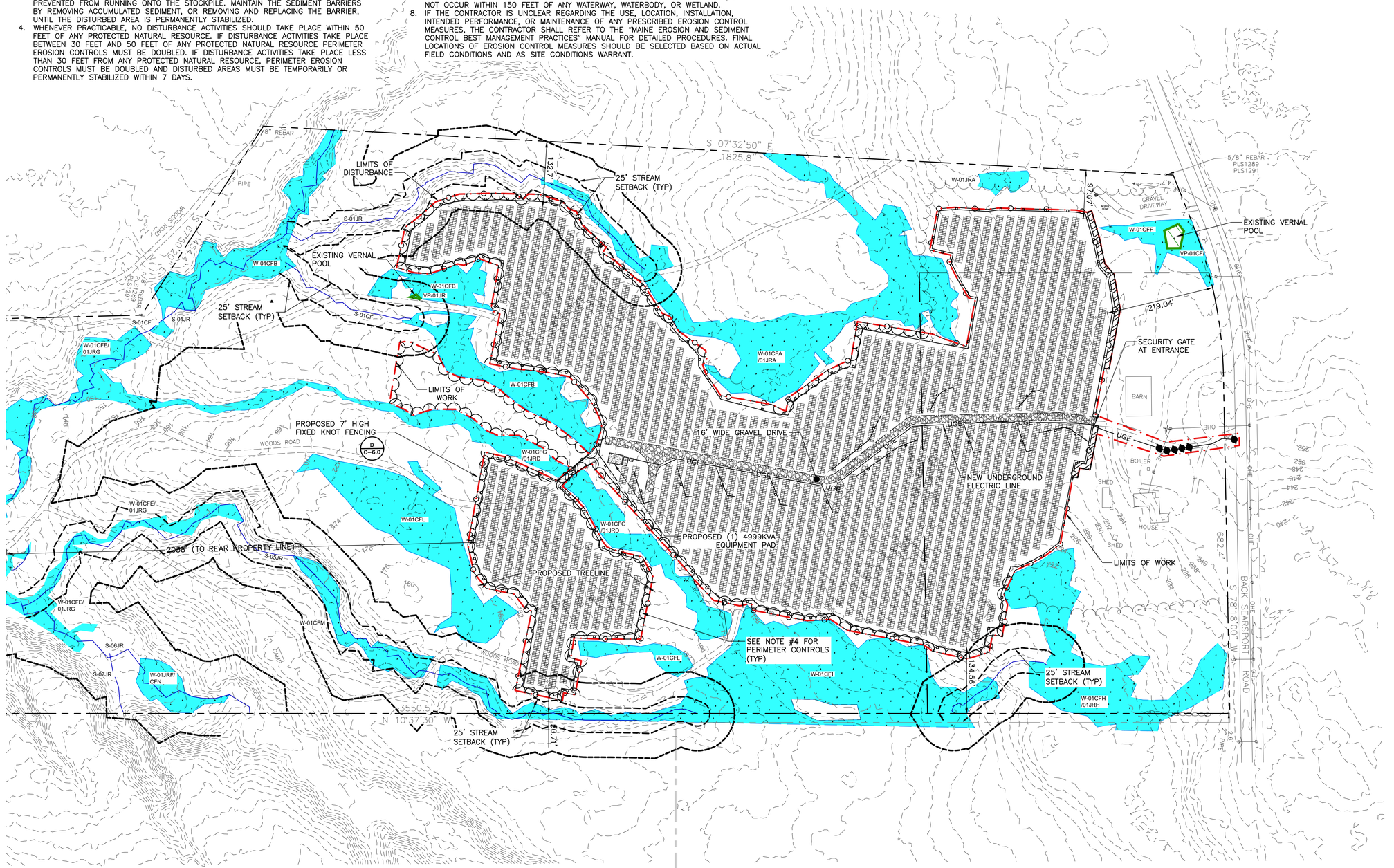
GRADING PLAN

Project No.	Scale	
195601958	1" = 100'	
Drawing No.	Sheet	Issued
C-4.0	5 of 14	0

ORIGINAL SHEET - ARCH D

NOTES

1. ALL DISTURBED, GRADED AND CLEARED AREAS SHALL BE REVEGETATED AS MEADOW UPON COMPLETION OF DISTURBANCE. AN AREA IS CONSIDERED STABLE IF A 90% COVER OF VEGETATION HAS BEEN ESTABLISHED AND OTHER PERMANENT MEASURES ARE IN PLACE AND FUNCTIONING PROPERLY.
2. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT AREAS TO THE EXTENT PRACTICABLE. ACTIVE AREAS INVOLVING SOIL DISTURBANCE SHALL BE LIMITED TO A TOTAL AREA OF LESS THAN 10 ACRES AT ANY TIME. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN.
3. PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED FROM RUNNING ONTO THE STOCKPILE. MAINTAIN THE SEDIMENT BARRIERS BY REMOVING ACCUMULATED SEDIMENT, OR REMOVING AND REPLACING THE BARRIER, UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.
4. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.
5. ACTIVITIES WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE REQUIRE A PERMIT UNDER THE NATURAL RESOURCES PROTECTION ACT PRIOR TO INITIATION. AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY SHALL BE STABILIZED WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OR PRIOR TO ANY STORM EVENT.
6. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS. FOR ANY WORK PROPOSED DURING THE WINTER SEASON, THE CONTRACTOR SHALL ADHERE TO THE WINTER CONSTRUCTION REQUIREMENTS.
7. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE RETAINED AND PROPERLY TREATED OR DISPOSED. CLEANING, MAINTENANCE, AND REPAIR AREAS SHALL BE PROTECTED BY A TEMPORARY PERIMETER BERM, SHALL NOT OCCUR WITHIN 150 FEET OF ANY WATERWAY, WATERBODY, OR WETLAND.
8. IF THE CONTRACTOR IS UNCLEAR REGARDING THE USE, LOCATION, INSTALLATION, INTENDED PERFORMANCE, OR MAINTENANCE OF ANY PRESCRIBED EROSION CONTROL MEASURES, THE CONTRACTOR SHALL REFER TO THE "MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES" MANUAL FOR DETAILED PROCEDURES. FINAL LOCATIONS OF EROSION CONTROL MEASURES SHOULD BE SELECTED BASED ON ACTUAL FIELD CONDITIONS AND AS SITE CONDITIONS WARRANT.



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Legend

LEGEND

- SIGNIFICANT VERNAL POOL BOUNDARY
- VERNAL POOL BOUNDARY
- 250' SIGNIFICANT VERNAL POOL CRITICAL TERRESTRIAL HABITAT
- POTENTIAL VERNAL POOL BOUNDARY
- 250' POTENTIAL SIGNIFICANT VERNAL POOL CRITICAL TERRESTRIAL HABITAT
- DELINEATED WETLAND
- DELINEATED PERENNIAL STREAM
- EDGE OF GRAVEL
- PERIMETER FENCE
- PROPERTY LINE
- PROJECT LIMITS
- OHE — OVERHEAD POWER LINE
- UGE — UNDERGROUND ELECTRIC LINE
- CONCRETE UTILITY PAD
- PROPOSED TREE LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SILT BARRIER

PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04
Issued	By	Appd.	YY.MM.DD

File Name: C-5.0_erosion-plan.dwg PBF SML WAG 2020.07.17

Permit-Seal

STATE OF MAINE — DAVID P NADEAU No. 10683 — LICENSED PROFESSIONAL ENGINEER

ISSUED FOR PERMIT

MARCH 25, 2021

Client/Project

SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

51 BACK SEARSPORT ROAD
BELFAST, MAINE

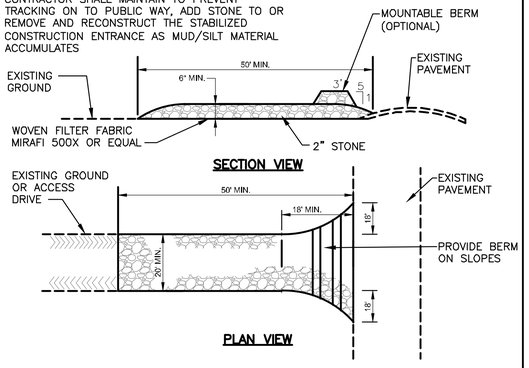
Title

EROSION & SEDIMENT CONTROL PLAN

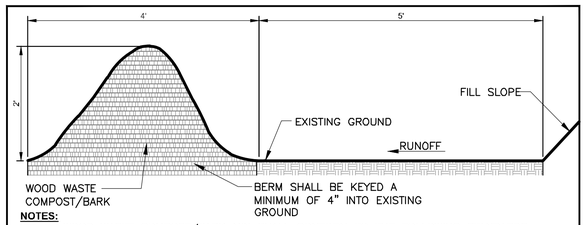
Project No.	Scale	
195601958	1" = 100'	
Drawing No.	Sheet	Issued
C-5.0	6 of 14	0

ORIGINAL SHEET - ARCH D

NOTE:
CONTRACTOR SHALL MAINTAIN TO PREVENT TRACKING ON TO PUBLIC WAY, ADD STONE TO OR REMOVE AND RECONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES

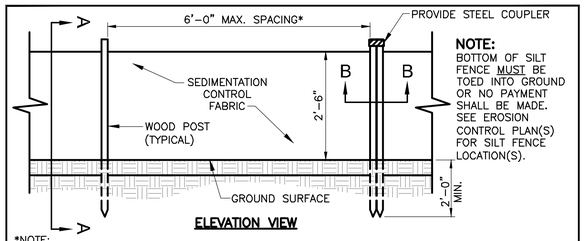


(A) STABILIZED CONSTRUCTION EXIT DETAIL
N.T.S.



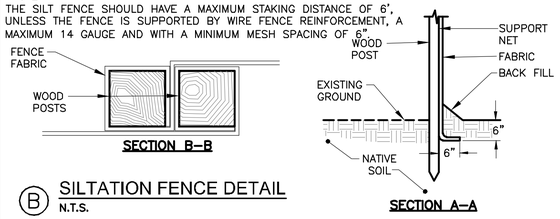
NOTES:
1. THE WOOD WASTE COMPOST/BARK MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:
   A. MOISTURE CONTENT – 30–60%
   B. pH – 5.0–8.0
   C. SCREEN SIZE – 100% LESS THAN 3", MAX. 70% LESS THAN 1"
   D. NO LESS THAN 40% ORGANIC MATERIAL (DRY WEIGHT) BY LOSS OF IGNITION
   F. NO STONES LARGER THAN 2" IN DIAMETER
2. THE COMPOST BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.
3. THE WOOD WASTE COMPOST/BARK FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 70% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT THE NATIVE EARTH CAN BE SEEN BELOW.

(D) WOOD WASTE COMPOST / BARK FILTER BERM
N.T.S.

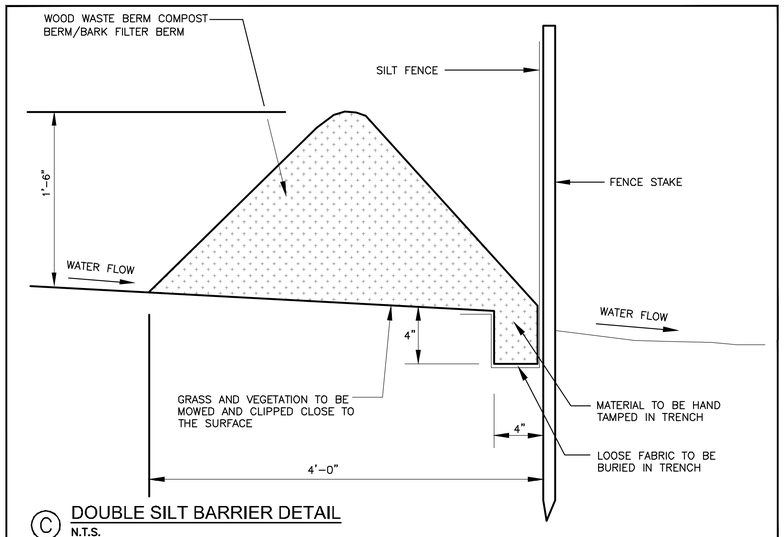


NOTE:
BOTTOM OF SILT FENCE MUST BE TOED INTO GROUND OR NO PAYMENT SHALL BE MADE. SEE EROSION CONTROL PLAN(S) FOR SILT FENCE LOCATION(S).

*NOTE:
THE SILT FENCE SHOULD HAVE A MAXIMUM STAKING DISTANCE OF 6', UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT, A MAXIMUM 14 GAUGE AND WITH A MINIMUM MESH SPACING OF 6"



(B) SILTATION FENCE DETAIL
N.T.S.



(C) DOUBLE SILT BARRIER DETAIL
N.T.S.

NOTE: DOUBLE SILT PROTECTION BARRIER IS SHOWN FOR ILLUSTRATIVE PURPOSE WHERE NEEDED. GENERALLY THE PERIMETER AND INTERMEDIATE SILT PROTECTION BARRIERS SHALL CONSIST OF EITHER EROSION CONTROL MIX BERM OR SILT FENCE WHERE APPROPRIATE. DOUBLE BARRIERS SHALL BE USED WHERE INDICATED ON DRAWINGS OR WHERE SINGLE BARRIER ARE SHOWN TO BE INEFFECTIVE OR WHERE USED ADJACENT TO SENSITIVE OR PROTECTED AREAS.

GENERAL NOTES

1. A VEGETATED MEADOW OR MEADOW BUFFER MUST HAVE A DENSE COVER OF GRASSES, OR A COMBINATION OF GRASSES AND SHRUBS OR TREES. A VEGETATED MEADOW OR MEADOW BUFFER MUST BE MAINTAINED AS A MEADOW WITH A GENERALLY TALL STAND OF GRASS, NOT AS A LAWN. IT MUST NOT BE MOWED MORE THAN TWICE PER CALENDAR YEAR, AND MAY NOT BE CUT SHORTER THAN SIX INCHES.

2. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

3. CONTRATOR SHALL REQUEST A RECOMMENDATION FOR SOIL AMENDMENTS AND PHOSPHORUS FREE FERTILIZER. ONLY USE PHOSPHORUS WHEN RECOMMENDED BY A SOIL TEST FROM A LAB THAT ADDITIONAL PHOSPHORUS IS NEEDED.

CONSTRUCTION SEQUENCE

1. ESTABLISH CONSTRUCTION WORKSPACE LIMITS; IDENTIFY AND MARK SENSITIVE RESOURCES SUCH AS WETLANDS AND RESOURCE BUFFERS.

2. PERFORM ALL WORK IN ACCORDANCE WITH MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS (2015).

3. PRIOR TO USAGE, CONSTRUCT AND STABILIZE THE CONSTRUCTION ENTRANCE ON THE SITE ACCESS ROAD WITH A STABILIZED CONSTRUCTION ENTRANCE TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT OFF THE SITE AND MAINTAIN UNTIL PAVING IS COMPLETED.

4. CLEAR TIMBER AND BRUSH; DO NOT GRUB UNTIL JUST PRIOR TO PRELIMINARY GRADING AND ESTABLISHMENT OF ALL SEDIMENT BARRIERS AND PERIMETER CONTROLS. MARK LIMITS OF RESOURCE AND/OR SHORELAND PROTECTION BUFFERS OR STREAM PROTECTION PRIOR TO CUTTING TIMBER AND BRUSH.

5. INSTALL AND MAINTAIN SEDIMENT BARRIERS AND/OR OTHER EROSION CONTROL MEASURES ALONG THE DOWNHILL LIMIT OF WORK, AS SHOWN ON THE DRAWINGS. SEDIMENT BARRIER LOCATIONS MAY BE ADJUSTED IN THE FIELD BASED ON SITE CONDITIONS AS DETERMINED BY THE ENGINEERING INSPECTOR. WHERE SILT FENCE CANNOT BE TOED–IN PROPERLY DUE TO TREE ROOTS, ROCKS OR FROZEN GROUND, CONTROL MIX OR GRAVEL MAY BE PLACED OVER TOE OF FABRIC TO A DEPTH OF AT LEAST SIX INCHES. SILT FENCING OR SEDIMENT BARRIERS WILL BE INSTALLED AFTER CLEARING, BUT PRIOR TO GRUBBING AND GRADING, OR SOIL DISTURBANCE ACTIVITIES. ANY EROSION ISSUES DEVELOPED DURING CLEARING WILL BE TEMPORARILY STABILIZED AS NECESSARY.

6. STABILIZE PERMANENT ACCESS ROAD SURFACE TEMPORARY PARKING AREAS, AND EQUIPMENT STORAGE AND LAYDOWN AREAS WITH MATTING, CRUSHED STONE OR GRAVEL SUBBASE AS NECESSARY TO MINIMIZE RUTTING AND AVOID PONDING.

7. CONCURRENT WITH INITIATION OF SITE GRADING, CONSTRUCT AND STABILIZE ANY TEMPORARY DRAINAGE SWALES, DIVERSION BERMS, CHECK DAMS, AND CULVERTS WITH TEMPORARY INLET AND OUTLET STRUCTURES AS NEEDED TO MINIMIZE SEDIMENT IN SITE RUNOFF DURING THE CONSTRUCTION OF THE ROADWAY.

8. MINIMIZE THE AMOUNT OF DISTURBANCE TO LESS THAN 10 ACRES AT ANY ONE TIME BY STAGING CONSTRUCTION AS MUCH AS PRACTICAL FOR EFFICIENT CONSTRUCTION OF THE FACILITY. NATURAL VEGETATIVE BUFFERS OR STRIPS SHOULD BE LEFT IN PLACE WHERE FEASIBLE TO AID IN SEDIMENT RETENTION AND REDUCE EROSION POTENTIAL. PLACE SEDIMENT BARRIERS DURING CONSTRUCTION TO LIMIT SHEET FLOW TO 300 FEET OR LESS.

9. REVEGETATE AND STABILIZE ALL DISTURBED AREAS IMMEDIATELY AFTER GRUBBING AND FINAL GRADING OR SHAPING WITH PERMANENT SEED MIX OR WITH TEMPORARY SEED OR MULCH IN AREAS WHERE ADDITIONAL DISTURBANCE ACTIVITIES MAY OCCUR.

10. DUST CONTROL METHODS WILL BE EMPLOYED DURING CONSTRUCTION PRIOR TO FINAL STABILIZATION TO PREVENT THE BLOWING AND MOVEMENT OF DUST THROUGH THE APPLICATION OF WATER AND/OR CALCIUM CHLORIDE TO REDUCE WIND EROSION REPETITIVE TREATMENT WILL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL DURING CONSTRUCTION.

11. APPLY TEMPORARY SEED AND/OR MULCH TO ANY EXPOSED AREAS WHERE ACTIVITY IS NOT ANTICIPATED FOR 30 DAYS OR MORE, OR WHERE ACTIVITY HAS NOT OCCURRED WITHIN 30 DAYS. TEMPORARILY MULCH ANY EXPOSED AREAS WHERE ACTIVITY IS NOT ANTICIPATED OR HAS NOT OCCURRED IN 7 DAYS.

12. REMOVE EXCESS SPOILS FROM SITE THAT WILL NOT BE USED FOR THE FINAL DESIGN AND STABILIZATION. STOCKPILED SOILS THAT REMAIN IN PLACE FOR 48 HOURS OR MORE WILL BE CONTAINED WITH SEDIMENT BARRIERS SUCH AS SILT FENCE, HAY BALES OR EQUIVALENT. THE SEDIMENT BARRIERS SHALL BE ADEQUATELY LOCATED AND REINFORCED TO HANDLE A SIGNIFICANT RAIN EVENT AND THE POTENTIAL SLUMPING OF THE PILE. BETWEEN MAY 1 AND OCTOBER 15, APPLY TEMPORARY SEED AND MULCH TO A STOCKPILE THAT IS NOT EXPECTED TO BE DISTURBED WITHIN 30 DAYS. APPLY ANCHORED MULCH DAILY, AS NEEDED, DURING WINTER CONSTRUCTION.

13. INSPECT AND REPAIR EROSION CONTROL MEASURES DAILY IN AREAS OF ACTIVE CONSTRUCTION; OTHERWISE WEEKLY AND BEFORE AND AFTER SIGNIFICANT RAINFALL WITHIN A 24–HOUR PERIOD. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE BARRIER.

14. MONITOR PUBLIC ROADS FOR SIGNS OF TRACKING OR SPILLING OF SPOIL MATERIAL AND CLEAN UP AS NEEDED.

15. FINISH GRADE AND REPLACE TOPSOIL OR LOAM IN DISTURBED AREAS. SEED AND MULCH DISTURBED AREAS WITHIN 6 DAYS OF FINAL GRADING.

16. MAINTAIN ALL TEMPORARY EROSION CONTROLS AND SEDIMENT BARRIERS UNTIL VEGETATION HAS BEEN ESTABLISHED OVER 85–90% OF THE AREA TO BE RE–VEGETATED. RESEED POORLY VEGETATED AREAS.

17. REMOVE ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ONCE THE SITE IS PERMANENTLY STABILIZED.

PERMANENT SEEDING
NORTHEAST NATIVE PRAIRIE GRASS MIXTURE:
WARM AND COOL–SEASON GRASSES GROWS TO A HEIGHT OF 24 TO 48 INCHES. IT MAY BE PLANTED ALONE OR WITH A MIXTURE OF WILDFLOWERS. (SIMILAR MEADOW MIX MAY BE USED IF APPROVED)
THIS MIXTURE CONTAINS:
- 34% VIRGINIA WILDRYE – ELYMUS VIFGINICUS
- 30% CANADA WILDRYE – ELYMUS CANADENSIS
- 17% INDIANGRASS – SORGHASTRUM NUTANS
- 15% LITTLE BLUESTEM – SCHIZACHYRIUM SCOPARIUM
- 4% SWITCHGRASS – PANICUM VIRGATUM

SEEDING RATE
- 1/2 LBS/1,000 SQUARE FEET
- 8 LBS./ACRE WHEN PLANTING WITH WILDFLOWERS
- 17 LBS./ACRE GRASS MIX ONLY

PLANTING
PLANTING TIMES: PLANT IN SPRING OR EARLY SUMMER.

(Northeast Native Grass Seed Mix – Native Grasses (outsidepride.com)

FERTILIZER AND LIMESTONE REQUIREMENTS:

THE FERTILIZER AND LIME APPLICATION RATES SHALL BE DETERMINED USING THE SITE–SPECIFIC SOIL TEST RESULTS.

TEMPORARY SEEDING

PROVIDE TEMPORARY MULCHING AND SEEDING PER TABLES BELOW

TEMPORARY MULCHING AND SEEDING SCHEDULE

Maximum Expected Interim Period* - (Days)	Temporary Mulching (Hay)	Temporary Seeding
0–7 (0–2)	None	None
7–30 (2–14)	2-bales/1,000 sq.ft.	None
30–60 (14–30)	2-bales/1,000 sq.ft.	(per Table 3: Temporary Seeding Schedule)
More than 7 days during winter season	4-bales/1,000 sq.ft.	Dormant seeding only

Seed	Seeding Rate (lbs/1,000 sq. ft.)	Seeding Depth (inches)	Recommended Seeding Dates
Annual Rye Grass	0.9	1/4	4/1 to 7/1
Sudan Grass	0.9	1/2	7/1 to 8/15
Perennial Rye Grass	1.8	1/4	8/15 to 9/15
Winter Rye Grass	2.6	1	9/15 to 10/15
Dormant Seeding 50% Winter Rye 50% Annual Rye	3.5 (2.6) (0.9)	1	10/15 to 3/31

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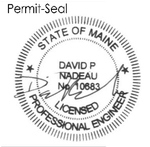
Legend

PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04
Issued	By	Appd.	YY.MM.DD

File Name: C-5.1-5.0_details.dwg

Permit-Seal



ISSUED FOR PERMIT
MARCH 25, 2021

Client/Project
SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

51 BACK SEARSPORT ROAD
BELFAST, MAINE

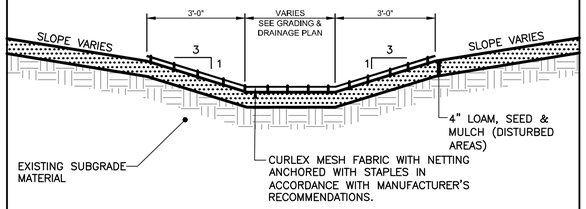
Title
EROSION DETAILS & NOTES

Project No.	Scale	
195601958	N.T.S.	
Drawing No.	Sheet	Issued
C-5.1	7 of 14	0

ORIGINAL SHEET - ARCH D

NOTES:

1. ALL MATERIALS SHALL CONFORM TO THE CURRENT EDITION OF THE MDOT STANDARD SPECIFICATIONS.
2. SEE PLANS FOR LOCATION(S).



Ⓐ VEGETATED DRAINAGE SWALE DETAIL
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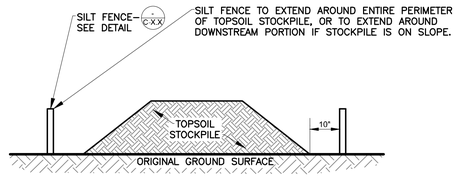

NOTES:

1. AN ON-SITE DRAINAGE SWALE SHALL BE LOCATED BETWEEN THE TOPSOIL STOCKPILE AND OFF-SITE PROPERTY.
2. REFERENCE IS MADE TO THE SILT FENCE DETAIL (C-XX) FOR MATERIALS AND INSTALLATION METHODS.
3. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, IT SHALL BE STABILIZED WITH STRAW BLANKET OR SEEDED TO MINIMIZE EROSION.
4. INSPECTION OF SILT FENCES SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAIN EVENTS IN EXCESS OF HALF INCH (½") PER DAY OR EQUAL SNOW MELT. REPAIR OR REPLACEMENT OF SILT FENCE SHALL BE MADE PROMPTLY AS REQUIRED.
5. SEDIMENT TRAPPED BY THE SILT FENCES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHENEVER SEDIMENT ACCUMULATION DEPTH AT THE SILT FENCE IS APPROXIMATELY EQUAL TO 12 (12) INCHES (ONE HALF OF SILT FENCE HEIGHT).
6. SILT FENCES SHALL BE MAINTAINED IN PLACE UNTIL TOPSOIL STOCKPILE HAS BEEN ELIMINATED AND SHALL BE REMOVED ONLY WHEN DIRECTED BY VILLAGE ENGINEERING.

Ⓑ TEMPORARY TOPSOIL STOCKPILE DETAIL
N.T.S.

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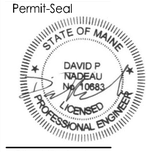
Legend

Issued	By	Appd.	YY.MM.DD
PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04

File Name: C-5.1-5.0_details.dwg

Permit-Seal



ISSUED FOR PERMIT

MARCH 25, 2021

Client/Project

SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

51 BACK SEARSPORT ROAD
BELFAST, MAINE

Title

EROSION CONTROL MAINTENANCE & EROSION CONTROL DETAILS

Project No.	Scale	
195601958	N.T.S.	
Drawing No.	Sheet	Issued
C-5.2	8 of 14	0

ORIGINAL SHEET - ARCH D

EROSION AND SEDIMENTATION CONTROL

AN EROSION AND SEDIMENTATION CONTROL PLAN (ESCP) HAS BEEN PREPARED TO PROVIDE A PLAN FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING CONSTRUCTION OF THE SOLAR PROJECT. REFER TO THE DEP STORMWATER PERMIT–BY–RULE (PBR) APPLICATION AND EROSION CONTROLS AND STORMWATER MANAGEMENT NARRATIVE INCLUDED IN THE PBR. EROSION CONTROLS FOR THE PROJECT IS BASED ON STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS, AS CONTAINED IN THE MOST RECENT VERSION OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR THE MDEP, AND IN APPENDICES A AND B, OF THE MDEP RULES, 06–96, CHAPTER 500 STORMWATER MANAGEMENT RULES, AMENDED AUGUST 12, 2015. THE CONTRACTOR AND OWNER ARE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL (APPENDIX A), INSPECTION AND MAINTENANCE (APPENDIX B) AS PROVIDED IN CHAPTER 500, AND SHALL OBTAIN A COPY OF THESE DOCUMENTS FOR REFERENCE, WHICH SHALL BE INCLUDED IN THIS PLAN AS THOUGH FULLY INCORPORATED HEREIN.

THE NOTES CONTAINED IN THIS SECTION SPECIFIC TO THE PROJECT, ARE COMBINED WITH DRAWINGS, PROJECT DETAILS, AND EROSION CONTROL NOTES ON DRAWINGS ACCOMPANYING THIS PROJECT TO CREATE AN OVERALL ESCP, WHICH ADDRESSES THE STABILIZATION OF THE SITE AND THE PROTECTION OF NATURAL RESOURCES AS FOLLOWS:.

GENERAL CONSTRUCTION DETAILS

THE EQUIPMENT ANTICIPATED TO BE USED FOR CONSTRUCTION WILL LIKELY INCLUDE THE FOLLOWING: CHAIN–SAWS OR BRUSH TRIMMERS, EXCAVATORS, BULLDOZERS, LOADERS, DUMP TRUCKS, COMPACTORS, POST DRILLING/DRIVING RIGS. ON–SITE EROSION CONTROL METHODS SHALL BE UTILIZED FOR PERIMETER CONTROLS AND ADJACENT TO ANY DISTURBANCE ACTIVITIES. THE FOLLOWING METHODS SHALL BE UNDERTAKEN TO PROVIDE PROTECTION TO THE SOIL, WATER, AND ABUTTING LANDS:

1. PERMANENT SOIL EROSION CONTROL MEASURES FOR ANY DISTURBED LAND AREAS SHALL BE COMPLETED IMMEDIATELY [WITHIN SEVEN (7) CALENDAR DAYS] AFTER DISTURBANCE OCCURS. THESE AREAS SHALL BE INCLUDE THE CONSTRUCTION OF THE PROPOSED ACCESS DRIVEWAYS, EQUIPMENT PADS, FENCING, AND SOLAR PANELS.

2. PRIOR TO ANY SOIL DISTURBANCE OR CONSTRUCTION ACTIVITIES, SILTATION BARRIERS SHALL BE INSTALLED ACROSS THE SLOPE ON THE CONTOUR AT THE DOWNHILL LIMIT OF THE WORK INVOLVING SOIL DISTURBANCE, AS PROTECTION AGAINST CONSTRUCTION RELATED EROSION. SILTATION BARRIERS SHALL ALSO BE INSTALLED AT THE DOWNHILL LIMIT OF THE BASE OF SOIL STOCKPILES WHICH WILL REMAIN FOR MORE THAN 7 DAYS.

3. TEMPORARY PERIMETER CONTROL SILTATION BARRIERS/FENCE SHALL BE INSTALLED AT THE PERIMETER OF THE SOLAR ARRAYS, AT ALL LOCATIONS AS SHOWN ON PLANS.

4. TEMPORARY SILTATION BARRIERS/FENCE SHALL BE INSTALLED AT THE PERIMETER OF ALL WETLAND AREAS WITHIN THE SITE WORK AREAS PRIOR TO CLEARING, GRUBBING OR CONSTRUCTION. PROVIDE DOUBLE SILTATION BARRIERS WHERE SPECIFIED OR INDICATED ON PLANS.

5. REMOVAL OF TEMPORARY SEDIMENT CONTROL MEASURES SHALL OCCUR WITHIN THIRTY (30) DAYS OF PERMANENT STABILIZATION OF CONTRIBUTING AREAS AND 90% COVER OF VEGETATION HAS BEEN ESTABLISHED. PERIMETER CONTROL MEASURES SHALL BE REMOVED AT COMPLETION OF WORK PRIOR TO ACCEPTANCE BY OWNER.

6. STABILIZED CONSTRUCTION EXITS SHALL BE CONSTRUCTED WHERE CONTRACTOR ACCESS ROUTES ENTER FROM PUBLIC ROADS AND REMOVED AT COMPLETION OF WORK AND AS SHOWN ON PLANS.

7. WINTER CONSTRUCTION. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.

   (A) SITE STABILIZATION. FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

   (B) SEDIMENT BARRIERS. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

   (C) DITCH. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

   (D) SLOPES. MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

INSTALLATION AND HOUSEKEEPING

THE PURPOSE OF EROSION, RUNOFF, AND SEDIMENTATION CONTROL MEASURES IS TO PREVENT POLLUTANTS FROM LEAVING THE CONSTRUCTION SITE INVOLVING SOIL DISTURBANCE, AND ENTERING WATERWAYS OR ENVIRONMENTALLY SENSITIVE AREAS, DURING AND AFTER CONSTRUCTION. THE CONTROL MEASURES DEPICTED ON THE SITE PLANS AND INCLUDED HEREIN SHOULD BE CONSIDERED THE MINIMUM MEASURES REQUIRED TO CONTROL EROSION, SEDIMENTATION, AND STORMWATER RUNOFF AT THE SITE.

IT IS THE OPERATOR'S RESPONSIBILITY TO MANAGE THE SITE DURING EACH CONSTRUCTION PHASE SO AS TO PREVENT POLLUTANTS FROM LEAVING THE SITE. THIS MAY REQUIRE THE SITE OPERATOR TO REVISE AND AMEND THE ESC PLAN OR PROVIDE IMMEDIATE REPAIR OR ADDITIONAL CONTROLS FOR EMERGENCY OR OBSERVED ON–SITE CONDITIONS DURING CONSTRUCTION TO ADDRESS VARYING SITE AND/OR WEATHER CONDITIONS, SUCH AS BY ADDING, REPAIRING, REPLACING, OR REALIGNING EROSION OR SEDIMENT CONTROLS. RECORDS OF THESE CHANGES MUST BE ADDED TO THE INSPECTION/AMENDMENT LOG MAINTAINED AT THE SITE, AND TO THE SITE PLANS AS "RED–LINED" DRAWINGS. PLEASE NOTE: EVEN IF PRACTICES ARE CORRECTLY INSTALLED ON A SITE ACCORDING TO THE APPROVED PLAN, THE SITE IS ONLY IN COMPLIANCE WHEN EROSION, RUNOFF, AND SEDIMENTATION ARE EFFECTIVELY CONTROLLED THROUGHOUT THE ENTIRE SITE, AND MAY REQUIRE ADDITIONAL MEASURES.

PRECAUTIONS SHALL BE IMPLEMENTED BY THE CONTRACTOR WHICH MINIMIZE THE RISK OF POTENTIAL POLLUTANTS IMPACTING STORMWATER. POTENTIAL POLLUTION SOURCES THAT MAY REASONABLY BE EXPECTED TO AFFECT THE QUALITY OF STORMWATER AT THE CONSTRUCTION SITE INCLUDING CONSTRUCTION DEBRIS, SOIL STOCKPILES, AND FLUIDS ASSOCIATED WITH CONSTRUCTION EQUIPMENT (FUEL AND OILS). ALL CONSTRUCTION DEBRIS AND SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED WITH SEDIMENT BARRIERS. NO STOCKPILED MATERIAL SHALL REMAIN ON SITE AFTER THE COMPLETION OF THE PROJECT. CONSTRUCTION DEBRIS AND WOOD WASTE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.

IF NECESSARY, STAGING AND STORAGE AREAS SHALL BE ESTABLISHED PRIOR TO CONSTRUCTION. STAGING AREAS SHALL BE LOCATED IN UPLAND AREAS REMOVED FROM ACTIVE CONSTRUCTION AREAS AND SURFACE WATERS INCLUDING WETLANDS. IF NECESSARY, CONTRACTOR SUPPLIES AND EQUIPMENT SHALL ALSO BE KEPT IN THIS DESIGNATED AREA. IT IS INTENDED THAT ALL MACHINERY AND EQUIPMENT BE FUELED AND MAINTAINED AT THE DESIGNATED STAGING AREA. HOWEVER, HEAVY MACHINERY AND EQUIPMENT SHALL BE FUELED AND MAINTAINED ON SITE ONLY WHEN NECESSARY. FUEL AND OILS SHALL NOT BE STORED IN THE PROJECT AREA.

ALL WASTE MATERIALS SHALL BE COLLECTED AND TEMPORARILY STORED IN A MANNER THAT SHALL PREVENT MATERIALS FROM ENTERING WETLANDS OR OFF–SITE AREAS. MATERIAL SHALL BE REGULARLY COLLECTED AND DISPOSED OF OFF–SITE IN A MANNER CONSISTENT WITH FEDERAL, STATE AND LOCAL REGULATIONS. ANY AND ALL HAZARDOUS MATERIALS SHALL BE HANDLED WITH THE UTMOST CARE AND SHALL BE USED AND/OR DISPOSED OF IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, IN A MANNER THAT IS CONSISTENT WITH STATE AND FEDERAL REGULATIONS.

ANY DEBRIS BLOWING OR FLOWING WITHIN OR OFF THE SITE SHALL BE IMMEDIATELY COLLECTED AND CONTAINED. ANY UNSAFE STORAGE PRACTICES NOTED DURING INSPECTION SHALL BE IMMEDIATELY REMEDIED. CONTRACTORS SHALL UTILIZE GOOD HOUSEKEEPING PRACTICES TO MINIMIZE THE POSSIBILITY OF SPILLS AND LEAKS OF POTENTIAL POLLUTANTS.

GOOD HOUSEKEEPING PRACTICES SHALL ALSO INCLUDE THE MAINTENANCE OF CLEAN SURFACES BY USING BROOMS AND/OR SHOVELS, PICKING UP GARBAGE AND WASTE MATERIAL REGULARLY, CHECKING CONSTRUCTION AND MAINTENANCE EQUIPMENT FOR PROPER OPERATION, CONDUCTING ROUTINE INSPECTIONS TO CHECK FOR LEAKS AND CONDITIONS THAT COULD LEAD TO DISCHARGE OF CHEMICALS OR CONTACT WITH STORMWATER BY WASTE MATERIALS, ENSURING SPILL CLEAN–UP PROCEDURES ARE UNDERSTOOD AND IMPLEMENTED BY EMPLOYEES, AND MAINTAINING APPROPRIATE MATERIAL STORAGE AND INVENTORY PRACTICES.

THE FOLLOWING PLAN SHALL BE IMPLEMENTED AND MAINTAINED DURING AND AFTER CONSTRUCTION UNTIL THE SITE IS STABLE AND TEMPORARY MEASURES MUST BE REMOVED.

1. THE CONTRACTOR SHALL INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL (ESC) MEASURES AS SHOWN ON THE DESIGN PLANS, AND AS DETERMINED TO BE NECESSARY IN THE FIELD BY THE ENGINEER/INSPECTOR BEFORE ANY CONSTRUCTION ACTIVITIES ARE TO BEGIN OR AS NEEDED DURING CONSTRUCTION. THESE MEASURES SHALL BE CHECKED, MAINTAINED/REPLACED AS NECESSARY DURING THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. SUCH MEASURES SHALL REPRESENT THE LIMIT OF WORK FOR DISTURBANCE ACTIVITIES CONTRIBUTING TO THE MEASURES. WORKERS SHALL BE INFORMED THAT NO DISTURBANCE ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK DESIGNATED OR NECESSARY FOR DISTURBANCE ACTIVITIES AT ANY TIME THROUGH THE CONSTRUCTION PERIOD.

2. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY AFTER RELATED DISTURBANCE ACTIVITIES ARE COMPLETED. WHEN IT IS NOT POSSIBLE OR PRACTICAL TO PERMANENTLY STABILIZE DISTURBED LAND, TEMPORARY EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN SEVEN (7) CALENDAR DAYS OF EXPOSURE OF SOIL. TEMPORARY EROSION CONTROL MEASURES SHALL INCLUDE AT A MINIMUM THE APPLICATION OF STRAW OR WOOD FIBER MULCH AT A RATE OF 75–90 LBS PER 1000 SF BY THE WET APPLICATION METHOD.

3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MARK THE LIMITS OF ALL IDENTIFIED WETLANDS IMMEDIATELY ADJACENT TO OR WITHIN THE PROJECT AREA AS SHOWN ON THE DESIGN PLANS. FLAGS OR STAKES SHOULD BE INSTALLED ALONG THESE LIMITS TO WARN EQUIPMENT ENTERING THESE AREAS THAT EXTREME CAUTION SHOULD BE TAKEN TO AVOID SOIL DISTURBANCE FROM OPERATION OF EQUIPMENT. CARE MUST BE TAKEN FOR ANY AND ALL ACTIVITIES WHICH MAY OCCUR WITHIN THE DELINEATED WETLAND AREAS TO PREVENT WHEEL RUTTING OR DAMAGE TO EXISTING VEGETATION. ALL VISIBLE DAMAGE CAUSED BY CONTRACTOR'S OPERATIONS TO EXISTING SURFACES OR VEGETATION SHALL BE REPAIRED AS THE WORK PROGRESSES DURING THE INSTALLATION OF THE SOLAR ARRAYS.

4. A MINIMUM SURPLUS OF 100 FEET OF SPECIFIED PERIMETER EROSION CONTROL BARRIER (EG: SILT SOCK, SILT FENCE, &/OR STRAWBALE) SHALL BE STOCKPILED ONSITE AT ALL TIMES AND AVAILABLE FOR EMERGENCY REPAIRS OR REPLACEMENT OF INEFFECTIVE BARRIERS.

5. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTIES FROM SEDIMENTATION DURING PROJECT CONSTRUCTION UNTIL ACCEPTANCE BY THE OWNER.

6. THE LIMIT OF ACTIVE WORK/DISTURBANCE ACTIVITIES SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF ROAD CONSTRUCTION OR INSTALLATION OF ARRAYS. CONSTRUCTION OPERATIONS AND EQUIPMENT MUST BE LIMITED TO ACTIVE WORK AREAS ONLY, UNTIL EACH PORTION OR PHASE IS COMPLETED AND STABILIZED, OR REPAIRED AS NECESSARY. NO GRUBBING OF STUMPS, DISTURBANCE, OR REMOVAL OF VEGETATION SHALL OCCUR WITHIN THE DELINEATED WETLANDS AREAS EXCEPT FOR TRIMMING OR PRUNING OF BRUSH WHICH MAY INTERFERE WITH THE INSTALLATION OF THE ARRAYS. THE CONTRACTOR SHALL PHASE THE SITE WORK IN A MANNER TO MINIMIZE AREAS OF ONGOING CONSTRUCTION TO LESS THAN TEN ACRES AT ONE TIME. THE REQUIRED SEDIMENTATION CONTROL MEASURES MUST BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY WORK ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK.

7. ESC MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND BEFORE AND AFTER EACH RAINFALL EVENT, OR DAILY DURING PROLONGED RAINFALL, TO ENSURE THAT THE EROSION AND SEDIMENTATION CONTROL MEASURES ARE INTACT AND FUNCTIONING PROPERLY. IDENTIFIED DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY NO LATER THAN 24 HOURS AFTER IDENTIFICATION. ALL DAMAGED SILTATION FENCE OR BARRIERS SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY. TRAPPED SEDIMENT SHALL BE REMOVED BEFORE IT HAS ACCUMULATED TO 6 INCHES MAXIMUM. SILTATION FENCE OR BARRIERS NO LONGER SERVICEABLE OR INEFFECTIVE DUE TO SEDIMENT ACCUMULATION SHALL ALSO BE REPAIRED AND/OR REPLACED AS NECESSARY. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILTATION FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE REMOVED FROM THE SITE OR INCORPORATED INTO THE EXISTING GRADE, SEEDED, AND MULCHED.

8. ANY MATERIALS OR SOIL STOCKPILES LEFT OVERNIGHT SHALL BE SURROUNDED ON THEIR PERIMETERS WITH SILT SOCK, SILT FENCE, STRAW BALES, OR A COMBINATION OF SILT FENCE WITH STRAW BALE, AS DETERMINED NECESSARY.

9. THE CONTRACTOR SHALL CONTAIN ALL SEDIMENT ONSITE. ALL STABILIZED CONSTRUCTION EXITS SHALL BE INSPECTED AND MAINTAINED OR REPLACED TO REMAIN EFFECTIVE, AS NEEDED. PUBLIC OR PRIVATE ROADS AT CONSTRUCTION ACCESS FROM THE SITE WILL BE SWEPT DAILY, OR AS NECESSARY, INCLUDING ANY SEDIMENT TRACKING TO REMOVE SEDIMENT AND POTENTIAL POLLUTANTS WHICH MAY ACCUMULATE DURING SITE WORK.

10. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM ALL TEMPORARY PRACTICES, AS REQUIRED, AND DISPOSED OF IN A PRE–APPROVED LOCATION BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER OR INSPECTOR.

11. THE CONTRACTOR SHALL PROVIDE, ON SITE, OR MAKE READILY AVAILABLE, THE NECESSARY EQUIPMENT AND SITE PERSONNEL DURING CONSTRUCTION HOURS FOR THE DURATION OF THE PROJECT TO ENSURE ALL ESC DEVICES ARE PROPERLY MAINTAINED AND REPAIRED IN A TIMELY AND RESPONSIBLE MANNER. IF SITE WORK IS SUSPENDED FOR MORE THAN SEVEN DAYS, OR DURING THE WINTER MONTHS, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE PERSONNEL MAKE ROUTINE INSPECTIONS, AND PROVIDE EQUIPMENT EITHER ON SITE, OR MAKE READILY AVAILABLE ON CALL, TO ENSURE ALL ESC DEVICES ARE PROPERLY INSPECTED, MAINTAINED, AND REPAIRED IN A TIMELY AND RESPONSIBLE MANNER.

12. PARTIALLY CONSTRUCTED AREAS MUST BE TEMPORARILY PROTECTED UNTIL FINAL CONSTRUCTION CAN BE COMPLETED.

13. FUGITIVE DUST SHALL BE CONTROLLED BY WATERING AS NECESSARY, OR AS DIRECTED BY THE ENGINEER. NO OILS OR CHEMICALS ARE ALLOWED FOR DUST CONTROL.

14. THE CONTRACTOR IS RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE DURING CONSTRUCTION OF ALL ESC FACILITIES INSTALLED OR AFFECTED BY THE PROJECT. ANY SEDIMENT OR DEBRIS COLLECTED WITHIN THESE FACILITIES FROM THE PROJECT WORK SHALL BE REMOVED PRIOR TO THE OWNER'S ACCEPTANCE AND REMOVAL OF THE ESC DEVICES IS AUTHORIZED.

INSTALLATION SCHEDULE

ALL EROSION CONTROL BMPS, INCLUDING PERIMETER SEDIMENT BARRIERS AND TEMPORARY STABILIZED CONSTRUCTION EXITS, MUST BE CONSTRUCTED PRIOR TO ANY GROUND DISTURBANCE AND SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE ACTIVITY HAS BEEN COMPLETED.

MONITORING DETAILS

SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY BY THE CONTRACTOR, AND ALL EROSION CONTROL MEASURES AND GROUND SURFACES OR VEGETATION DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED IMMEDIATELY. FOLLOWING RAINSTORMS AND DURING RUNOFF EVENTS, THE SITE AND ALL DAMAGE TO EXISTING SURFACES SHALL BE REPAIRED AND/OR ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONTINUING THE CONSTRUCTION.

AFTER THE PROJECT AREA HAS STABILIZED AND RELATED CONSTRUCTION IS COMPLETED, THE CONTRACTOR SHALL REMOVE ALL RELATED SILTATION FENCE, SEDIMENT BARRIERS, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

IMPLEMENTATION AND MONITORING OF EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNDER THE SUPERVISION OF THE PROJECT ENGINEER/INSPECTOR AND/OR THE PROJECT REPRESENTATIVE FOR THE APPLICANT.

INSPECTION AND MAINTENANCE

THE APPLICANT MAY HAVE A PROJECT REPRESENTATIVE (PR) VISITING THE SITE DURING THE CONSTRUCTION PROJECT. THE PR WILL CONDUCT ROUTINE INSPECTIONS IN ADDITION TO THOSE OF THE CONTRACTOR/INSPECTOR OF ALL EROSION AND SEDIMENTATION CONTROLS. THE PR MAY REQUEST THAT MAINTENANCE OF EROSION AND SEDIMENTATION MEASURES, WHEN REQUIRED, IS PERFORMED IN A TIMELY AND EFFECTIVE MANNER.

INSPECTION SCHEDULE DURING CONSTRUCTION

ALL AREAS DISTURBED BY CONSTRUCTION THAT HAVE NOT BEEN PERMANENTLY STABILIZED SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS BY THE CONTRACTOR/INSPECTOR. THESE AREAS SHALL ALSO BE INSPECTED (WITHIN 24 HOURS) FOLLOWING ANY STORM EVENT IN WHICH 0.25 INCHES OR MORE OF RAIN OCCURS IN A 24–HOUR PERIOD. THE CONTRACTOR SHALL INSPECT THE EROSION AND SEDIMENTATION CONTROLS IN ACCORDANCE WITH THE SCHEDULE INDICATED ABOVE AND NOTE ANY REQUIRED CORRECTIONS IN THE DAILY INSPECTION REPORT. ALL INSPECTION AND CERTIFICATION FORMS SHALL BE MADE AVAILABLE BY THE CONTRACTOR FOR INSPECTION BY MAINE DEP STAFF OR REPRESENTATIVES OF THE OWNER WHEN REQUESTED TO DO SO. COPIES OF ALL FORMS SHALL BE SUBMITTED TO THE OWNER ON A WEEKLY BASIS DURING THE CONSTRUCTION LIFE OF THE PROJECT.

INSPECTIONS SHALL INCLUDE ALL AREAS OF THE SITE DISTURBED BY CONSTRUCTION ACTIVITY AND AREAS USED FOR STORAGE OF MATERIALS EXPOSED TO PRECIPITATION. INSPECTORS MUST LOOK FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS LEAKING OR EXITING THE SITE OR ENTERING A BUFFER AREA, STREAM, WETLAND OR PROTECTED AREA. SEDIMENTATION AND EROSION CONTROL MEASURES IDENTIFIED IN THIS ESC PLAN SHALL BE INSPECTED TO ENSURE PROPER OPERATION. DISCHARGE LOCATIONS, WHERE ACCESSIBLE, SHALL BE INSPECTED TO ASCERTAIN THE EFFECTIVENESS OF EROSION CONTROL MEASURES IN PREVENTING SEDIMENT FROM LEAVING THE SITE OR SIGNIFICANT IMPACTS TO WATERS OF THE UNITED STATES (INCLUDING WETLANDS). LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF–SITE SEDIMENT, INCLUDING PUBLIC ROADWAYS.

UPON COMPLETION OF CONSTRUCTION ACTIVITIES, ALL AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY STABILIZED WILL BE INSPECTED BY THE ENGINEER/ PR TO ENSURE THAT FINAL STABILIZATION HAS BEEN SUCCESSFUL.

INSPECTION PROCEDURES DURING CONSTRUCTION

INSPECTIONS SHALL BE CONDUCTED BY THE CONTRACTOR/INSPECTOR AND REPORTED TO OR OVERSEEN BY THE PR. THE FOLLOWING ITEMS SHALL BE INSPECTED AS DESCRIBED BELOW:

1. STRAW BALES: STRAW BALE LINES SHALL BE INSPECTED TO INSURE THAT BALES ARE INTACT AND REMAIN SNUGLY BUTTED TO EACH OTHER AND FIRMLY EMBEDDED IN THE GROUND. DEPTH OF SEDIMENT BEHIND THE BALES SHALL BE NOTED AND REMOVED IF SEDIMENT EXCEEDS ONE–HALF THE HEIGHT OF THE BALE.

2. SILT FENCE: SILT FENCE SHALL BE INSPECTED TO ENSURE THAT THE FENCE LINE IS INTACT WITH NO BREAKS OR TEARS, AND THAT THE BOTTOM OF THE FABRIC IS SECURELY BURIED IN THE GROUND. AREAS WHERE THE FENCE IS EXCESSIVELY SAGGING OR WHERE SUPPORT POSTS ARE BROKEN OR UPROOTED SHALL BE NOTED AND REPAIRED. DEPTH OF SEDIMENT BEHIND THE FENCE SHALL BE NOTED AND REMOVED WHEN SEDIMENT EXCEEDS SIX INCHES MAXIMUM.

3. FILTER SOCKS AND SEDIMENT FILTERS SHALL BE INSPECTED TO ENSURE THAT THE FILTER SOCK OR BARRIER IS INTACT AND THAT NO RIPS, TEARS, BREAKS, OR DEFECTS ARE ALLOWING SEDIMENT TO MIGRATE BEYOND THE BARRIERS. IF DEFECTS ARE NOTED, THE FILTER SOCKS OR SEDIMENT BARRIERS SHALL BE REPAIRED OR REPLACED.

4. DISCHARGE POINTS: ALL DISCHARGE POINTS WHERE STORMWATER RUNOFF MAY EXIT THE SITE SHALL BE INSPECTED, WHERE PRACTICABLE, TO MONITOR THE EFFECTIVENESS OF EROSION CONTROL MEASURES IN PREVENTING IMPACTS TO ADJACENT PROPERTIES, RECEIVING WATERS AND WETLANDS. IF OFF–SITE SEDIMENT TRANSPORT OR IMPACTS TO SURFACE WATERS OR WETLANDS ARE OBSERVED, THE SOURCE OF SUCH IMPACTS SHALL BE LOCATED IMMEDIATELY AND IMPROVEMENTS MADE TO EROSION AND SEDIMENTATION CONTROLS IN ORDER TO PREVENT THE REOCCURRENCE OF IMPACTS. ANY IMPACTS OBSERVED AND CORRECTIVE MEASURES TAKEN SHALL BE NOTED IN THE INSPECTION LOG AND RECORDED IN THIS ESC PLAN.

5. VEHICLE ACCESS POINTS: LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF–SITE SEDIMENTATION TRACKING. ANY INCIDENTS OF SEDIMENTATION TRACKING IN THESE AREAS SHALL BE CORRECTED IMMEDIATELY AND NOTED IN THE INSPECTION LOG. CORRECTIVE MEASURES TAKEN TO PREVENT FUTURE OCCURRENCES OF OFF–SITE SEDIMENT TRACKING SHALL ALSO BE RECORDED IN THE INSPECTION LOG AND ESC PLAN. IN THE EVENT THAT STABILIZED CONSTRUCTION ENTRANCES ARE DAMAGED OR INEFFECTIVE, THE CONTRACTOR SHALL MAKE NECESSARY REPAIRS OR REPLACEMENT MEETING THE APPROVAL OF THE PR.

MAINTENANCE PROCEDURES DURING CONSTRUCTION

MAINTENANCE PROCEDURES SHALL BE IMPLEMENTED AS SOON AS POSSIBLE AFTER THE NEED FOR MAINTENANCE IS RECOGNIZED OR REQUESTED BY THE INSPECTOR/PR. EROSION CONTROLS SHALL BE MAINTAINED AS NOTED BELOW.

1. STRAW BALES: ANY BROKEN, EXCESSIVELY TILTED OR UNDERMINED STRAW BALES SHALL BE PROMPTLY REPLACED OR RE–INSTALLED. WHEN SEDIMENT BUILDS UP BEHIND BALES TO SIX INCHES MAXIMUM, THE SEDIMENT SHALL BE REMOVED. WASHOUTS AT THE ENDS OF THE BALES SHALL BE REPAIRED AND ADDITIONAL BALES ADDED.

2. SILT FENCE: SEDIMENT SHALL BE REMOVED WHEN IT REACHES THE HEIGHT OF SIX INCHES. CARE SHALL BE TAKEN TO AVOID DAMAGING THE FENCE DURING CLEAN–OUT. ANY AREAS OF DAMAGED OR TORN FABRIC, BROKEN POSTS OR UNDERMINED FENCE SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

3. VEGETATED BUFFERS: SEDIMENT DEPOSITS AND SIGNIFICANT OBSTRUCTIONS TO FLOW SHALL BE REMOVED WHEN NOTED. ANY AREAS OF EROSION, WHEEL RUTTING, OR DAMAGE TO VEGETATION SHALL BE REPAIRED IMMEDIATELY.

4. SILT SOCKS OR SEDIMENT BARRIERS: SEDIMENT BARRIERS SHALL BE REPAIRED OR REPLACED IF DAMAGED TO THE POINT WHERE THEY ARE NO LONGER FUNCTIONING AS INTENDED OR ARE ALLOWING SEDIMENT TO PASS THROUGH BARRIERS OR WASH INTO VEGETATED BUFFERS. SEDIMENT THAT HAS ACCUMULATED TO SIX INCHES MAXIMUM OR ONE–HALF THE HEIGHT OF THE FILTER SOCK SHALL BE REMOVED FROM THE SITE OR DEPOSITED INTO OTHER AREAS OF THE WORK.

5. DISCHARGE POINTS: ANY SEDIMENT OR DEBRIS ACCUMULATED AT THE DISCHARGE POINTS FROM THE SITE SHALL BE REMOVED AND DISPOSED OF APPROPRIATELY. AS STATED ABOVE, IF IMPACTS TO ADJACENT PROPERTIES, SURFACE WATERS OR WETLANDS ARE OBSERVED, THE SOURCE OF SUCH IMPACT SHALL BE LOCATED IMMEDIATELY AND IMPROVEMENTS MADE TO EROSION AND SEDIMENTATION CONTROLS IN ORDER TO PREVENT THE REOCCURRENCE OF IMPACTS.

MEADOW AND BUFFER VEGETATIVE MAINTENANCE

OWNER SHALL IMPLEMENT A PLAN TO ENSURE THAT MEADOW VEGETATION AND BUFFERS ARE INSPECTED ANNUALLY FOR EVIDENCE OF EROSION OR CONCENTRATED FLOWS THROUGH OR AROUND THE BUFFER. ALL ERODED AREAS SHOULD BE REPAIRED, SEEDED AND MULCHED.

THE FOLLOWING TWO PARAGRAPHS WILL ALSO BE INCLUDED AND IMPLEMENTED:

1. MOWING: MEADOW BUFFERS MAY BE MOWED NO MORE THAN TWICE PER YEAR. THEY MAY NOT BE MAINTAINED AS A LAWN. MOW HEIGHT SHALL BE AT LEAST SIX INCHES.

2. ACCESS AND USE: BUFFERS SHOULD NOT BE TRAVERSED BY ALL–TERRAIN VEHICLES OR OTHER VEHICLES. ACTIVITIES WITHIN BUFFERS SHOULD BE CONDUCTED SO AS NOT TO DAMAGE VEGETATION, DISTURB ANY ORGANIC DUFF LAYER, OR EXPOSE SOIL.

HOUSEKEEPING

POTENTIAL POLLUTION SOURCES THAT MAY REASONABLY BE EXPECTED TO AFFECT THE QUALITY OF STORMWATER AT THE CONSTRUCTION SITE INCLUDE CONSTRUCTION DEBRIS, SOIL STOCKPILES, AND FLUIDS ASSOCIATED WITH CONSTRUCTION EQUIPMENT (FUEL AND OILS).

PRECAUTIONS SHALL BE IMPLEMENTED BY THE CONTRACTOR WHICH MINIMIZE THE RISK OF POTENTIAL POLLUTANTS IMPACTING STORMWATER. ALL CONSTRUCTION DEBRIS AND SOIL STOCKPILES SHALL BE STABILIZED AND PLACED AWAY FROM SURFACE WATER RESOURCES AND VEGETATED BUFFERS. NO STOCKPILED MATERIAL SHALL REMAIN ON SITE AFTER THE COMPLETION OF THE PROJECT. CONSTRUCTION DEBRIS AND WOOD WASTE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.

SPILL PREVENTION AND RESPONSE PROCEDURES

THE FOLLOWING MEASURES AND STRATEGIES ARE INTENDED TO PROVIDE AN OVERVIEW OF PROPER SPILL PREVENTION AND RESPONSE PROCEDURES AT THE FACILITY DURING CONSTRUCTION ACTIVITIES IN ORDER TO MINIMIZE THE RISK OF ACCIDENTAL SPILLS/RELEASES TO THE GREATEST EXTENT POSSIBLE.

THE ACTIVITIES AND AREAS WHERE SPILLS ARE LIKELY TO OCCUR ARE FUELING AND OILING AREAS (I.E. STAGING AREAS AND CONSTRUCTION AREAS). TO REDUCE SPILL POTENTIAL, CAUTION IS RECOMMENDED WHEN FUELING VEHICLES AND EQUIPMENT IN ORDER TO PREVENT SPILLS AND OVERFILLING. THE "TOPPING–OFF" OF FUEL TANKS SHOULD BE AVOIDED AND MATERIAL TRANSFER PROCEDURES THAT REDUCE THE CHANCE OF SPILLS SHOULD BE IMPLEMENTED.

THE SPILL RESPONSE PLAN FOR THIS CONSTRUCTION SITE SHALL BE AS FOLLOWS:

1. IN THE EVENT OF A SPILL OR RELEASE:
   A. NOTIFY THE LOCAL FIRE DEPARTMENT OF ANY EMERGENCY SPILL OR LEAK. THE PHONE NUMBER FOR EMERGENCY RESPONSE IS 911.
   B. NOTIFY APPROPRIATE STATE AGENCIES:
   I. OIL SPILLS MUST BE REPORTED TO THE MDEP AT 1–800–482–0777. THE MDEP MAY BE REACHED AT THIS NUMBER 24 HOURS/DAY.
   II. HAZARDOUS MATERIALS SPILLS MUST BE REPORTED TO THE DEPARTMENT OF PUBLIC SAFETY AT 1–800–452–4664. THE DEPARTMENT OF PUBLIC SAFETY MAY BE REACHED AT THIS NUMBER 24 HOURS/DAY.

FUGITIVE SEDIMENT AND DUST

LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED WEEKLY FOR EVIDENCE OF OFF–SITE SEDIMENT TRACKING. IF WINDBLOWN DUST OR OFF–SITE SEDIMENT TRACKING IS OBSERVED, THE SEDIMENT SHALL BE REMOVED AND MEASURES TAKEN TO PREVENT FUTURE OCCURRENCES OF OFF–SITE SEDIMENT TRACKING OR WIND BLOWN FUGITIVE DUST, SUCH AS A STABILIZED CONSTRUCTION ENTRANCE OR WATERING CONTRIBUTING AREAS FOR DUST CONTAINMENT. A STABILIZED CONSTRUCTION ENTRANCE(S) IS REQUIRED DURING THE PROGRESS OF THE WORK. OIL SHALL NOT BE USED FOR DUST CONTROL; DRAWING WATER FROM A STREAM WITHOUT FIRST OBTAINING A PERMIT SHALL NOT BE ALLOWED.

DEBRIS AND OTHER MATERIALS

ANY DEBRIS BLOWING, OR MATERIAL RELEASE, OR POTENTIALLY HAZARDOUS LIQUIDS FLOWING WITHIN OR OFF THE SITE SHALL BE IMMEDIATELY COLLECTED AND STOPPED OR SEALED AT THE SOURCE. ANY UNSAFE STORAGE PRACTICES NOTED DURING INSPECTION SHALL BE IMMEDIATELY REMEDIED. CONTRACTORS SHALL UTILIZE GOOD HOUSEKEEPING PRACTICES TO MINIMIZE THE POSSIBILITY OF EROSION AND SEDIMENTATION AND SPILLS AND LEAKS OF POTENTIAL POLLUTANTS. HAZARDOUS MATERIALS SHALL BE HANDLED WITH THE UTMOST CARE IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS AND THE RECOMMENDATIONS OF THE MANUFACTURER.

GOOD HOUSEKEEPING PRACTICES SHALL ALSO INCLUDE THE MAINTENANCE OF CLEAN SURFACES BY USING BROOMS AND/OR SHOVELS, PICKING UP GARBAGE AND WASTE MATERIAL REGULARLY, CHECKING MAINTENANCE EQUIPMENT FOR PROPER OPERATION, CONDUCTING ROUTINE INSPECTIONS TO CHECK FOR WIND BLOWN DUST OR DEBRIS AND LEAKS AND CONDITIONS THAT COULD LEAD TO DISCHARGE OF CHEMICALS OR CONTACT WITH STORMWATER BY WASTE MATERIALS, ENSURING SPILL CLEAN–UP PROCEDURES ARE UNDERSTOOD AND IMPLEMENTED BY THE CONTRACTOR WORK FORCE AND EQUIPMENT OPERATORS, AND MAINTAINING APPROPRIATE MATERIAL STORAGE AND INVENTORY PRACTICES.

REVISIONS

IF EXISTING BMPS REQUIRE REPAIR OR MODIFICATION, OR IF ADDITIONAL BMPS ARE NECESSARY FOR ANY REASON, IMPLEMENTATION WILL BE COMPLETED AS SOON AS POSSIBLE AND WITHIN SEVEN (7) CALENDAR DAYS OF INSPECTION AND PRIOR TO THE NEXT STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THEN THE SITUATION WILL BE DOCUMENTED IN THE PLAN, AND ALTERNATIVE BMPS WILL BE IMPLEMENTED AS SOON AS POSSIBLE

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RECORD KEEPINGWITHIN 24 HOURS OF INSPECTIONS, A REPORT (LOG) WILL BE PREPARED SUMMARIZING THE SCOPE OF THE INSPECTION AND ANY CORRECTIVE ACTIONS TAKEN, THE NAMES AND QUALIFICATIONS OF THE PERSON(S) MAKING THE INSPECTIONS, AND THE DATE(S) AND TIME OF INSPECTION. LOG TEMPLATES ARE INCLUDED IN THE EROSION AND SEDIMENTATION PLAN PROVIDED FOR THE SOLAR PROJECT. ADDITIONAL INFORMATION LISTED IN THE FOLLOWING TWO PARAGRAPHS WILL ALSO BE INCLUDED:

- THE REPORT WILL INCLUDE A DESCRIPTION OF MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS, MATERIALS STORAGE AREAS IF EXPOSED TO PRECIPITATION, AND VEHICULAR ACCESS POINTS TO THE PARCELS. MAJOR OBSERVATIONS WILL INCLUDE, IF NECESSARY, BMPS THAT NEED MAINTENANCE, BMPS THAT ARE NOT PERFORMING AS INTENDED OR ARE INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED.

- THE INSPECTION REPORTS WILL BE SIGNED BY THE RESPONSIBLE PERSON DESIGNATED BY THE PERMITTEE /REGISTRANT. THESE REPORTS WILL BE FILED WITH THE PLAN AND KEPT ON–SITE DURING CONSTRUCTION AND PROVIDED TO SITE OPERATOR TO BE KEPT ON–FILE PERMANENTLY AFTER THE DATE OF THE NOTICE OF TERMINATION (NOT). THE PERMITTEE WILL SUBMIT A NOT TO THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION AFTER FINAL CONSTRUCTION IS COMPLETED AND WITHIN 20 DAYS OF ACHIEVING PERMANENT STABILIZATION AT THE SITE.

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Legend

Issued	By	Appd.	YY.MM.DD
PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04

File Name: C-5.1-6.0_details.dwg

Permit-Seal

STATE OF MAINE
DAVID P NADEAU
No. 10683
LICENSED
PROFESSIONAL ENGINEER

ISSUED FOR PERMIT
MARCH 25, 2021

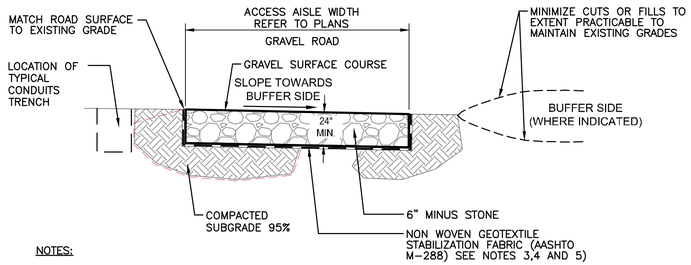
Client/Project
SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

51 BACK SEARSPORT ROAD
BELFAST, MAINE

Title
EROSION CONTROL MAINTENANCE & HOUSEKEEPING PLAN

Project No. 195601958
Scale N.T.S.

Drawing No. C-5.3
Sheet 9 of 14
Issued 0

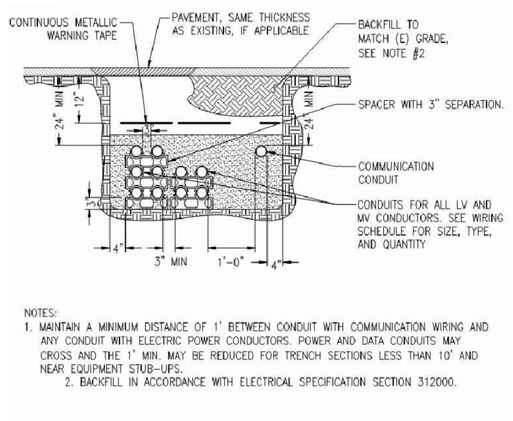


NOTES:

1. CONTRACTOR SHALL EXCAVATE TO SUITABLE MATERIAL FOR SUBGRADE.
2. CONTRACTOR SHALL COMPACT SUBGRADE TO PROVIDE SUITABLE SURFACE TO PLACE ROAD.
3. GEOTEXTILE FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:
   - TENSILE STRENGTH: 150LB MIN
   - ELONGATION 50%
   - CBR PUNCTURE: 400LB MIN.
   - MINIMUM WATER FLOW RATE: 120 GPM/FT.
4. CONTRACTOR SHALL FOLLOW GEOTEXTILE FABRIC MANUFACTURER INSTALLATION PROCEDURES.
5. WHERE OVERLAPPING OF GEOTEXTILE FABRIC IS REQUIRED, SUBCONTRACTOR SHALL OVERLAP A MINIMUM OF 24".
6. CONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS ROADS AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.

(A) TYPICAL GRAVEL ROAD

N.T.S.

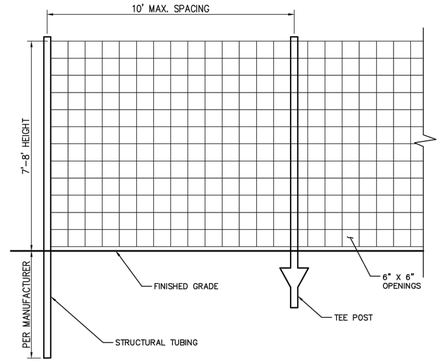


NOTES:

1. MAINTAIN A MINIMUM DISTANCE OF 1' BETWEEN CONDUIT WITH COMMUNICATION WIRING AND ANY CONDUIT WITH ELECTRIC POWER CONDUCTORS. POWER AND DATA CONDUITS MAY CROSS AND THE 1' MIN. MAY BE REDUCED FOR TRENCH SECTIONS LESS THAN 10' AND NEAR EQUIPMENT STUB-UPS.
2. BACKFILL IN ACCORDANCE WITH ELECTRICAL SPECIFICATION SECTION 312000.

(B) TYPICAL TRENCH DETAIL

N.T.S.

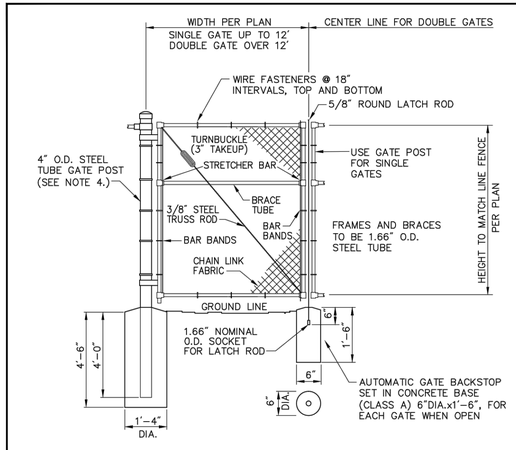


NOTES

1. WIRE FENCING SHALL BE SECURED AND KEPT CLOSE TO THE GROUND TO PREVENT WILDLIFE ACCESS. DEPRESSIONS ALONG SLOPES ARE TO BE FILLED WITH MATERIAL AS NECESSARY.

(D) FIXED KNOT FENCE DETAIL

N.T.S.



NOTES

1. CHAIN LINK FABRIC FOR GATES TO BE THE SAME AS REQUIRED FOR FENCE.
2. GATE POST BASE-PORTLAND CEMENT CONCRETE (3000 PSI).
3. FENCE FABRIC, POSTS, FRAMEWORKS, AND HARDWARE SHALL BE GALVANIZED STEEL WITH COLORED VINYL COATING, COLOR PER OWNER
4. GATE POSTS TO BE USED ON EACH SIDE OF SINGLE AND DOUBLE GATE OPENINGS.

(C) SECURITY/CHAIN LINK GATE DETAIL

N.T.S. (OPTIONAL: MAY BE USED AT END OF ROAD OR TURNAROUND LOCATIONS)

Stantec

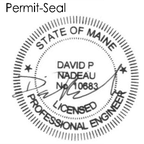
Stantec Consulting Services Inc.
482 Payne Road
Scarborough ME 04074 U.S.A.
Tel. 207.883.3355
Fax. 207.883.3376
www.stantec.com

Legend

Issued	By	Appd.	YY.MM.DD
PERMIT	PBF	DPN	21.03.25
TOWN OF BELFAST SITE PLAN APPLICATION	PBF	DPN	21.03.04

File Name: C-5.1-6.0_details.dwg

Permit-Seal



ISSUED FOR PERMIT

MARCH 25, 2021

Client/Project

SHINING SOLAR PARTNERS LLC
SHINING SOLAR PARTNERS PROJECT

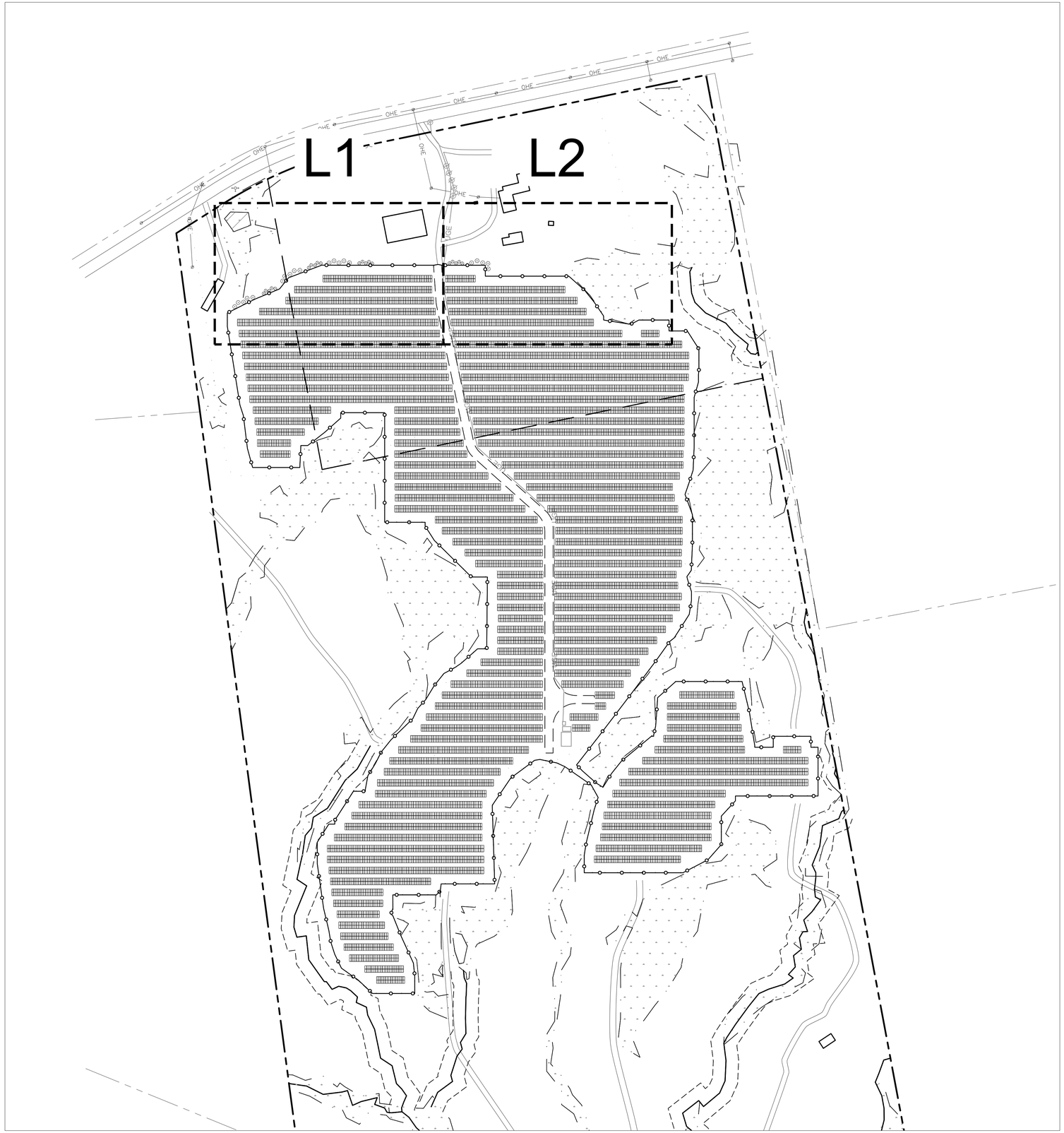
51 BACK SEARSPORT ROAD
BELFAST, MAINE

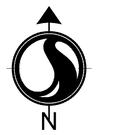
Title

SITE DETAILS

Project No.	Scale	
195601958	N.T.S.	
Drawing No.	Sheet	Issued
C-6.0	10 of 14	0

ORIGINAL SHEET - ARCH D





0 100' 200'

1" = 100'

C:\Users\cgoonan\Desktop\Pull Down Folder\Belfast Solar\20210311_conceptual_landscape_plan.dwg
2021/03/25 8:53 AM By: Goonan, Crystal

ORIGINAL SHEET - ARCH D

Stantec

4969 Centre Pointe Dr, Suite 200
North Charleston, SC 29418
843-740-7700

Legend

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

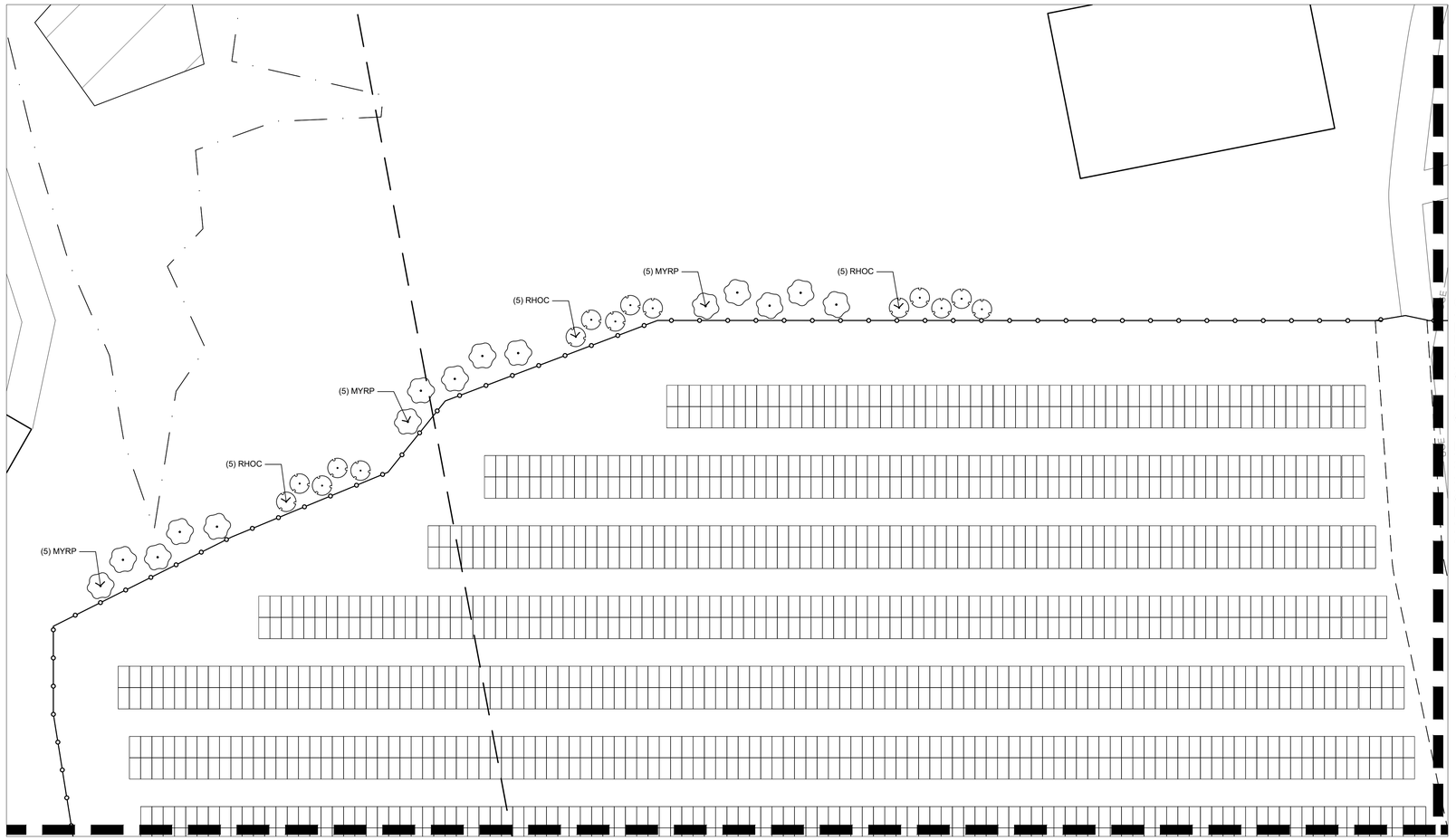
Client/Project
Belfast Solar

Solar Field Screening

Belfast, ME 04915

Title
OVERALL CONCEPTUAL LANDSCAPE PLAN

Project No.	Scale	
195601958	1" = 100'-0"	
Drawing No.	**Sheet**	**Revision**
L0	1of 4	0



N

0 20' 40'

1" = 20'

C:\Users\cgaonkar\Desktop\Pull Down Folder\Belfast Solar\20210311_conceptual_landscape_plan.dwg
2021/03/25 8:24 AM By: Aspinall, Crystal

ORIGINAL SHEET - ARCH D

Stantec

4969 Centre Pointe Dr, Suite 200
North Charleston, SC 29418
843-740-7700

Legend

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
Belfast Solar

Solar Field Screening

Belfast, ME 04915

Title
CONCEPTUAL LANDSCAPE PLAN

Project No.	Scale	
195601958	1" = 20'-0"	
Drawing No.	**Sheet**	**Revision**
L1	2of 4	0

N

0 20' 40'

1" = 20'

C:\Users\cgaonkar\Desktop\Pull Down Folder\Belfast Solar\20210311_conceptual_landscape_plan.dwg
2021/03/25 8:53 AM By: Agarwal, Crystal

ORIGINAL SHEET - ARCH D

Stantec

4969 Centre Pointe Dr, Suite 200
North Charleston, SC 29418
843-740-7700

Legend

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
Belfast Solar

Solar Field Screening

Belfast, ME 04915

Title
CONCEPTUAL LANDSCAPE PLAN

Project No.	Scale	
195601958	1" = 20'-0"	
Drawing No.	**Sheet**	**Revision**
L2	3of 4	0

SHRUBS

CUNNINGHAM WHITE RHODODENDRON

NORTHERN BAYBERRY

PLANT SCHEDULE

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPREAD		REMARKS
	MYRP	20	MYRICA PENSYLVANICA / NORTHERN BAYBERRY (OR SIMILAR)	5 GAL	4`-4.5`	3-4`		FULL IN CONTAINER
	RHOC	20	RHODODENDRON CATAWBIENSE `CUNNINGHAM WHITE` / CATAWBA RHODODENDRON (OR SIMILAR)	5 GAL	2`-2.5`	1.5`-2`		FULL IN CONTAINER

Stantec

4969 Centre Pointe Dr, Suite 200
North Charleston, SC 29418
843-740-7700

Legend

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: | Dwn. | Chkd. | Dsgn. | YY.MM.DD

Permit-Seal

Client/Project
Belfast Solar

Solar Field Screening

Belfast, ME 04915

Title
CONCEPTUAL LANDSCAPE PLAN

Project No.	Scale	
195601958	1" = 20'-0"	
Drawing No.	Sheet	Revision
L3	4of 4	0

ATTACHMENT 3: OPERATIONS AND MAINTENANCE PLAN

Operations and Maintenance Plan

Item	Service Description	Frequency / Response Time
1	Remote monitoring of the Project solar PV system and interconnection from a control point through Internet connection: Including the setup of alarm points for abnormal inverter shutdowns / faults	Daily (minimum 5 days per week)
2	Remote response to Supervisory Control and Data Acquisition (SCADA)/tracker/inverter/system faults and remote resets when the fault is understood	As needed.
3	On-site response to SCADA/tracker/inverter/system faults when a resolution cannot be accomplished remotely. This extends past inverter issues to include open circuit, shorted cabling, opened/blown fuse scenarios, tracker problems including gear box and motor replacements, and grounding issues.	As needed. Typical remote response within 48 hours of fault/problem. Once determined that an on-site response is required: next business day
4	Response to warranty claim items (EPC Contractor or Operations & Maintenance [O&M] Contractor).	As needed by responsible party. Typical response within 24 to 48 hours of fault / problem.
5	Coordinate with the Utility to safely turn off the solar system for Utility provided maintenance, repair and or replacement of utility equipment. Safely reactivate the system after Utility has completed their work and confirmed the system can be reactivated.	As needed (annually or less frequent)

Item	Preventive Maintenance	Frequency / Response Time
6	Visually inspect entire Project solar PV system: Record, correct, apparent problems.	Annually
7	Visually inspect solar panels: Record if panels are properly affixed in racking system; correct if panels are not firmly affixed.	Annually
8	Visually inspect overall racking structure connections (including lateral links).	Annually
9	Visually inspect racking and equipment foundations	Annually
10	Visually test for grounding continuity between frames and racking structure on a sampling of PV panels. Visually inspect for corrosion at grounding wire connection.	Annually
11	Inspect weather station components and verify operation with Project operations center.	Annually
12	Verify the points where array wiring enters into conduit are secure, sealed to prevent rain from entering and free of abrasion on the wire insulation.	Annually
13	Check connections within combiner boxes. Verify combiner boxes are free of water/moisture.	Annually
14	Verify (DC) means of disconnection are free of damage, corrosion or arc evidence and that they open and close freely.	Annually
15	Verify (AC) means of disconnection are free of damage, corrosion or arc evidence and that they open and close freely.	Annually

Item	Preventive Maintenance	Frequency / Response Time
16	Test each string for proper short circuit current and open circuit voltage using IV Trace test.	Annually (sampling)
17	Verify conduit is structurally supported and secured.	Annually (sampling)
18	Verify conduit junctions and box connectors are secure and sealed.	Annually (sampling)
19	Coordinate with inverter manufacturer so that its annual service obligations are undertaken (e.g. replacement of the air inlet filters, cleaning of air intakes, check power capacitors for signs of damage, charging resistor).	Annually or as recommended in O&M Manual
20	Inspect and clean the inside of the inverter for dirt deposits and water penetrations. Seal penetrations if found.	Annually (sampling)
21	Inspect all inverter and electrical equipment cooling fans, test for functionality, replace if warranted.	Annually
22	Check the condition of AC and DC surge suppressors	Annually (sampling)
23	Measure and record phase to phase input voltages and currents by means of inverter data and SCADA/ Data Acquisition System. Verify performance of SCADA and weather station equipment is per Project requirements	Annually
24	Check meters and measure/calibrate the output of power supplies/devices to be within tolerances.	Annually or as needed
25	Record and clear all faults on inverters.	As needed
26	Verify the operation of the ground fault monitor at each inverter	Annually or as needed
27	Check fuses for open or signs of heating (inverter and string combiners). Inverters by inverter manufacturer technician. String combiners by Operator.	Annually (sampling)
28	Inspect sub-assemblies, and major components including electrical equipment, walls, floor, ceiling, lights, doors, etc. Empty water in oil containment compartments through drain valve or local pumping and inspect inside of containments through clean out openings. Clean inside of equipment as needed.	Annually (sampling)
29	Erosion and sediment control, road work, and module washing. Owner and O&M Contractor will assess conditions during annual onsite inspections to determine need. All remediation would be at Owner's expense.	As needed
30	Identify deficiencies that could affect Project production, equipment operability, or be reasonably expected to cause an unsafe condition at the Site. Report such deficiencies to Owner to determine resolution.	Annually and as found

Item	Vegetation Maintenance	Frequency / Response Time
31	The site shall be inspected for evidence of erosion and rilling in any slopes. Any such conditions shall be corrected and re-vegetated and noted in the annual report.	Annually and as found
32	Ground cover shall be mowed a maximum of twice per year.	Twice per year
33	Growth of trees or other vegetation that is having a shade impact on the arrays should be trimmed as needed and noted in the annual report. Vegetation growth (saplings, bush, large weeds, etc.) within any array fences or inverter enclosures shall be removed.	As neecessary

Item	Reporting	Frequency / Response Time
34	Provide periodic reports, each describing: • Performance results of system compared to production estimates; • Maintenance provided during the time period; • Inspection logs/reports for time period; and • Summary of upcoming scheduled maintenance.	Annually, unless dictated by permit
35	O&M Contractor and Owner shall make available required Legal Documents to each other the following: • Site Lease Agreement(s); • Power Purchase Agreement(s); and • Other documents required by O&M Contractor.	Prior to execution of this Agreement
36	Spare Parts Inventory – O&M Contractor will complete an audit of spare parts remaining and condition thereof (with any recommendations to replenish)	Annually

ATTACHMENT 4: AGENCY CORRESPONDENCE

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

February 8, 2021

Mr. Eben Baker
Stantec
30 Park Drive
Topsham, ME 04086

Project: MHPC# 0168-21 EDF Renewables Distributed Solutions; Back Searsport Road Solar Project

Town: Belfast, ME

Dear Mr. Baker:

In response to your recent request, I have reviewed the information received January 27, 2021 to initiate consultation on the above referenced project.

Based on the information provided, I have concluded that there are no National Register eligible properties on or adjacent to the parcels. In addition, the project area is not considered sensitive for archaeological resources.

Please contact Megan M. Rideout of our staff, at megan.m.rideout@maine.gov or 207-287-2992, if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney

Kirk F. Mohney
State Historic Preservation Officer

PHONE: (207) 287-2132

FAX: (207) 287-2335

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

January 26, 2021
File: 195601958

Attention: Isaac St. John, Tribal Historic Preservation Officer
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, ME 04730

VIA EMAIL: istjohn@maliseets.org

Reference: Significant Cultural / Historic Resources Information Request

Dear Mr. St. John,

The purpose of this letter is to request information on any significant cultural or historic resources associated with the location depicted on the attached project location map (Figure 1). We are assisting EDF Renewables Distributed Solutions, Inc., in their evaluation of this site in Belfast for a potential solar power generation facility.

Please review the attached map and let me know if there are any known or suspected cultural or historic resources associated with these potential development areas. Should you have any questions please feel free to contact me.

Thank you for your assistance in obtaining this information.

Regards,

Stantec Consulting Services Inc.

Eben Baker

Eben Baker
Project Scientist, PWS
Phone: 207 406 5459
Fax: 207 729 2715
eben.baker@stantec.com

Attachments: Figure 1: Project Location Map - Belfast

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

Attachment: Project Location Map

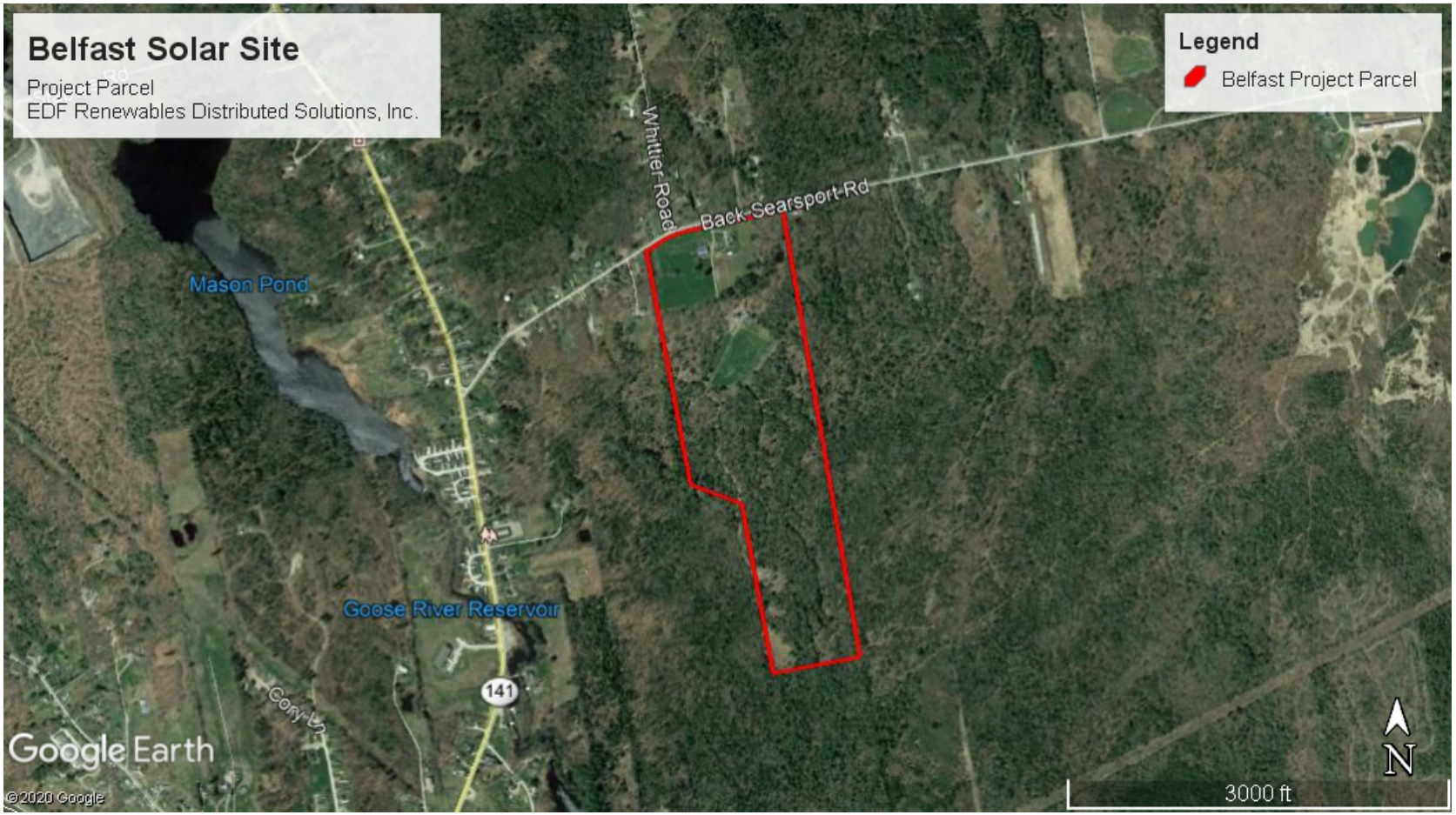


Figure 1: Belfast Site, Belfast, Maine.

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

January 26, 2021
File: 195601958

Attention: John Dennis, Tribal Historic Preservation Officer
Aroostock Band of Micmacs
7 Northern Road
Presque Isle, ME 04769

VIA EMAIL: jdennis@micmac-nsn.gov

Reference: Significant Cultural / Historic Resources Information Request

Dear Mr. Dennis,

The purpose of this letter is to request information on any significant cultural or historic resources associated with the location depicted on the attached project location map (Figure 1). We are assisting EDF Renewables Distributed Solutions, Inc., in their evaluation of this site in Belfast for a potential solar power generation facility.

Please review the attached map and let me know if there are any known or suspected cultural or historic resources associated with these potential development areas. Should you have any questions please feel free to contact me.

Thank you for your assistance in obtaining this information.

Regards,

Stantec Consulting Services Inc.

Eben Baker
Project Scientist, PWS
Phone: 207 406 5459
Fax: 207 729 2715
eben.baker@stantec.com

Attachments: Figure 1: Project Location Map - Belfast

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

Attachment: Project Location Map

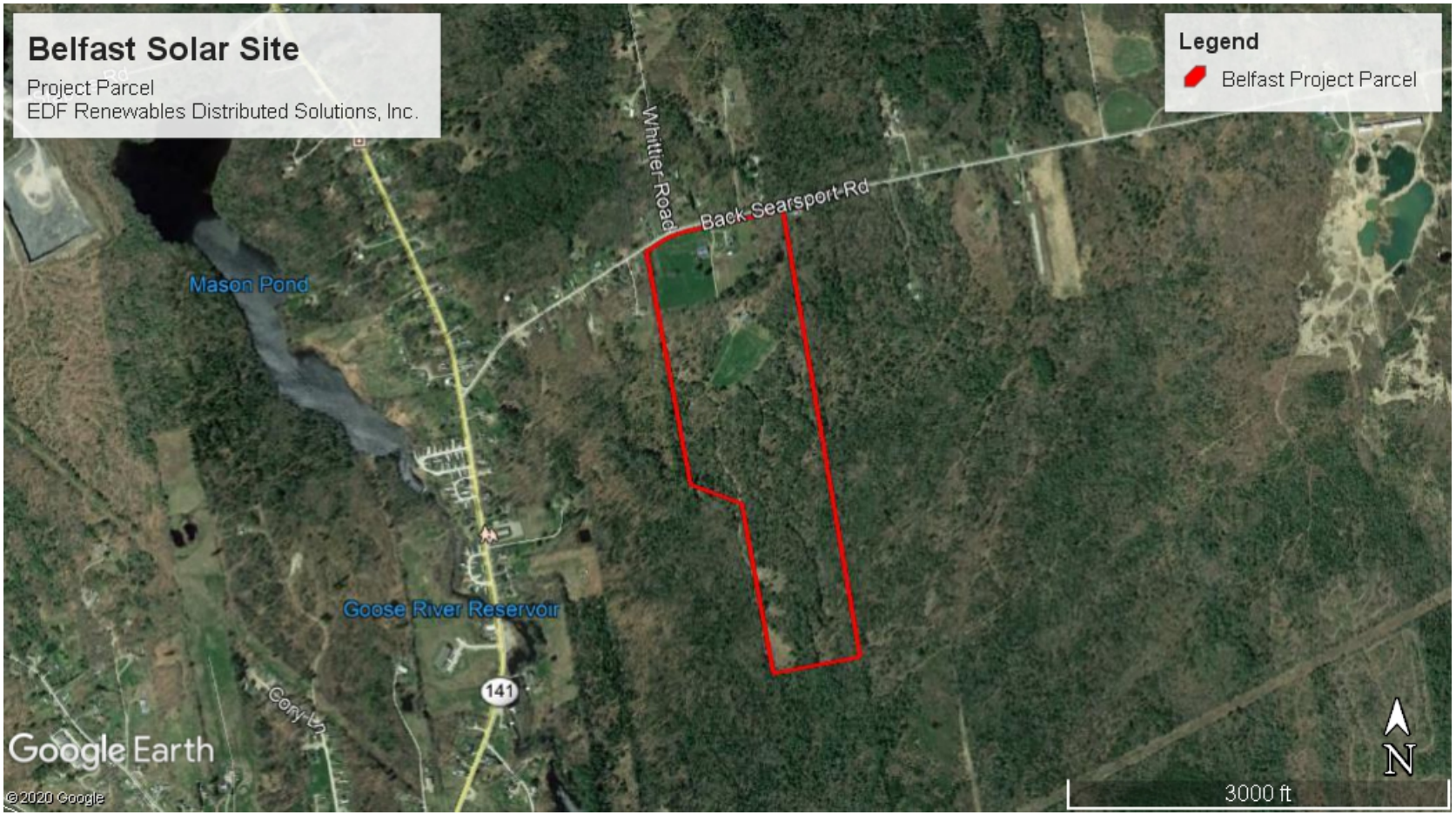


Figure 1: Belfast Site, Belfast, Maine.

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

January 26, 2021
File: 195601958

Attention: Donald Soctomah, Tribal Historic Preservation Officer
Passamaquoddy Tribe of Indians
Indian Township and Pleasant Point Reservations
P.O. Box 301
Princeton, ME 04668

VIA EMAIL: soctomah@gmail.com

Reference: Significant Cultural / Historic Resources Information Request

Dear Mr. Soctomah,

The purpose of this letter is to request information on any significant cultural or historic resources associated with the location depicted on the attached project location map (Figure 1). We are assisting EDF Renewables Distributed Solutions, Inc., in their evaluation of this site in Belfast for a potential solar power generation facility.

Please review the attached map and let me know if there are any known or suspected cultural or historic resources associated with these potential development areas. Should you have any questions please feel free to contact me.

Thank you for your assistance in obtaining this information.

Regards,

Stantec Consulting Services Inc.

Eben Baker
Project Scientist, PWS
Phone: 207 406 5459
Fax: 207 729 2715
eben.baker@stantec.com

Attachments: Figure 1: Project Location Map - Belfast

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

Attachment: Project Location Map

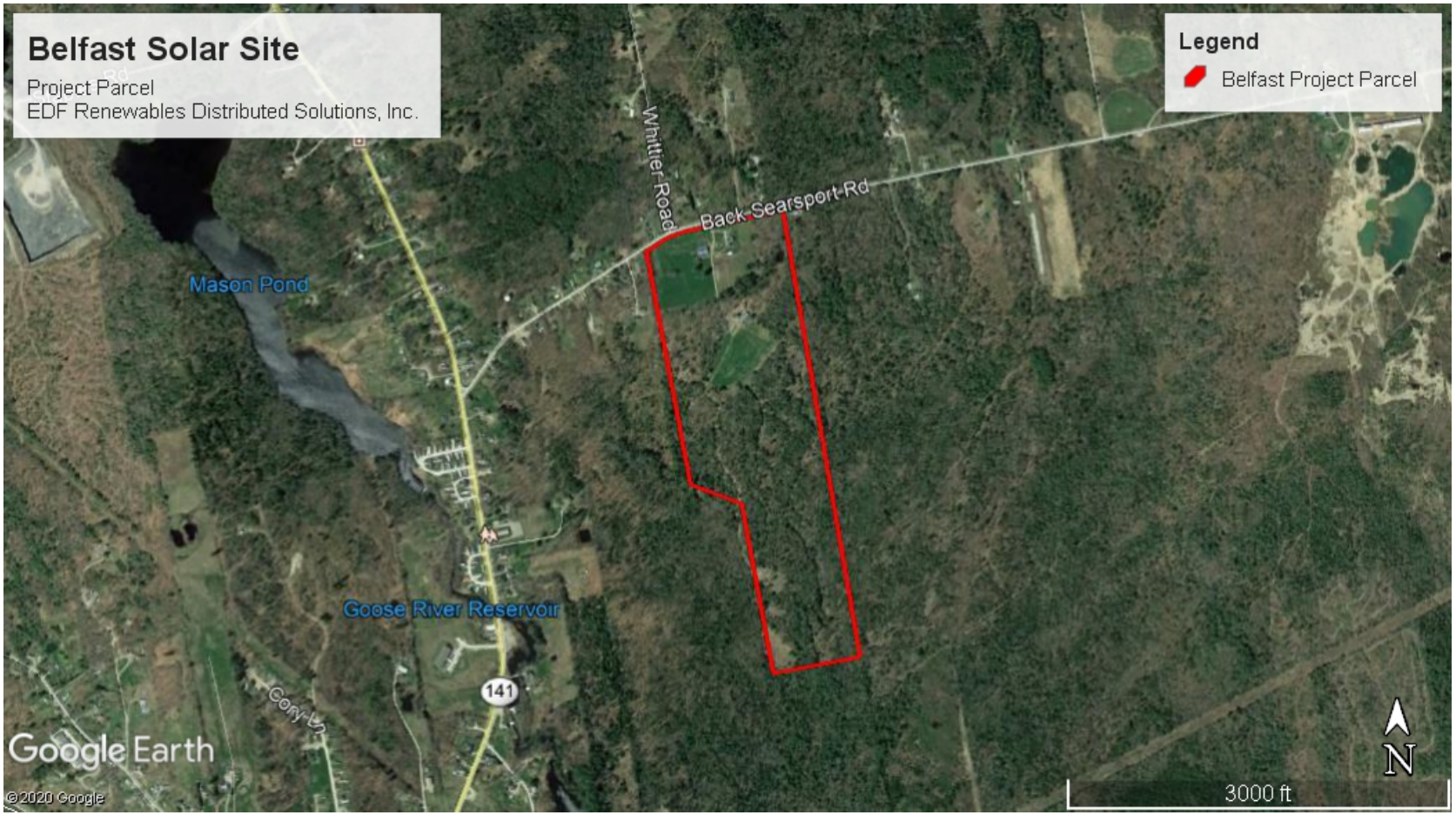


Figure 1: Belfast Site, Belfast, Maine.

Tribal Historic Preservation Office
Passamaquoddy Tribe
PO Box 159 Princeton, Me. 04668
207-214-4051

February 8, 2021

Stantec
30 Park Drive
Topsham ME 04086-1737
Stantec
30 Park Drive
Topsham ME 04086-1737

RE: Belfast – Solar Project Back Searsport Rd

Dear Eben;

The Passamaquoddy THPO has reviewed the following application regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, and Executive Order 12898 Environmental Justice.

The Project listed above will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe. If archeological material is uncovered, please contact this office.

Sincerely;

Donald Soctomah
Soctomah@gmail.com
THPO
Passamaquoddy Tribe

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

January 26, 2021
File: 195601958

Attention: Chris Sockalexis, Tribal Historic Preservation Officer
Penobscot Nation
Cultural and Historic Preservation Department
12 Wabanaki Way
Indian Island, ME 04468

VIA EMAIL: chris.sockalexis@penobscotnation.org

Reference: Significant Cultural / Historic Resources Information Request

Dear Mr. Sockalexis,

The purpose of this letter is to request information on any significant cultural or historic resources associated with the location depicted on the attached project location map (Figure 1). We are assisting EDF Renewables Distributed Solutions, Inc., in their evaluation of this site in Belfast for a potential solar power generation facility.

Please review the attached map and let me know if there are any known or suspected cultural or historic resources associated with these potential development areas. Should you have any questions please feel free to contact me.

Thank you for your assistance in obtaining this information.

Regards,

Stantec Consulting Services Inc.

Eben Baker
Project Scientist, PWS
Phone: 207 406 5459
Fax: 207 729 2715
eben.baker@stantec.com

Attachments: Figure 1: Project Location Map - Belfast

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

Attachment: Project Location Map

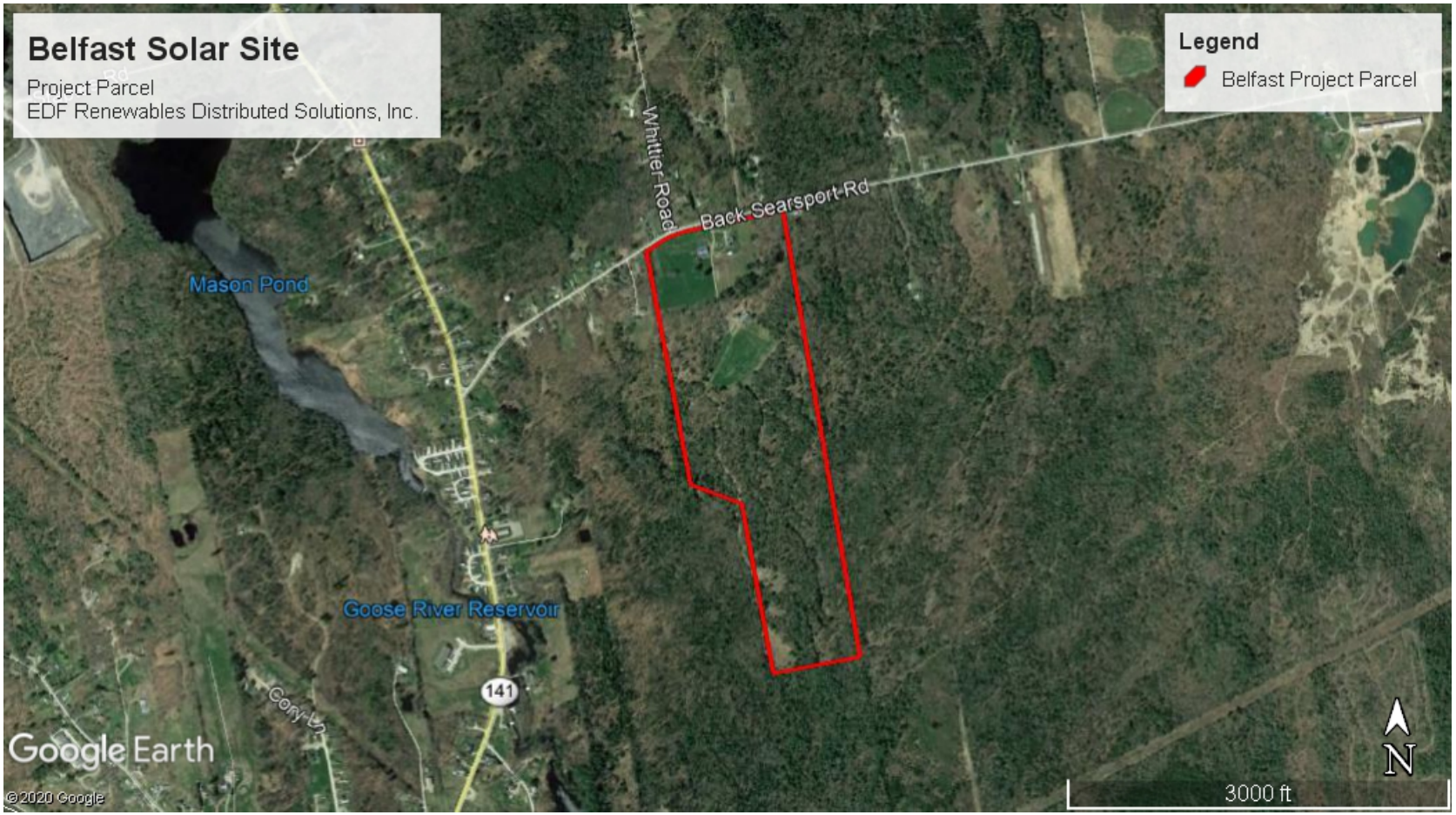
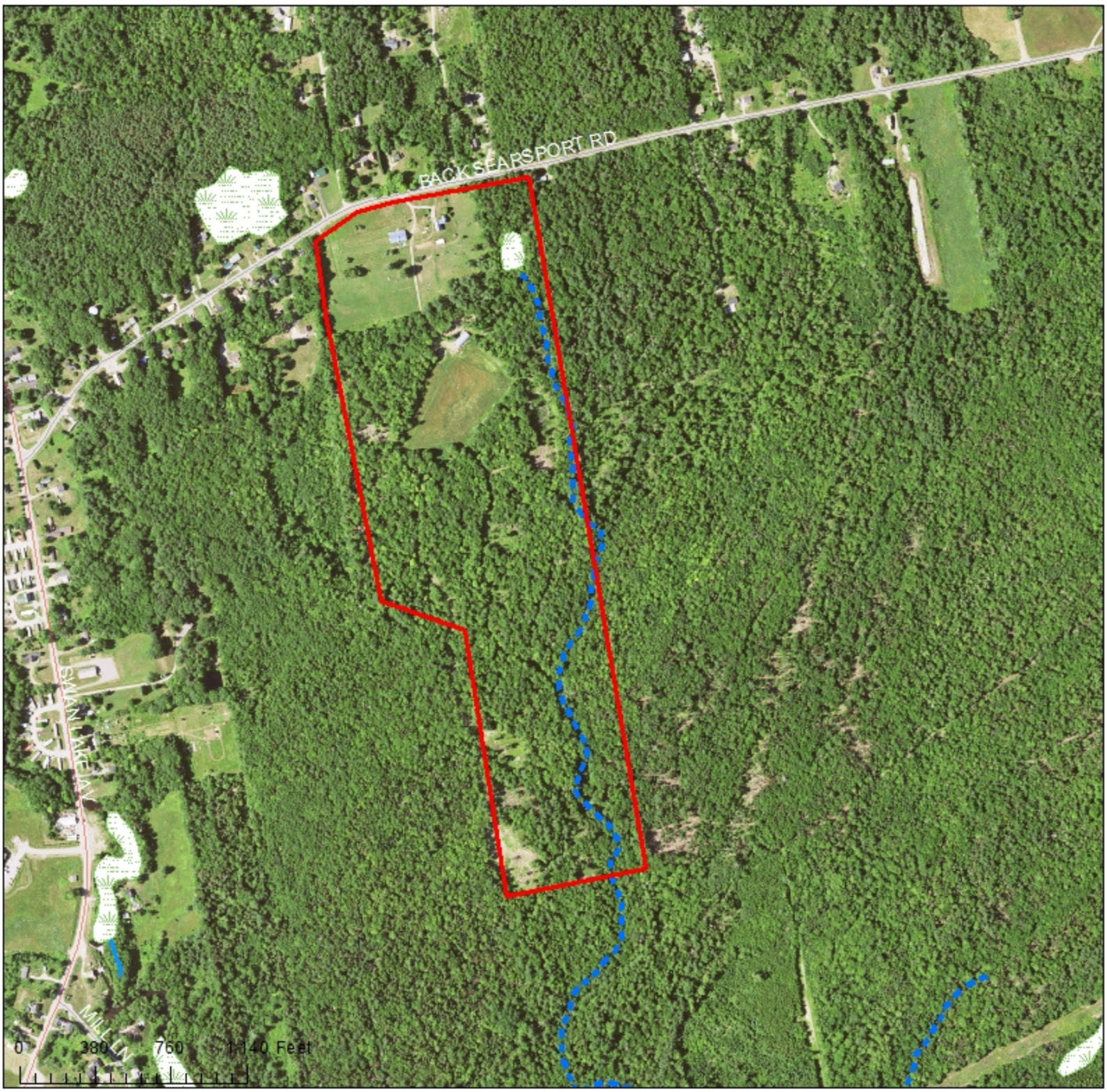


Figure 1: Belfast Site, Belfast, Maine.

EDF Renewable Distributed Solutions, Belfast

Environmental Review Map Document



Legend

- Large Wetlands
- Intermittent Stream
- Town Road
- Property Boundary

Map Notes:
-Background hydrologic, topographic and political features are from MEGIS data layers with an accuracy if +/- 40 meters
-All spatial data is projected to NAD 1983 UTM Zone 19
-The map is to be used for reference purposes only and does not represent authoritative locations displayed features.

N

Map Prepared By: Nathan D. Durant, Maine DEP, BLWQ
Division of Land Resource Regulation

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

January 29, 2021

Eben Baker
Stantec
30 Park Drive
Topsham, ME 04086

Via email: eben.baker@stantec.com

Re: Rare and exemplary botanical features in proximity to: #195601958, EDF Renewables Solar Project, Belfast, 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 January 26, 2021 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Belfast, 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

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

Rare and Exemplary Botanical Features within 4 miles of
Project: #195601958, EDF Renewables Solar, Belfast, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
American Chestnut						
	SC	S4	G3	2001-02-13	3	Hardwood to mixed forest (forest, upland)

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SU Under consideration for assigning rarity status; more information needed on threats or distribution.

SNR Not yet ranked.

SNA Rank not applicable.

S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.

G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Globally rare (20-100 occurrences).

G4 Apparently secure globally.

G5 Demonstrably secure globally.

GNR Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/dacf/mnap

JANET T. MILLS
GOVERNOR

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

JUDITH CAMUSO
COMMISSIONER

February 17, 2021

Eben Baker
Stantec
30 Park Drive
Topsham, ME 04086

RE: Information Request – EDF Renewables Solar Project, Belfast

Dear Eben:

Per your request received on January 27, 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 *EDF Renewables Solar* project in Belfast. Note that as project details are lacking, and due to the general nature and scale of the map that was provided, our comments are non-specific and should be considered preliminary.

Please note this document does not fulfill the requirements of the Maine Public Utilities Commission's Distributed Generation Project Siting Attributes for solar energy projects. For solar projects seeking MDIFW's determination of potential impacts to Maine-listed Endangered or Threatened species or habitats pursuant to the MPUC process, please send a separate, clearly labeled request to: IFWEnvironmentalreview@maine.gov and a separate response will be provided.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats - Of the eight species of bats that occur in Maine, the three *Myotis* species are afforded special protection under Maine's Endangered Species Act (MESA, 12 M.R.S §12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence, it is likely that several of these species occur within the project area during the fall/spring migration, the summer breeding season, and/or for overwintering. If the proposed project has a Federal nexus, either via funding or permitting, or if the project is not consistent with the USFWS "4(d) Rule", we recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, Wende_Mahaney@fws.gov, 207-902-1569) for further guidance on their perspective, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. The USFWS "4(d) Rule" provides guidance for protection of bat winter hibernacula and maternity roost trees for northern long-eared bats (see https://www.fws.gov/midwest/endangered/mammals/nleb/4drule.html). MDIFW Endangered Species Rules for bats (Chapter 8.06; see link at http://www.maine.gov/sos/cec/rules/09/137/137c008.docx) provide equivalent seasonal protection of maternity roost trees for any of the three state-listed bats, seasonally prohibits entry into subsurface winter

hibernacula, and has additional protections for tree removal within ¼ mile of subsurface winter hibernacula. At present, no maternity roost trees have been designated for protection.

In addition to traditional hibernacula like caves and old mines, recent findings indicate that *Myotis* and big brown bats may also overwinter in exposed rocky features. To date, Maine talus and rocky outcrop studies have focused on relatively exposed slopes with minimal canopy cover, although ongoing research has shown that bats use rocky areas under the forest canopy. Occupied talus slopes in Maine have consisted of variable rock sizes, ranging in size from softball-sized to car-sized boulders. Rock piles, rock ledges, and small vertical cracks in rocks (>1/2-inch-wide) create crevices that allow bats to access deeper cavities that provide protection for predators and suitable temperature and humidity conditions. Some species of bat, like the eastern small-footed bat, use rocky features year-round. A desktop GIS analysis does not indicate the presence of these features in your project area; however, not all talus and rocky features have been mapped statewide. Therefore, we advise that all areas of talus and rocky features of approximately 1,000 square feet or greater in size be documented on and within 250 feet of your project area, including smaller areas of rock piles and tailings (i.e., quarry spoils). See attached photographs for representative features—these photographs are not all-inclusive and should be used for guidance purposes only. Detailed photographs and coordinates should be submitted to MDIFW for review, and acoustic monitoring may be recommended to document occupancy. Alternatively, these features should be appropriately buffered commensurate with the size and layout of the project. If these features are not present in the project area, our Agency does not anticipate significant impacts to any of the bat species as a result of this project based on currently best available science.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams that support coldwater fisheries 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 conditions required by many fish 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 full fish 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 and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new,

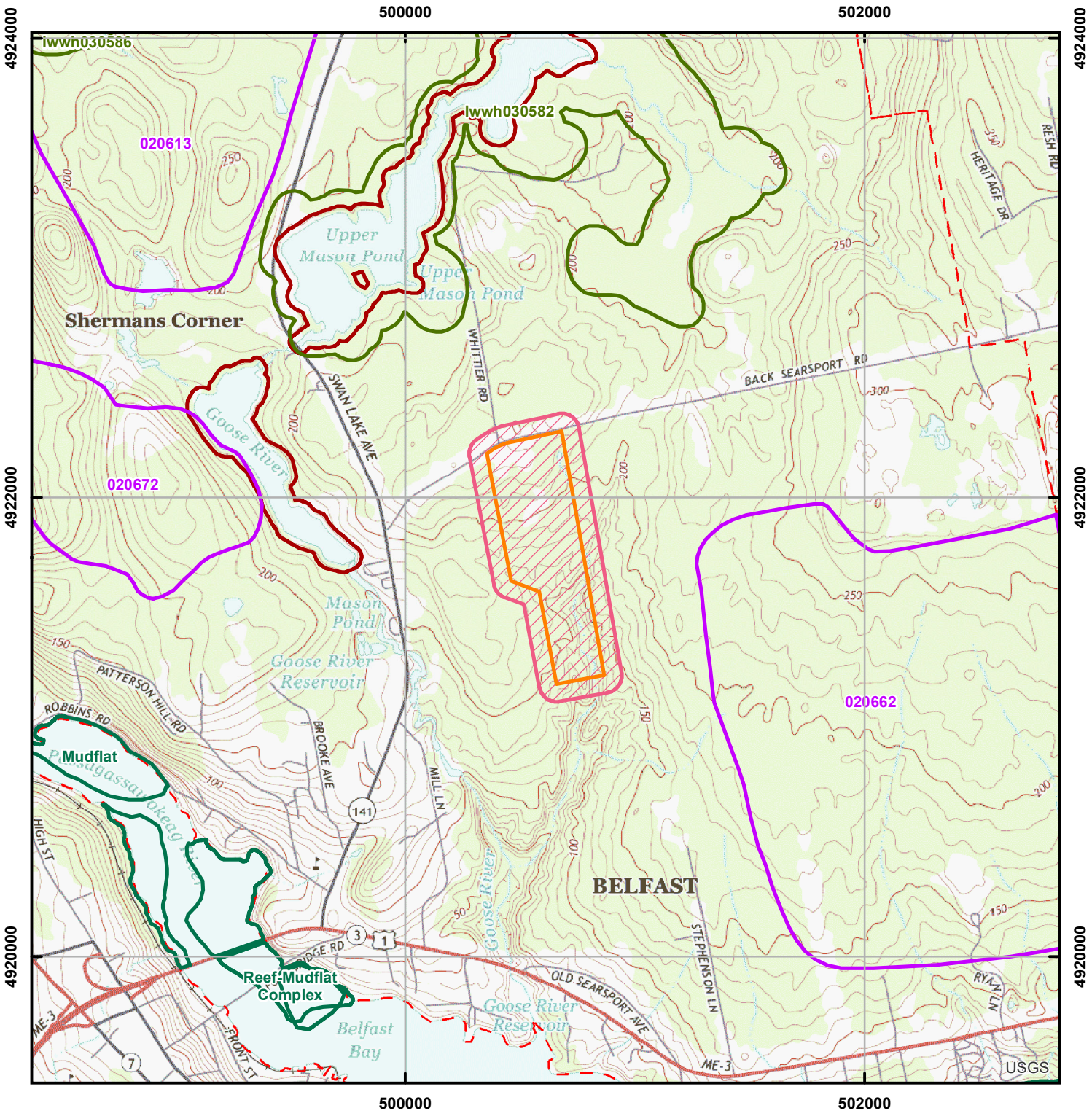
modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for 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 from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: EDF Renewables Solar, Belfast (Version 1)

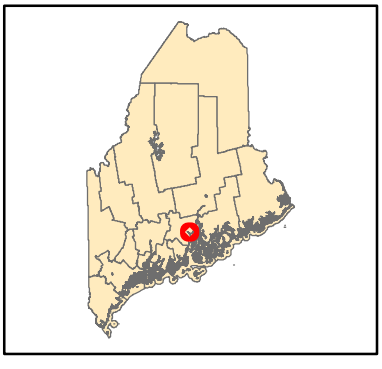
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 1/27/2021

- ProjectPoints
- ProjectLines
- ProjectPolys
- ProjectSearchAreas
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 Iwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



Representative Photographs of Suitable Bat Rock-Roosting Sites

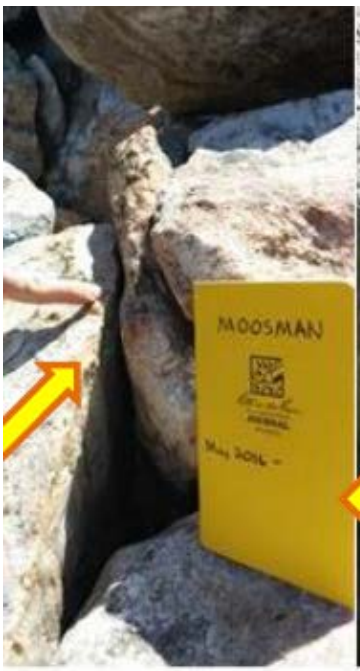
Prepared by the Maine Department of Inland Fisheries and Wildlife

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

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE



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IPaC **U.S. Fish & Wildlife Service**

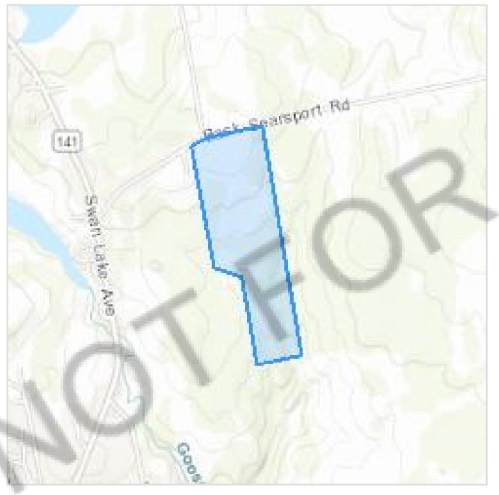
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Waldo County, Maine



Local office

Maine Ecological Services Field Office

(207) 469-7300
(207) 902-1588

MAILING ADDRESS
P. O. Box A
East Orland, ME 04431

PHYSICAL ADDRESS
306 Hatchery Road

East Orland, ME 04431

http://www.fws.gov/mainefieldoffice/index.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Fishes

NAME	STATUS
Atlantic Salmon Salmo salar There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2097	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ

below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10

Cape May Warbler Setophaga tigrina — Breeds Jun 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-throated Loon Gavia stellata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be

used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review.

Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND

PUBHh

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal,

state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

ATTACHMENT 5: EVIDENCE OF FINANCIAL AND TECHNICAL CAPACITY

FINANCIAL CAPACITY

EDFR DS is a wholly owned subsidiary of EDF Renewables, Inc. (EDFR). EDFR is a wholly owned subsidiary of EDF Energies Nouvelles (EDF EN) and a member of the EDF Group. The EDF Group (EDF SA) is one of the largest diversified utility companies in the world with over 120 GW of generation assets under ownership and operation worldwide that generated over $85 billion in revenue in 2019. EDF SA is a publicly traded company with the Country of France as the principal equity owner. As such, our corporate structure and balance sheet give the EDF Renewables team unmatched financial stability in our industry. EDF SA maintains an excellent credit rating and is currently rated:

EDF Renewables North America is 100% owned by EDF SA through its global renewable energy subsidiary EDF Renewables. EDF SA is a publicly traded company that is majority owned by the French Government. EDF shares have been listed on Euronext Paris since November 18, 2005 (with first negotiation on November 21, 2005).

INVESTMENT RATING EDF SA
S&P: Short Term - A-2, Long Term - BBB+
Moody's: Short Term - P-2, Long Term - A3

DUN AND BRADSTREET
EDF Dun & Bradstreet # 39-826-8461

EDFR DS, EDFR, and EDF EN are not publicly traded entities and therefore, do not make their financial statements publicly available. The EDF Group's financial information can be found at the following link: http://bit.ly/EDF_Group

1.0 TECHNICAL CAPACITY

EDF has over 35 years of renewable energy experience within North America and develops, finances, constructs, and operates commercial solar projects in Massachusetts, California, Vermont, and now Maine. EDF focuses on developing, financing, and constructing solar projects that are 15 to 30 acres in size. Development requires experience and skill sets in a number of disciplines, including real estate, permitting, legal, construction, financing, and all things energy, which EDF has with in-house personnel appropriately trained to successfully complete a project's development. In New England, EDF has received many permits from the Massachusetts Department of Environmental Protection and the Vermont Agency of Natural Resources.

EDF's management team consists of highly experienced solar energy professionals with backgrounds in solar energy project development, construction, financing, and law. Key members of EDF's project development team for Maine are listed below. A statement of qualifications for EDF is attached as Exhibit 4-1. In addition to EDF's team, the local Project development team includes Stantec Consulting Services Inc. (Stantec; natural resource assessments, permitting, soils, civil engineering, stormwater analysis). Key personal include:

1.1 EDF

Senior Manager, Project Development—Allen Tate: Since 2017, Allen has led development of 100+ megawatts (MW) of solar energy projects in operation or nearing construction in the Northeast, Midwest, and Southeast. An attorney and environmental scientist by training, Allen has leaned on his experience to originate sites with landowners, develop conceptual project designs, and permit projects under both state and federal regulatory frameworks. Allen holds a BS from Sewanee: The University of the South, MS from Antioch University of New England, and JD from Vermont Law School. Allen works in EDF's West Lebanon, New Hampshire office.

Senior Manager, Business Development—Peter Bay: Peter has ten years of experience supporting a wide spectrum of renewable energy projects throughout the country including wind power, hydropower, and solar PV. He was a lead contributor on the first Archimedes Screw hydropower installation in the United States. His expertise on renewable projects ranges from site identification and feasibility analysis to permitting, negotiation of power purchase agreements, and management of utility interconnection processes. He holds a BS in Environmental Science from Endicott College.

Director of Project Development—Geoff Suttle: Geoff leads the EDF project development team, which includes solar and storage projects across the United States. He has over a decade of experience developing renewable energy projects and has personally originated or developed over 370 MWac of solar projects currently operating or under construction. Geoff earned a BA from Yale University and an MBA from the Darden Graduate School of Business at the University of Virginia. He lives and works in Charlottesville, Virginia.

1.2 STANTEC

Senior Project Manager, Regulatory Specialist—Brooke Barnes: Brooke is a recognized expert in environmental regulations and permitting, with more than 25 years of experience in the regulatory field. As a former Deputy Commissioner of the MDEP, Brooke offers Stantec clients unparalleled practical expertise in evaluating critical permitting issues for projects, developing permit applications, conducting negotiations with state and federal agencies, and assisting in expert witness testimony preparation. Brooke's 15 years of experience at the MDEP included extensive work in enforcement, policy analysis, compliance monitoring, policy development and implementation, licensing, rulemaking, leadership development, and organizational change. In addition to his regulatory experience, he served on the Governor's Alternative Dispute Resolution Task Force, as Acting Chief Counsel to Governor King and was a Leadership Instructor for the Maine Management Institute, building professional leaders and managers in state government.

Project Scientist—Eben Baker: Eben is a Project Scientist with six years of experience implementing natural resource survey efforts in accordance with regulatory agency protocols and facilitating solar and wind permitting at the local, State, and federal levels. Survey areas include rare and invasive plant surveys, wetland delineations, vernal pool surveys, raptor surveys, bat acoustic surveys, and marine radar surveys/analysis. He has performed field data management and authored natural resource assessments and reports to assist with the preparation of local, state, and federal permit applications. He has worked on a variety of natural community and rare plant surveys and projects ranging from general reconnaissance observations to quantitative, community, and species-specific surveys. These projects have involved natural community mapping and analysis for energy and transportation projects, utility corridors, and development sites throughout New England and various locations in the United States.

Senior Associate—Dave Nadeau, PE: Dave's has over 21 years of experience with project management and design services on a variety of solar, airport, and transportation infrastructure improvement projects. His capabilities include civil and airport engineering design; stormwater analyses and drainage system design; environmental and local permitting services; construction administration and inspection services; and topographic and airport obstruction surveys. He is also proficient with federal and state Airport Improvement Program grant procedures.

Senior Civil Engineer, Technical Stormwater Lead—Pat Clark, PE: Pat has 35 years of engineering experience involving civil and site design principles and practices including personnel supervision, project management, construction administration, field layout, construction inspection, municipal peer reviews, technical reports, specification writing, stormwater facilities design, Low Impact Development design, water quality, and lake phosphorus management systems. He has a high-level of technical skills and the ability to communicate effectively with all levels from contractors and union employees, to support staff and executive management.

Appendix A EDF STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

Let's talk **energy.**

CORPORATE HEADQUARTERS
15445 Innovation Drive
San Diego, CA 92128
858.521.3300

COLUMBIA, MD
6940 Columbia Gateway Dr
Suite 400
Columbia, MD 21046
802.359.6516

MINNEAPOLIS, MN
10 Northeast Second St
Minneapolis, MN 55413
612.746.0770

RUTLAND, VT
67 Merchants Row
Rutland, VT 05701
802.295.4415

WEST LEBANON, NH
5 Commerce Ave
W Lebanon, NH 03784
802.295.4415

800.374.4494
info@edf-re.com
www.edf-re.com

ABOUT **EDF RENEWABLES**

EDF Renewables provides clean energy solutions throughout North America.

EDF Renewables is a market leading independent power producer and service provider. Delivering **grid-scale power**: wind (onshore and offshore), solar photovoltaic, and storage projects; **distributed solutions**: solar, solar+storage, electrical vehicle charging and energy management; and **asset optimization**: technical, operational, and commercial skills to maximize performance of generating projects. EDF Renewables' North American portfolio consists of 16 gigawatts (GW) of developed projects and 11 GW of operating assets under service contracts. EDF Renewables North America is a subsidiary of EDF Renewables, the dedicated renewable energy affiliate of the EDF Group.

Snapshot of EDF Renewables North America	
Company Name	EDF Renewables North America
State of Incorporation	Delaware
Year Founded	1985
Ownership	Subsidiary of EDF Renewables
Headquarters	San Diego, CA
Target Sectors	Utility, Municipal, Cooperative, Corporates, Education, Non-Profits
Markets	U.S.A., Canada and Mexico

WHAT OUR **TEAM PROVIDES**

The EDF Renewables team is dedicated to creating value by managing projects from origination through commercial operation.

Initial efforts involve identifying potential project sites, establishing business relationships with landowners, and securing permits and utility interconnection rights. As the project progresses, our team executes all contracts, secures financing, procures equipment, and assures timely construction for full operation.

ORIGINATION

Comprehensive **analysis, identification and evaluation** of prospective sites and matching those sites with customer needs.

DEVELOPMENT

Resource **assessment, permitting, site design, interconnection rights** and technology selections.

TRANSACTION

Securing **energy offtake and financing**.

CONSTRUCTION

Implementation of all aspects of the **system design, installation, and construction** to ensure a high quality project.

OPTIMIZATION

Operations and maintenance, asset management, monitoring and maintenance to **ensure profitable and optimal performance** of facility.

GRID-SCALE POWER

Onshore Wind
Offshore Wind
Solar Photovoltaic
Storage

DISTRIBUTED SOLUTIONS

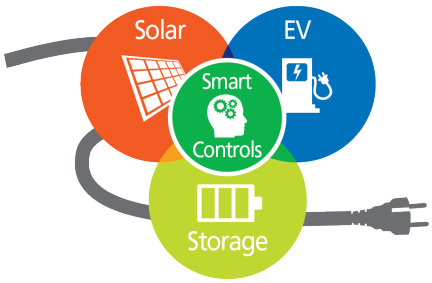
Solar
Solar+Storage
Electrical Vehicle Charging
Energy Management

ASSET OPTIMIZATION

Operations & Maintenance
Monitoring
Asset Management
Performance Optimization
NERC Compliance

ABOUT EDF RENEWABLES
DISTRIBUTED SOLUTIONS

EDF Renewables North America, Distributed Solutions (EDFR DS) team offers customer-focused development, construction, and operation and maintenance (O&M) services for solar, energy storage, and electric vehicle charging projects.



Our dedicated team of professionals has developed or constructed more than 950 MW of solar projects throughout the United States for a wide range of clients including municipal and investor-owned utility companies, cooperatives and electricity suppliers, commercial and industrial customers, and government organizations.

PROJECT DEVELOPMENT

EDFR DS has successfully developed solar projects throughout the United States and now offers solar + energy storage and standalone energy storage projects throughout North America. We manage our projects from development through design, financing, construction, and operations. Each step of the way, we deploy our industry experience and affiliate relationships to help our clients navigate and benefit from the complex and ever-changing policy and market dynamics of the renewable energy sector. Our holistic approach to project management from concept to operating asset, our multi-disciplinary team engagement, and our strong balance sheet give us a leading edge on successfully developing renewable energy projects that will become valuable operating assets.

ENGINEERING, PROCUREMENT & CONSTRUCTION

EDFR DS is an industry leader in engineering, procurement, and construction (EPC) solutions for solar and solar + storage projects. For more than two decades we have been providing cost-effective and innovative design, engineering, and construction services for solar, and more recently added solar + storage, and EV charging projects into our EPC offerings.

Our team members have strong relationships with top suppliers of solar modules, inverters, racking systems, and data system technologies; allowing EDFR DS to stay at the forefront of technology innovation, effectively control costs, and streamline project delivery. Additionally, we have deep experience in designing, developing, and constructing solar photovoltaic generation systems on environmentally-sensitive sites, including landfills, brownfields, and wastewater treatment plants.

ABOUT EDF RENEWABLES
DISTRIBUTED SOLUTIONS

PROJECT FINANCING

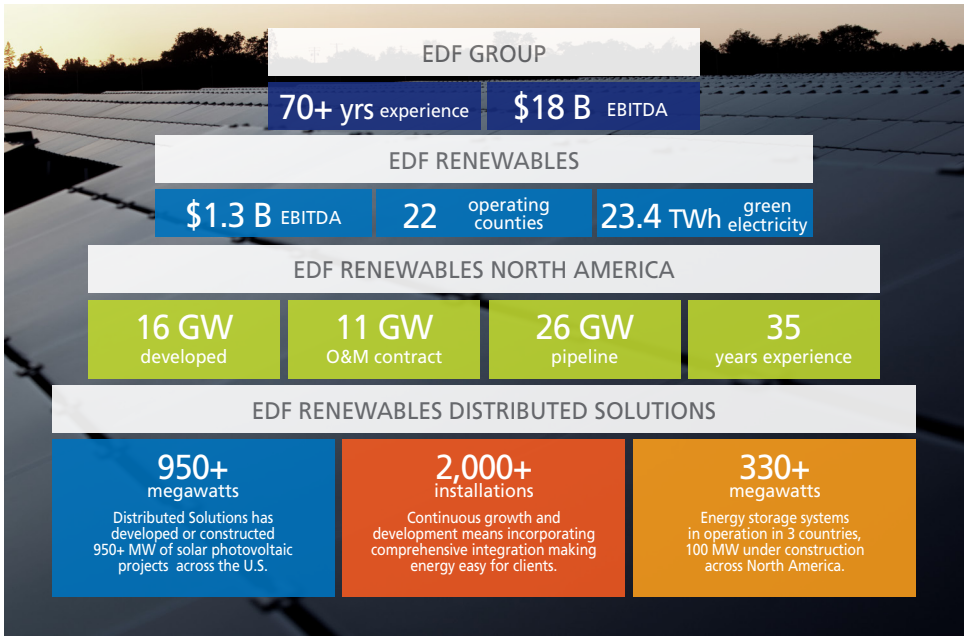
EDFR DS can provide project financing solutions for our projects through a range of stages from development, construction and long-term ownership. As a subsidiary of EDF Renewables operating in over 22 counties and one of the largest owners of renewable energy assets in North America, we can provide both balance sheet and third-party partner financing solutions. Additionally, our strong balance sheet enables us to offer construction stage financing to qualified project owners and customers who wish to own their projects.

OPERATIONS AND MAINTENANCE

EDFR DS provides operations and maintenance (O&M) services for our commissioned solar, solar + storage, and EV charging projects; as well as existing projects installed and designed by others. Our O&M team provides remote and on-site trouble-shooting, warranty, and maintenance services to ensure that each project we manage operates at maximum efficiency. The EDF Renewables team is complemented by their Asset Optimization team, and its world class Operations Control Center in San Diego, CA), the largest third-party supplier of operations and maintenance services in North America.

CORPORATE STRUCTURE, FINANCIAL STABILITY

EDF Renewables North America is a wholly owned subsidiary of EDF Renewables and a member of the EDF Group.



ABOUT EDF RENEWABLES
CORPORATE STRUCTURE

The EDF Group (EDF SA) is one of the largest diversified utility companies in the world with over 120 GW of generation assets under ownership and operation worldwide that generated over $78 billion in revenue in 2017. As such, our corporate structure and balance sheet give the EDF Renewables team unmatched financial stability in our industry. EDF SA maintains an excellent credit rating and is currently rated:

EDF Renewables North America is 100% owned by EDF SA through its global renewable energy subsidiary EDF Renewables. EDF SA is a publicly traded company that is majority owned by the French Government. EDF shares have been listed on Euronext Paris since November 18, 2005 (with first negotiation on November 21, 2005).

INVESTMENT RATING EDF SA

S&P: Short Term – A-2, Long Term – A-

Moody's: Short Term – P-2, Long Term – A3

DUN AND BRADSTREET

EDF Dun & Bradstreet # 39-826-8461

The EDF Group's financial information can be found at the following link: *http://bit.ly/EDF_Group*

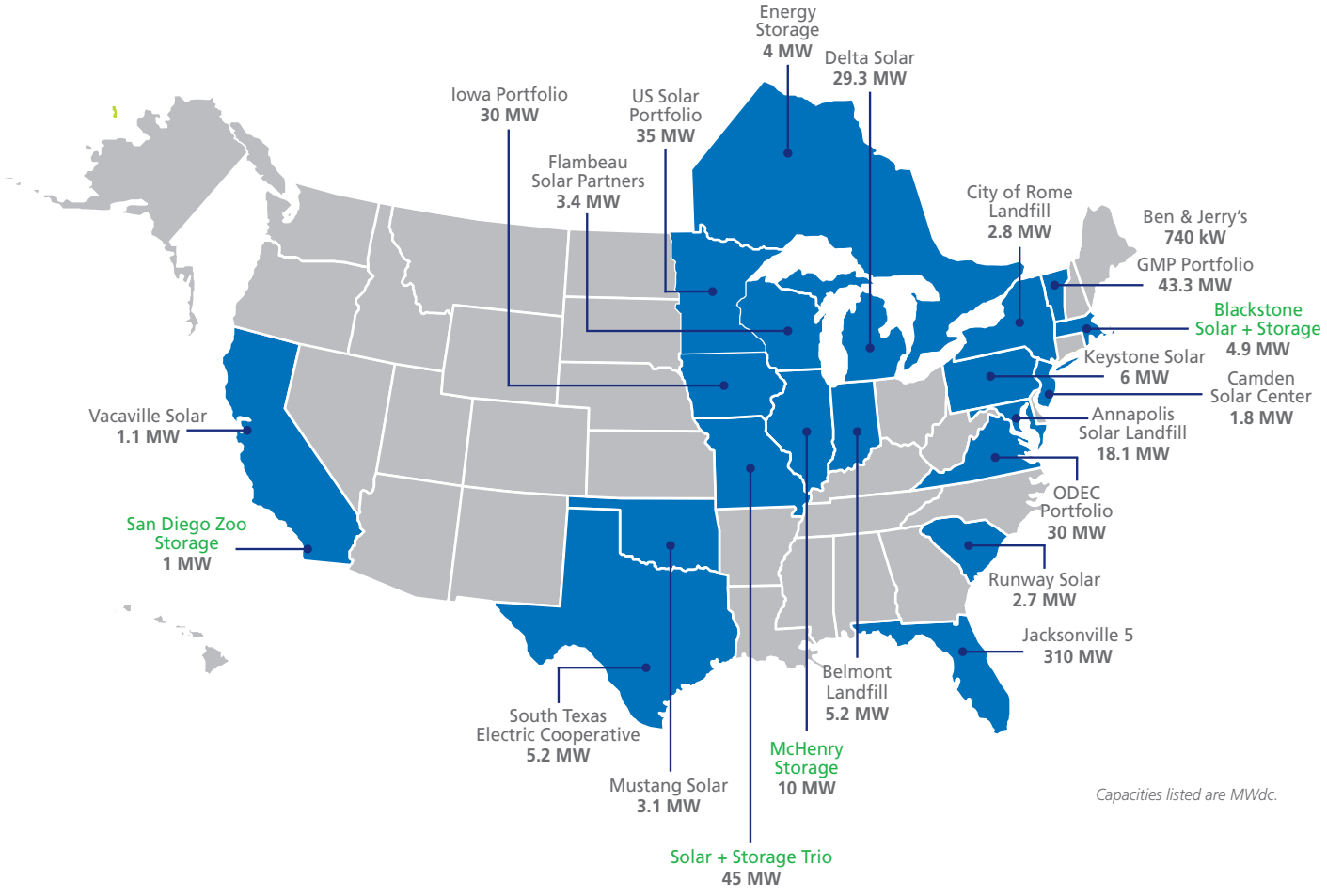
Additional financial information regarding EDF's private entities can be provided upon request.

DISTRIBUTED SOLUTIONS **EXPERIENCE**

EDF Renewables Distributed Solutions has more than two decades of experience developing, building, operating and owning renewable energy projects; and we are at the forefront of innovation on battery storage solutions.

The EDFR DS team has an impressive project history, completing projects with a variety of solar technologies across the country and with excellent safety records. As projects progress, our team obtains development permits and interconnection rights and secures financing, procures equipment, and assures timely construction for full plant operation.

NOTABLE PROJECTS



Capacities listed are MWdc.

For a full listing of all EDFR projects, visit **www.edf-re.com/projects**

UTILITY EXPERTISE

UTILITY

EDF Renewables has a positive history and lengthy track record of integrating PV systems with utilities and power cooperatives across the U.S.

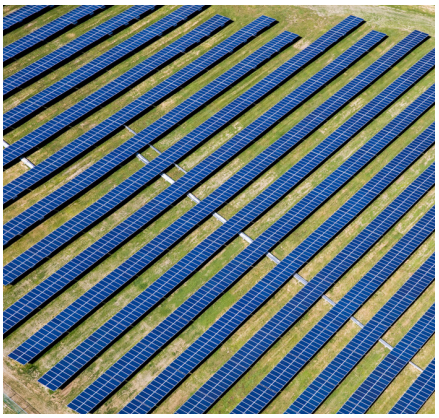
Our experience covers the gamut of challenges presented by utility scale projects including land acquisition and permitting, interconnection design, and optimal project siting. The utilization of solar PV can provide positive system benefits including peak load management, reduction in fossil fuel usage and greenhouse gas emissions, and compliance with renewable portfolio standards.

Benefits of Solar for Utilities & Co-ops

Diversification	Lower Costs	Manage Summer and Winter Peaks	Sustainability
Diversify your energy portfolio while complying with environmental and renewable portfolio standards and other energy mandates.	Fixed price and guaranteed output for 20+ years, with limited O&M costs, and no exposure to the price volatility of fossil fuel energy generation.	Quickly deploy new generation capacity near load centers, offsetting the need for new generation and transmission capacity during summer and winter.	Utilize renewable energy sources to meet sustainability and environmental initiatives.

Flambeau Solar
WISCONSIN

Mustang Solar
OKLAHOMA



South Texas Electric Cooperative
TEXAS

For a full listing of all EDFR projects, visit **www.edf-re.com/projects**

PUBLIC POWER EXPERTISE

PUBLIC POWER

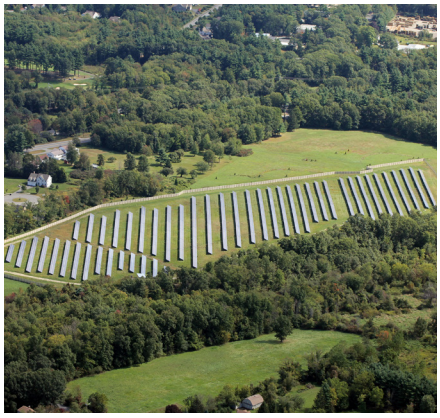
EDF Renewables is an expert in developing and constructing projects for municipal utilities and other not-for-profit electric service providers.

We pride ourselves in our ability to navigate the unique project siting, system design, and distribution interconnection requirements necessary to deliver valuable projects for the public power sector. Additionally, our team has expertise in third-party financing solutions for this customer segment including Power Purchase Agreements (PPAs) and Sale Lease Backs (SLBs).

NW Jacksonville Solar
FLORIDA

Delta Solar
MICHIGAN

Sterling Municipal Solar
MASSACHUSETTS



For a full listing of all EDFR projects, visit **www.edf-re.com/projects**

ENVIRONMENTALLY SENSITIVE EXPERTISE

ENVIRONMENTALLY SENSITIVE

EDF Renewables North America is a leader in the brownfield and landfill solar market, constructing solar on properties that were once thought to have little to no development potential.

We have experience developing PV projects atop technically challenging and environmentally-sensitive sites such as brownfields, landfills, open water and wastewater treatment tanks, and Superfunds sites. This experience is vital to developing appropriate safety guidelines, training standards, and design parameters that will take into consideration the unique challenges of these sites.

Annapolis Solar
MARYLAND

Camden Solar Center
NEW JERSEY

Unitil Solar
MASSACHUSETTS

For a full listing of all EDFR projects, visit **www.edf-re.com/projects**

ENERGY STORAGE EXPERTISE

ENERGY STORAGE

EDF Renewables Distributed Solutions leverages 330 MW of global energy storage experience to help energy and facility managers to manage, forecast, and reduce operational energy costs.

Distributed Solutions specializes in providing the design, financing, installation, and operation of holistic energy storage and solar solutions in order to help businesses and utilities:

Lower operational energy costs	Control and forecast long-term energy budgets	Increase energy reliability	Support sustainability and renewable energy goals

SAN DIEGO ZOO CALIFORNIA

EDFR was chosen by San Diego Zoo Global to provide energy storage services in support of the organization's fiscal and sustainability planning. The storage project will reduce energy costs at the San Diego Zoo facility by utilizing a 1-megawatt (MW) / 4-megawatt hour (MWh) battery to mitigate spikes in usage thereby lowering demand charges. The system will also minimize energy costs by recharging the battery when energy is at its lowest available rates, and then later discharging that power to the Zoo when costs are highest.

INNOVATION DRIVE MICROGRID CALIFORNIA

The Innovation Drive Microgrid project located at the EDF Renewables corporate campus that houses over 450+ local employees. The project consists of a solar carport and rooftop (391 kWp), battery storage (280 kW) and 43 electric vehicle (EV) charging stations expandable to 68. The fully integrated system flattens not only EV load but manages the entire facility's energy consumption patterns to reduce SDG&E utility bills.

MCHENRY STORAGE ILLINOIS

The McHenry Storage Project is a 20 MW energy storage system located in McHenry County, Illinois.The success of the project was due to EDF Renewables' broad experience in renewables and the expertise of EDF Store and Forecast, who provided the command and control to optimize the triumvirate between cost, longevity and performance of the battery system. EDF Store and Forecast will continue to monitor the facility.

COMMERCIAL & INDUSTRIAL EXPERTISE

COMMERCIAL & INDUSTRIAL

The Distributed Solutions team of EDF Renewables, along with EnterSolar*, work with clients to understand the operational costs and energy requirement that solar PV can offset.

A solar, solar + storage, or solar + storage + EV charging project can offset the energy costs of large manufacturing facilities, warehouses, cold storage facilities, or large corporate campuses. Ground-mounted projects and large rooftops are ideal for land that may not be utilized for other purposes.

By using renewable energy, your organization will be able to reduce its impact on the global environment, while also stabilizing electricity costs for years to come.

SAMPLING OF EDF RENEWABLES CUSTOMERS

*In September 2018 EDF Renewables acquired a 50 percent interest in EnterSolar.

KEY **TEAM MEMBERS**

RAPHAEL DECLERCQ
Executive Vice President,
Distributed Solutions & Strategy

858.521.3310
raphael.declercq@edf-re.com

Raphael DeClercq provides leadership for the Distributed Solutions business unit of EDF Renewables North America, supervises the activities of Development and Sale of Structured Assets, and works with the President & Chief Executive Officer to craft and implement the Strategy of EDF Renewables.

Raphael has responsibility over the teams and legal entities conducting activities at the distribution level. In his strategy role, he has a focus on identifying and supporting analysis on growth opportunities and risks of EDF Renewables businesses in North America. He is also in charge of the portfolio strategy for EDF Renewables through divestitures, supervising the asset marketing and the actual execution of the transactions.

Prior to transferring to the North American headquarters in 2011, Raphael worked for EDF Renouvelables in Paris as Deputy Executive Advisor. Earlier in his career, Raphael was a strategy consultant at McKinsey & Company where he primarily focused on the energy and heavy industry sectors. Raphael holds Masters in Management from HEC Paris business school and CEMS (Community of European Management Schools).

JAMIE RESOR
Chief Executive Officer,
Distributed Solutions

202.297.4992
jamie.resor@edf-re.com

Jamie Resor oversees the Distributed Solutions business line which is focused on the delivery of distributed scale solar, storage, and energy management projects. Prior to joining EDF Renewables, he was the CEO of groSolar, a company acquired by EDF Renewables in 2016. He has led the division's growth as a leading solar developer, engineering, procurement, and construction (EPC) firm developing or constructing more than 350 megawatts of award-winning projects.

Jamie gained 20 years of experience across many corporate and board roles in large organizations, start-up companies, and non-profit organizations. His early career included a range of opportunities from working on the Thai/Cambodian border for the International Rescue Committee to banking and management consulting with Fortune 1000 clients. Later, Jamie developed and directed the pioneering conservation finance program for the World Wildlife Fund, the world's largest environmental organization. In this capacity, he raised more than $150 million for environmental conservation projects through debt-for-nature swaps and other cross-border financing transactions in Africa, Asia, and Latin America. Jamie also assisted in the establishment of the Bhutan Trust Fund for Environmental Conservation and served on its advisory board for ten years.

Jamie received his undergraduate degree from Dartmouth College and MBA from Stanford University Graduate School of Business.

KEY **TEAM MEMBERS**

FELIX AGUAYO
Director

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felxi.aguyo@edf-re.com

Felix Aguayo is Director of Distributed Solutions at EDF Renewables – a global leader in renewable energy and storage with 8 GW of wind and solar in North America and 824 MWh of storage worldwide. Prior to his current position, Felix was Director of Strategic Partnerships at Sunedison, and at SolarCity, Director of Off-site Solar Solutions. At SunPower, he developed over 40 MWs of solar projects.

Prior to his solar career, Mr. Aguayo was an energy consultant specializing in the Northeast deregulated energy markets, an investment banker at UBS, and an electrical engineer for the Consolidated Edison Company of New York. He has a BS in Electrical Engineering from Lafayette College, and an MBA in finance from the NYU Stern School of Business.

MYLES BURNSED
Vice President,
Strategic Developments

802.272.6112
myles.burnsed@edf-re.com

Myles Burnsed, Vice President of Strategic Developments, joined EDFR Distribued Solutions in 2013 and currently leads Distributed Solutions market strategy and new market development efforts. Myles has over a decade of experience in renewable energy. Since 2009, he has personally originated, developed, or engineered of over 400 MW of distributed solar energy projects in over a dozen states and is responsible for origination and development of several of groSolar's signature projects in MI, FL, WI, OK, and NJ. Myles has held senior management roles at several solar energy companies including ECS Energy and HelioSage (now Coronal Energy).

Prior to entering the renewable energy industry, Myles was a Senior Consultant Engineer at FM Global where he managed and assisted a $5 billion book of clients in identifying and solving risk management challenges. He holds a BS in Chemical Engineering with High Distinction from the University of Virginia where he was elected a member of Tau Beta Pi and an MBA from the Darden Graduate School of Business Administration where he received the Faculty Award for Academic Excellence.

KEY **TEAM MEMBERS**

RYAN DONNELLY
Director of Structured Finance & Strategy

510.685.5744
ryan.donnelly@edf-re.com

Ryan Donnelly serves as EDF Renewables Distributed Solutions' Director of Structured Finance & Strategy, where he is responsible for asset divestitures and project financing. Prior to joining the Distributed Solutions team in 2018, Ryan worked with the Grid Scale Power group of EDF for 5 years. During his time at EDF, Ryan focused on M&A and cash equity partnerships; he has closed transactions totaling over $1 billion and taken to market over 2,000 MW of wind and solar projects. He has also played an active role in the corporate acquisitions of OwnEnergy, groSolar, and EnterSolar.

Ryan holds a BA from UC Berkeley and an MBA (focusing on Finance) from Duke University. Prior to entering the energy field in 2011, Ryan worked at Pixar Animation Studios in California, Digital Divide Data in Lao PDR, and served as a U.S. Peace Corps volunteer in northern Mongolia.

ML GEFFERT
Senior Vice President and General Counsel

802.359.6545
ML.geffert@edf-re.com

ML Geffert serves as Senior Vice President and General Counsel of Distributed Solutions. ML has over 20 years of legal experience, with an emphasis on transactional representation, project financing, and construction and real estate contracting. Prior to joining EDFR DS, she served as Group Counsel for Mueller Water Products, as Senior Counsel for Apogent Technologies, as Deputy City Attorney for the City of Santa Fe, NM, and as General Counsel for the City University Construction Fund. ML is a member of the New Hampshire and New York Bar Associations. She earned a BA with high honors from Rutgers College, Rutgers University, where she was elected to Phi Beta Kappa; and a JD from NYU School of Law, where she served as Articles Editor for the Review of Law and Social Change.

KEY **TEAM MEMBERS**

ANDREW GOLDSTONE
Director,
West - Distributed Solutions

908.875.0163
andrew.goldstone@edf-re.com

Andrew Goldstone serves as Director of Distributions Solutions - Western Region at EDF where he leads the business development team and customer facing activity for Solar, Storage, and EV Charging. Prior to joining EDF, Andrew was an early employee at Green Charge Networks (now Engie Storage), where he led a sales team and worked with public and private sector customers on some of the first large scale BTM energy storage projects in California. Andrew also worked as a Regional Director for Clipper Windpower, commercializing over 400 MW of wind assets. Prior to Clipper, Andrew started a corporate energy management program for a global pharmaceutical concern.

Andrew earned his undergraduate degree from the University of Michigan and his MBA from George Washington University as a Global Fellow.

LINCOLN LANDE
Senior Director,
Business Development

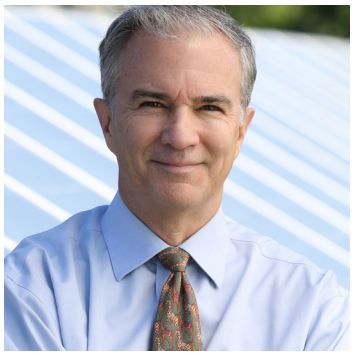
802.698.3060
lincoln.lande@edf-re.com

Lincoln Lande serves as EDF Renewables Distributed Solutions' Senior Director of Business of Development, where he is responsible for project origination. An attorney by trade, Lincoln served as a Project Development Attorney and later Director of Business Development at groSolar, a company acquired by EDF Renewables in 2016.

Since 2014, Lincoln has originated and developed 100+ MWs of distributed generation projects now in operation across the country. He has played an active role in all aspects of the project development cycle, from conception through development and construction.

Lincoln holds a BA from Skidmore College and JD (focusing on Environmental law) from Vermont Law School.

KEY **TEAM MEMBERS**



TOM LEYDEN
Senior Director

609.532.3642
thomas.leyden@edf-re.com

In Tom Leyden's 30 years in solar, he has held a number of executive management positions. He was VP of Sales and Marketing at EPV, a thin-film PV manufacturer, and at WorldWater, a remote-power and water pumping company installing solar projects in Africa and Asia. He served as VP of East Coast Operations for PowerLight, the commercial PV pioneer bought by SunPower, where he ran SunPower's East Coast office in Trenton, NJ, and later was VP of Commercial Development at SolarCity. In 2012 he became CEO of the start-up Solar Grid Storage that was acquired by Sunedison in 2015. He joined EDF Renewables in 2016 to help develop and deliver innovative solar and storage business models.

Tom has served the industry in various other roles, including President of MSEIA and MDV-SEIA, board member of national SEIA and PV Now, and advisor to the Interstate Renewable Energy Council. Mr. Leyden holds a BA from Princeton University.

THOMAS LYMAN
Vice President,
Engineering & Construction

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Thomas Lyman has been responsible for some of EDFR Distributed Solutions' larger and more complex solar projects including the Camden County New Jersey MUA solar project as well as the recently completed 18 MW Annapolis MD Landfill solar project.

Prior to joining EDF, he was a Sr. Project Manager for EllisDon Corporation, an international construction management company. Thomas worked for EllisDon in Michigan; Florida; Anguilla, BWI; and Athens, Greece. Selected projects which he was responsible for include the design, build, operate, and dismantle for the 15,000 square foot Province of Ontario exhibition at the 2010 Vancouver Olympics.

KEY **TEAM MEMBERS**

ROD VIENS
Senior Vice President,
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Rod Viens leads the Distributed Solutions Business Development team which includes solar and storage projects across North America. Prior to joining EDF Renewables, Rod was the Executive Vice President of Operations of groSolar, a company acquired by EDF Renewables in 2016.

Rod joined groSolar in 2008 to lead the direct residential and small commercial installation operations as well as the product distribution channel. His development and project management experience has included multi-residential, commercial buildings, schools, and utility projects ranging in size from 100 kW to 20 MW.

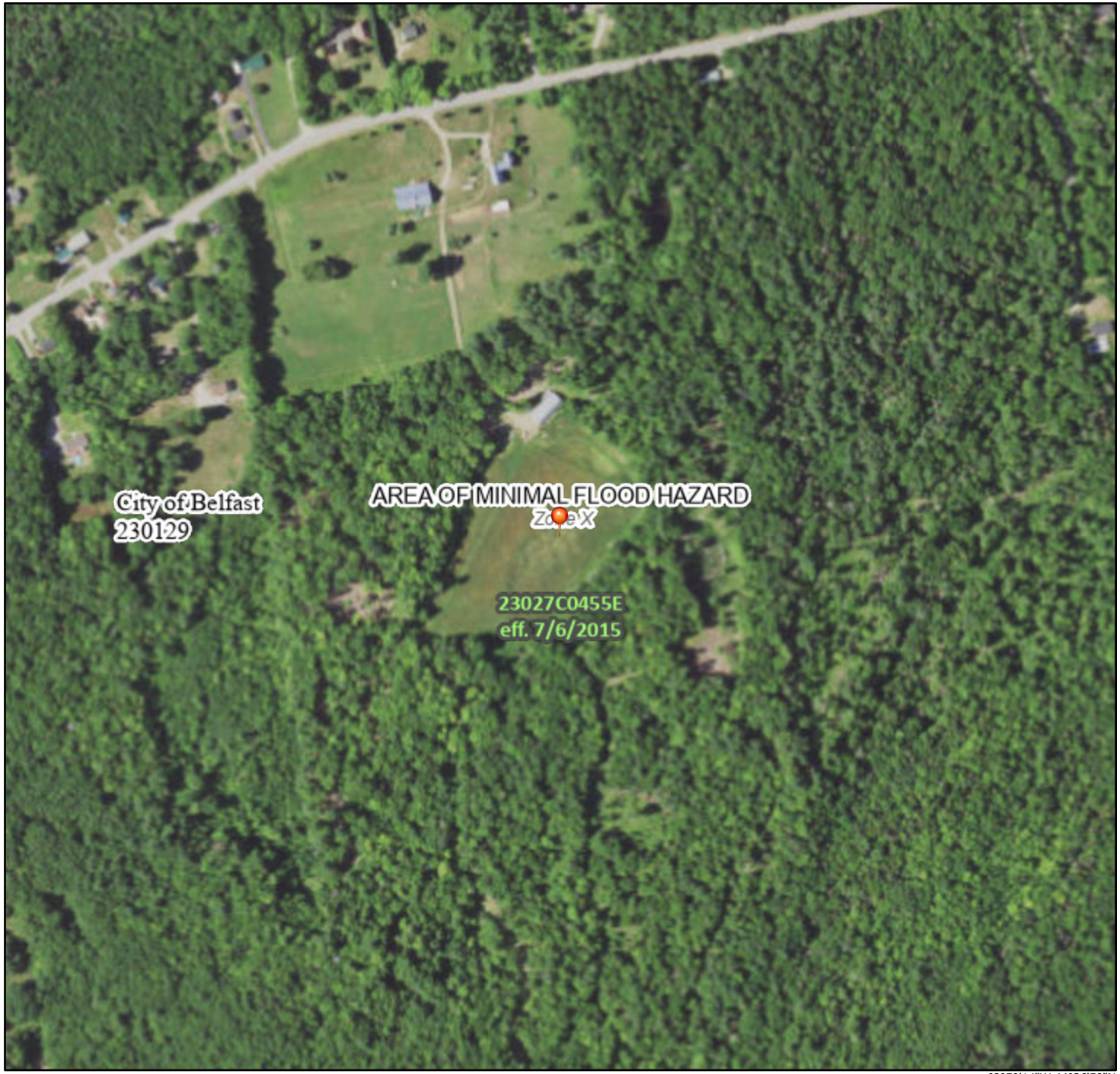
Prior to joining EDF Renewables, Rod was Vice President of Operations and Business Development for Yankee Barn Homes, a nationally-distributed post and beam home manufacturer, where he established and oversaw the installation construction division and was charged with improving overall company processes.

ATTACHMENT 6: FLOODPLAIN MAPPING

National Flood Hazard Layer FIRMette

FEMA

68°59'52"W 44°27'16"N



68°59'14"W 44°26'50"N

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

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/31/2021 at 4:20 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

ATTACHMENT 7: WETLAND AND WATERCOURSE DELINEATION AND VERNAL POOL SURVEY REPORT

Wetland and Watercourse Delineation and Vernal Pool Survey Report: REV 1

Potential Solar Development Site
Belfast, Maine

February 26, 2021

Prepared for:

EDF Renewables Distributed Solutions, Inc.
5 Commerce Avenue
West Lebanon, NH 03784

Prepared by:

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

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1.0 INTRODUCTION

EDF Renewables Distributed Solutions, Inc. (EDF) contracted Stantec Consulting Services Inc. (Stantec) to perform a wetland and watercourse delineation and vernal pool survey on a parcel in Belfast, Maine, which is the location of a proposed solar facility (Project Site). The Project Site is an approximately 80-acre site located south of Back Searsport Road and east of Route 141 (Appendix A: Figure 1).

On April 15 and 16, 2020, Stantec performed an on-site delineation, vernal pool surveys, and mapping services at the Project Site. On February 13, 2021, Stantec performed additional on-site wetland and watercourse delineation, potential vernal pool surveys, and mapping services at the Project Site. The additional delineation and potential vernal pool surveys were conducted after final parcel boundaries were established by Plisga & Day, necessitating further wetland and potential vernal pool surveys to cover additional areas of the Project Site. This 2021 delineation survey area is identified on Figure 1 (Appendix A) and extends along the western parcel boundary to areas within 250 feet of the proposed solar project. This report includes descriptions of the wetland and watercourse delineation and vernal pool survey methods, results, and overview of relevant federal and state regulations.

2.0 METHODS

2.1 WETLAND AND WATERCOURSE DELINEATION

Wetlands and watercourses within the Project Site were identified in accordance with the definitions detailed in Maine State Statute 38 M.R.S.A. Sec. 480-B of the Natural Resources Protection Act[1]. Wetland boundaries were determined using the technical criteria described in the United States Army Corps of Engineers (Corps) *Corps of Engineers Wetlands Delineation Manual*[2] and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*[3]. Wetland communities were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States*[4]. Hydric soil determinations were made in accordance with the Corps wetland delineation manuals and the *Field Indicators for Identifying Hydric Soils in New England (Version 4)*[5]. Wetlands of Special Significance (WoSS) were identified based on criteria in Chapter 310 of

[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).

the Maine Natural Resources Protection Act (NRPA)[6] and Chapter 335 Significant Wildlife Habitat (SWH)[7]. Identification of WoSS was limited to observable conditions within the Project Site. Wetland delineations were conducted under seasonally appropriate conditions.

Delineated 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 (OHWM)[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 OHWM 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 with this report.

2.2 VERNAL POOL SURVEY

Stantec conducted seasonally appropriate vernal pool surveys of the Project Site. Vernal pool surveys were conducted in accordance with the protocols outlined in the *Maine Association of Wetland Scientists Vernal Pool Survey Protocol*[11]. The presence, absence, and number of egg masses presented in this report reflect the results of these surveys. The perimeter of the vernal pool basin was located with a GPS receiver. Photographs were taken of each vernal pool identified.

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 the course of a given breeding season. Based on observed field conditions, Stantec determined that the field surveys in 2020 were conducted at an appropriate time of year and coincided with the obligate vernal pool species respective breeding period.

The surveys involved searching for amphibian breeding activity, primarily the presence of egg masses, and use by other vernal pool-dependent species. Information was collected on the physical characteristics of the 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

[6] Maine Department of Environmental Protection. 26 January 2009. Natural Resources Protection Act Chapter 310: Wetlands and Waterbodies Protection Rules. Bureau of Land and Water Quality, DEPLW0297-D2009.
[7] Maine Department of Environmental Protection. 7 January 2014. Natural Resources Protection Act Chapter 335: Significant Wildlife Habitat.
[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. 2015. 33 Code of Federal Regulations, Part 328, “Waters of the United States”. June 29, 2015.
[10] Danielson, T. J. 2018. Natural Resource Protection Act Streams, Rivers, and Brooks. Maine Department of Environmental Protection, Augusta, ME.
[11] Maine Association of Wetland Scientists. 2014. Maine Association of Wetland Scientists Vernal Pool Technical Committee Vernal Pool Survey Protocol – April 2014.

characteristics of the pool then was used to determine if the vernal pool met the criteria of a Significant Vernal Pool (SVP), 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, an SVP 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;
- Fairy shrimp (*Eubranchipus* spp.); and/or
- Documented use by a state-listed rare, threatened, or endangered (RTE) species that commonly requires a vernal pool to complete a critical portion of its life-history, such as Blanding's turtle (*Emydoidea blandingii*), spotted turtle (*Clemmys guttata*), ringed boghaunter dragonfly (*Williamsonia lintneri*), wood turtle (*Clemmys insculpta*), ribbon snake (*Thamnophis sauritus*), swamp darner dragonfly (*Epiaeschna heros*), and comet darner dragonfly (*Anax longipes*).

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 (GP), 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.*

Stantec surveyed for Potential Vernal Pools (PVPs) during the February 13, 2021, visit to the Project Site. We evaluated for natural and artificially created PVPs based on physical characteristics of the pools, such as the presence of depressions with frozen/standing water or water marks within a confined basin. Additionally, the portion of the Project Site surveyed during February 13, 2021, is dominated by several well-defined stream gullies with steep banks, with surface water confined to the delineated streams. For planning purposes, PVPs that are naturally occurring and meet the physical characteristics of a vernal pool under Chapter 335 of the NRPA are classified as Potential Significant Vernal Pools.

3.0 SURVEY RESULTS

3.1 GENERAL SITE DESCRIPTION

The Project Site is located south of Back Searsport Road and east of Route 141 in Belfast, Maine. It is an approximately 80-acre site consisting primarily of forested lands with agricultural fields located near the northern portion of the Project Site. Existing residential development is present near the northern boundary of the site along Back Searsport Road.

Topography on the Project Site drops steadily to the south. The agricultural areas are primarily upland and consist of regularly mowed hay fields. Upland forests areas are dominated by eastern white pine (*Pinus strobus*), northern red oak (*Quercus rubra*), quaking aspen (*Populus tremuloides*), red maple (*Acer rubrum*), eastern hemlock (*Tsuga canadensis*), American beech (*Fagus grandifolia*), and yellow birch (*Betula alleghaniensis*) trees and shrubs. The upland herbaceous layer is dominated by bracken fern (*Pteridium aquilinum*), evergreen wood fern (*Dryopteris intermedia*), Christmas fern (*Polystichum acrostichoides*), and seedlings of the canopy species described above.

The U.S. Department of Agriculture Soil Survey of Waldo County, Maine[12], depicts three major soil types within the Project Site: Marlow fine sandy loam; Peru fine sandy loam; and Boothbay silt loam. The mapped soil types range from well drained to somewhat poorly drained and do not generally align with the delineated resources.

3.2 WETLAND, WATERCOURSE DELINEATION AND VERNAL POOL SURVEY

The wetland delineation was conducted on April 15 and 16, 2020. On February 13, 2021, several previously delineated resources along the western boundary of the Project Site were extended to the western limits of the Project site based on the new boundary survey. No additional wetland or watercourses were identified during the February 13, 2021, visit. As a result of the delineations, portions of 19 wetlands and 11 streams were identified within the Project Site (Appendix A: Figure 1). Of the 19 wetlands, portions of 11 of the wetlands would be considered WoSS that are within 25 feet of a stream. Table 1 summarizes the delineated wetland characteristics; Table 2 summarizes the delineated stream characteristics. Representative photographs are included in Appendix B for select resources. Completed Corps Wetland Determination Data Forms are included in Appendix C for representative wetlands. Although there were several inches of snow cover and the ground was frozen, the wetland boundary extensions delineated on February 13, 2021, were accurately identifiable based on a steep break in topography and remnant and persistent hydrophytic vegetation.

To assess vernal pool breeding activity, a vernal pool survey was conducted during the wetland and watercourse delineation on April 15 and 16. Three vernal pools were identified on the Project Site, all of

[12] Web Soil Survey, Natural Resources Conservation Service, United States Department of Agriculture. Available at: http://websoilsurvey.nrcs.usda.gov/. Accessed May 2020.

which were of man-made origin and would not be considered SVPs or regulated under the NRPA. No use by a state-listed RTE species was observed. The locations of the vernal pools are shown on Figure 1 (Appendix A) and summarized below in Table 3. No naturally occurring pools were identified on the Project Site and a second vernal pool survey round was not conducted. No PVPs were located in the new delineation area during the February 13, 2021, visit to the Project Site. Representative photographs are included in Appendix B. Maine State Vernal Pool Assessment Forms were not completed because no natural or natural-modified pools were identified.

Table 1. Summary of Delineated Wetlands

Wetland Resource Identifier	Wetland Classification[1]	Dominant and Characteristic Vegetation	Hydric Soil Criteria and Indicator	Evidence of Hydrology	Wetland of Special Significance (WoSS)	Additional Comments
W-01CFA/01JRA	PFO	**Trees:** red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), balsam fir (*Abies balsamea*) **Saplings / Shrubs:** red maple, balsam fir **Herbs:** cinnamon fern (*Osmundastrum cinnamomeum*)	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3) Water Stained Leaves (B9)	Yes, portions within 25 feet of stream S-01JR	Wetland located between the two agricultural fields in the northern portion of the Project Site.
W-01CFB	PFO	**Trees:** eastern hemlock (*Tsuga canadensis*), yellow birch (*Betula alleghaniensis*), red maple **Saplings / Shrubs:** eastern hemlock, yellow birch, red maple **Herbs:** cinnamon fern, sensitive fern (*Onoclea sensibilis*), cottongrass bulrush (*Scirpus cyperinus*), bluejoint (*Calamagrostis canadensis*)	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3)	Yes, portions within 25 feet of stream S-01CF	Only a small area of WoSS, stream S-01CF flows south from the tip of the wetland.
W-01JRB	PFO	**Trees:** balsam fir, yellow birch **Saplings / Shrubs:** balsam fir, yellow birch **Herbs:** cinnamon fern	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3)	No	Contains man-made vernal pool VP-01JR.
W-01JRC	PEM	**Trees:** none **Saplings / Shrubs:** none **Herbs:** lamp rush (*Juncus effusus*), sensitive fern, cottongrass bulrush	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3)	No	Small wetland on the Project Site boundary within the northern field.
W-01CFD	PFO	**Trees:** eastern hemlock, yellow birch, balsam fir, red maple **Saplings / Shrubs:** eastern hemlock, yellow birch, balsam fir, red maple **Herbs:** cinnamon fern, sensitive fern, bluejoint	A2-Histic Epipedon	High Water Table (A2) Saturation (A3) Water Stained Leaves (B9)	Yes, portions within 25 feet of stream S-02JR	Extends off-site to the west.
W-01CFG/01JRD	PFO	**Trees:** eastern hemlock, yellow birch, balsam fir, red maple, eastern arborvitae (*Thuja occidentalis*) **Saplings / Shrubs:** eastern hemlock, yellow birch, balsam fir, red maple, eastern arborvitae **Herbs:** cinnamon fern, sensitive fern, cottongrass bulrush	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3) Water Stained Leaves (B9)	No	Located south of southern field.
W-01CFE/01JRG	PFO	**Trees:** yellow birch, red maple, balsam fir, eastern hemlock **Saplings / Shrubs:** yellow birch, red maple, balsam fir, eastern hemlock **Herbs:** cinnamon fern, sensitive fern, bluejoint	F3-Depleted Matrix	High Water Table (A2) Saturation (A3) Drift Deposits (B3)	Yes, portions within 25 feet of streams S-02JR and S-05JR	Overall narrow wetland following topographic drainages.

Wetland Resource Identifier	Wetland Classification[1]	Dominant and Characteristic Vegetation	Hydric Soil Criteria and Indicator	Evidence of Hydrology	Wetland of Special Significance (WoSS)	Additional Comments
W-01CFF	PEM	**Trees:** none **Saplings / Shrubs:** none **Herbs:** lamp rush, sensitive fern, bluejoint	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3)	No	Located in mowed field in northwest corner of the Project Site. Contains man-made vernal pool VP-01CF.
W-01CFH/01JRE	PFO/PUB	**Trees:** green ash, red maple, balsam fir, yellow birch, eastern arborvitae **Saplings / Shrubs:** speckled alder (*Alnus incana*), green ash, red maple, balsam fir, yellow birch, eastern arborvitae **Herbs:** cinnamon fern, sensitive fern, bluejoint	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10)	Yes, portions within 25 feet of stream S-05JR	Contains old farm pond. Only a small area of WoSS. Stream S-05JR flows south from tip of wetland at pond outlet.
W-01CFI	PFO	**Trees:** red maple, yellow birch, balsam fir, eastern hemlock **Saplings / Shrubs:** speckled alder, red maple, yellow birch, balsam fir **Herbs:** cinnamon fern, bluejoint, sensitive fern	F6-Redox Dark Surface	Surface Water (A1) High Water Table (A2) Saturation (A3) Drainage Patterns (B10)	Yes, portions within 25 feet of stream S-05JR	Extends off-site to the east.
W-01CFK	PSS	**Trees:** none **Saplings / Shrubs:** red maple, quaking aspen, balsam fir, yellow birch **Herbs:** cinnamon fern	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3)	No	Small wetland located in heavily cut/disturbed area.
W-01CFL	PFO	**Trees:** eastern arborvitae, balsam fir, yellow birch, red maple **Saplings / Shrubs:** eastern arborvitae, balsam fir, yellow birch, red maple **Herbs:** cinnamon fern, cottongrass bulrush	F6-Redox Dark Surface	High Water Table (A2) Saturation (A3) Water Stained Leaves (B9)	No	Located in the center of the Project Site.
W-01CFM	PFO	**Trees:** yellow birch, green ash, balsam fir **Saplings / Shrubs:** yellow birch, green ash, balsam fir **Herbs:** sensitive fern, cinnamon fern	F6-Redox Dark Surface	High Water Table (A2) Saturation (A3)	Yes, portions within 25 feet of stream S-05JR	Narrow wetland along stream.
W-01JRF/01CFN	PFO	**Trees:** yellow birch, green ash, balsam fir **Saplings / Shrubs:** yellow birch, green ash, balsam fir **Herbs:** sensitive fern, cinnamon fern	F6-Redox Dark Surface	High Water Table (A2) Saturation (A3)	Yes, portions within 25 feet of stream S-06JR	Located along eastern boundary of the Project Site.
W-01JRH	PFO	**Trees:** yellow birch, balsam fir **Saplings / Shrubs:** yellow birch, balsam fir **Herbs:** sensitive fern, lamp rush	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3)	No	Contains man-made vernal pool VP-02JR

Wetland Resource Identifier	Wetland Classification[1]	Dominant and Characteristic Vegetation	Hydric Soil Criteria and Indicator	Evidence of Hydrology	Wetland of Special Significance (WoSS)	Additional Comments
W-01JRI	PEM	**Trees:** none **Saplings / Shrubs:** none **Herbs:** lamp rush, sensitive fern	F3-Depleted Matrix	Surface Water (A1) High Water Table (A2) Saturation (A3)	No	Small wetland located in existing clearing.
W-01CFO	PFO	**Trees:** red maple, yellow birch, balsam fir, eastern hemlock **Saplings / Shrubs:** speckled alder, red maple, yellow birch, balsam fir, eastern hemlock **Herbs:** bluejoint, sensitive fern, cinnamon fern	F3-Depleted Matrix	High Water Table (A2) Saturation (A3)	Yes, portions within 25 feet of stream S-04JR	Located along eastern boundary of the Project Site.
W-01CFP	PFO	**Trees:** red maple, yellow birch, balsam fir, eastern hemlock **Saplings / Shrubs:** speckled alder, red maple, yellow birch, balsam fir, eastern hemlock **Herbs:** bluejoint, sensitive fern, cinnamon fern	F3-Depleted Matrix	High Water Table (A2) Saturation (A3)	Yes, portions within 25 feet of stream S-02JR	Located along south boundary of the Project Site and extends off-site to the south.
W-01CFQ	PFO	**Trees:** red maple, yellow birch, balsam fir, eastern hemlock **Saplings / Shrubs:** speckled alder, red maple, yellow birch, balsam fir, eastern hemlock **Herbs:** bluejoint, sensitive fern, cinnamon fern	F3-Depleted Matrix	High Water Table (A2) Saturation (A3)	Yes, portions within 25 feet of streams S-02CF and S-03CF	Narrow wetland extending off-site to the south.

[1] Wetland classification follows Federal Geographic Data Committee (2013):
PFO = Palustrine Forested
PSS = Palustrine Scrub-Shrub
PEM = Palustrine Emergent
PUB = Palustrine Unconsolidated Bottom

Table 2. Summary of Delineated Streams

Stream Identifier	Flow Type	Bankfull Width (ft)	Ordinary High Water Mark Width (ft)	Dominant Substrates	Additional comments
S-01CF	Intermittent	4–8	3–5	gravel, sand	Stream segment between wetlands W-01CFB and W-01CFD.
S-02CF	Intermittent	6	4	gravel, sand, muck	Stream segment in wetland W-01CFQ.
S-03CF	Intermittent	6	3–4	gravel	Stream segment in wetland W-01CFQ.
S-01JR	Perennial	6	3	cobble	Likely connects to S-02JR off-site.
S-02JR	Perennial	6–14	4–8	clay, silt, sand, gravel, cobble	Flows south through the southern half of the Project Site.
S-03JR	Perennial	3–6	3	silt	Flows into stream S-02JR.
S-04JR	Intermittent	2	2	sand, gravel	Flows into stream S-02JR.
S-05JR	Intermittent	3–6	2–4	sand, gravel, cobble	Flows into stream S-06JR.
S-06JR	Perennial	4–6	3–5	sand, gravel	Flows into stream S-02JR.
S-07JR	Intermittent	2–3	1–2	sand, silt	Flows into stream S-06JR.
S-08JR	Intermittent	2–3	1–2	sand, gravel	Flows into stream S-02JR.

Table 3. Summary of Vernal Pools

Vernal Pool Identifier	MDEP Significant Vernal Pool	Origin	Jurisdiction	Hydrology	Obligate Species Use and Abundance[1]	Additional Comments
VP-01CF	No	Man-made	Corps	Ephemeral	Wood frog egg masses: 90 Spotted salamander egg masses: 0 Blue-spotted salamander egg masses: 0 Fairy shrimp: Absent	Inundated portion of open field created by impoundment from adjacent road and driveway.
VP-01JR	No	Man-made	Corps	Ephemeral	Wood frog egg masses: 19 Spotted salamander egg masses: 0 Blue-spotted salamander egg masses: 0 Fairy shrimp: Absent	Excavation/ditch adjacent to existing woods road.
VP-02JR	No	Man-made	Corps		Wood frog egg masses: 16 Spotted salamander egg masses: 1 Blue-spotted salamander egg masses: 0 Fairy shrimp: Absent	Excavation adjacent to existing woods road.

[1] Only one round of vernal pool surveys was performed on April 14, 2020. because the only identified pools were of man-made origin.

4.0 REGULATORY DISCUSSION

4.1 FEDERAL AND STATE WETLANDS AND WATERCOURSES

The Corps and MDEP regulate the wetlands and watercourses (e.g., streams) identified within the Project Site. Under the provisions of Section 404 of the Clean Water Act. The Corps (Federal Register 1982) and the U.S. Environmental Protection Agency (EPA) (Federal Register 1980) jointly define wetlands as, "*Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas*".

The diagnostic environmental characteristics that are used to identify a wetland are encompassed by a three-factor system, including predominance of hydrophytic vegetation, hydric soil, and evidence of wetland hydrology. In Maine, both the Corps and the MDEP utilize this approach to define and identifying wetlands. Specifics of how agencies will regulate wetlands in this Project can be determined with a preliminary layout and consultation with the agencies.

4.1.1 Federal Jurisdiction

On April 21, 2020, the EPA and the Corps published the Navigable Waters Protection Rule to define "waters of the United States" (WoTUS) in the Federal Register; which took effect on June 22, 2020. This Rule excludes federal jurisdiction to regulate impact to isolated wetlands, wetlands that do not have a surficial hydrologic connection to a navigable water (adjacent), or ephemeral watercourses. The Corps regulates dredging or filling of WoTUS, which include Traditional Navigable Waters (TNW) and their tributaries, wetlands abutting TNW and their tributaries, and other waters or wetlands where degradation or destruction could affect interstate or foreign commerce. The Corps issued a GP for the State of Maine that merges the federal and state permit review process for many applications. Currently, the delineated wetlands are assumed to be jurisdiction; however, that status can be verified by submitting a formal Jurisdictional Determination to the Corps for individual wetlands.

Under the Corps GP, commercial development projects with less than 15,000 square feet of wetland fill or dredge may be eligible for a Corps Self Verification Notification Form (SVNF) submittal, provided the project meets the conditions of the GP for SVNF eligibility. If there are wetland impacts as a result of dredging or filling and tree clearing is required as part of the project, a Corps Pre-Construction Notification (PCN) under the GP may be required due to potential impact to northern long-eared bat (*Myotis septentrionalis*), a species listed under the federal Endangered Species Act. Dredge or fill activities that affect between 15,000 and 43,560 square feet (1 acre) of freshwater wetlands are typically eligible for a Corps PCN and require wetland compensation. Projects that do not meet the conditions of the Corps GP may require an Individual Corps Permit.

4.1.2 State of Maine

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 (SWH).

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 process. Alterations that affect between 15,000 and 43,560 square feet (1 acre) of freshwater wetlands are eligible for the MDEP Tier 2 review process. Projects that result in direct wetland impact typically require wetland compensation. Direct wetland impacts do not include shading or indirect impacts. Cumulative freshwater wetland impacts that exceed 1 acre typically require a MDEP Tier 3 review. Impacts to WoSS, rivers, streams and brooks, great ponds, and SWH typically require an Individual NRPA Permit.

Based on Stantec's delineation and vernal pool survey portions of 11 of the delineated wetlands would be considered a WoSS because they are within 25 feet of a delineated stream.

4.2 FEDERAL AND STATE VERNAL POOLS

Maine NRPA Chapter 335, Significant Wildlife Habitat, regulates SVPs as SWH. Chapter 335 details specific definitions and standards regarding characterization and protection of SVPs in Maine. Based on Stantec's vernal pool survey, no SVPs are located within the Project Site.

Certain development projects in Maine may also be regulated under Chapter 375, Site Location of Development (Site Law). Under Site Law, MDEP may regulate vernal pools that are ecologically significant on a landscape level but do not meet the definition of a SVP. Under some circumstances, MDEP will review and possibly limit development within or beyond 250 feet of these high-functioning vernal pools. It is possible that VP-01CF may be considered ecologically significant due to it high number of wood frog masses and MDEP may regulate the resource even though it is man-made. This potentially regulation would be determined through early consultation with MDEP and the Maine Department of Inland Fisheries and Wildlife.

The Corps update to the Maine GP, which went into effect in October 2020, indicates that the Corps would only regulate impacts to vernal pools if the pool is (a) located within a jurisdictional wetland and (b)

there is a discharge of dredged or fill material proposed for the vernal pool depression. Only in the case that both (a) and (b) are met would compensatory mitigation potentially be required.

Based on Stantec's vernal pool survey, the identified vernal pools meet the Corps' definition of a vernal pool. The Corps may regulate impacts to these vernal pools if the vernal pool depression is impacted by dredge or fill activities and the wetland is determined to be a WoTUS.

APPENDICES

APPENDIX A FIGURES

Legend

- Delineated Perennial Stream
- Delineated Intermittent Stream
- Vernal Pool Boundary
- Delineated Wetland Area
- 2020 Survey Limits
- 2021 Survey Limits
- Property Boundary

0 350 Feet

(At original document size of 11x17)
1:4,200

N

Stantec

Notes

1. Wetland boundaries delineated in accordance with the 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. Vernal Pools surveyed in accordance with Maine Association of Wetland Scientists Vernal Pool Technical Committee Vernal Pool Survey Protocol. April, 2014.
3. Wetland and vernal pool boundaries were located utilizing a Trimble GeoExplorer Series Receiver. Expected accuracy of GPS data is within 1 meter of actual position.
4. Coordinate System: NAD 1983 StatePlane Maine East FIPS 1801 Feet
5. Data Sources: Base data obtained from the Maine Office of GIS (MEGIS). Property boundary: ALTA/NSPS Land Survey Title, Plisga & Day, 2/8/2021.
6. Background: Aerial imagery provided by National Agriculture Imagery Program (NAIP). Maine, 2018.

Project Location
Belfast, Maine

Prepared by PWB on 2021-02-17
TR by KWH on 2021-02-17
IR Review by EB on 2021-02-17

Client/Project 195601958

EDF Renewables Distributed Solutions, Inc.
Belfast, Maine

Figure No.
1

Title
Wetland and Watercourse Delineation and Vernal Pool Survey Map

V:\1956\active\195601958\03_data\gis_cad\gis\MXDs\Belfast\01958_01_Belfast_WetlandRedelin.mxd Revised: 2021-02-25 By: pbarbera

APPENDIX B REPRESENTATIVE PHOTOGRAPHS

Photo 1. PFO wetland W-01CFA/01JRA. Stantec: April 15, 2020.

Photo 2. PFO wetland W-01CFB. Stantec: April 15, 2020.

Photo 3. Intermittent stream S-01CF. Stantec: April 15, 2020.

Photo 4. PFO wetland W-01CFD. Stantec: April 15, 2020.

Photo 5. PEM wetland W-01CFF and man-made vernal pool VP-01CF. Stantec: April 16, 2020.

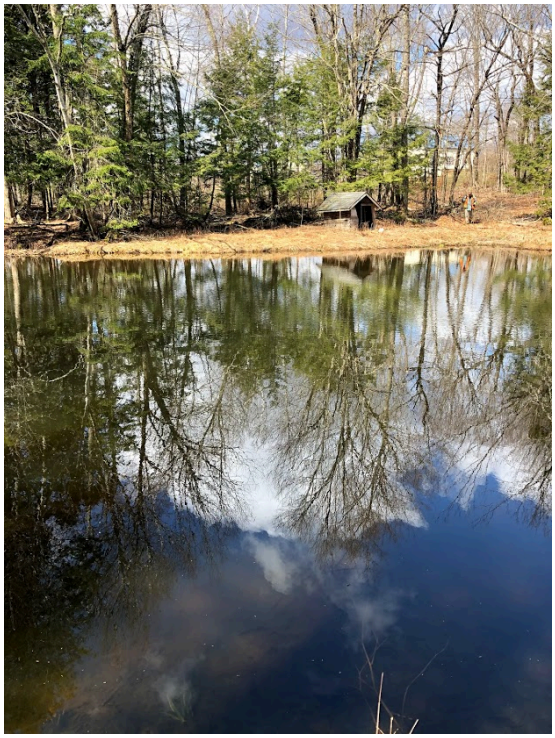


Photo 6. Farm pond in wetland W-01CFH. Stantec: April 16, 2020.

Photo 7. PFO wetland W-01CFI. Stantec: April 16, 2020.

Photo 8. Intermittent stream S-05JR. Stantec: April 15, 2020.

Photo 9. Man-made vernal pool VP-01JR in wetland W-01JRB. Stantec: April 15, 2020.

Photo 10. Bridge crossing of perennial stream S-02JR. Stantec: April 15, 2020.

Photo 11. Man-made vernal pool VP-02JR in wetland W-01JRH. Stantec: April 16, 2020.

Photo 12. PFO wetland W-01CFE/01JRG. Stantec: April 16, 2020.

Photo 13. PFO wetland W-01CFQ and intermittent stream S-02CF. Stantec: April 16, 2020.

Photo 14. Northern field adjacent to Back Searsport Road. Stantec: April 15, 2020.

Photo 15. Representative view of the existing road that travels roughly north/south within the Project Site. Stantec: April 16, 2020.

Photo 16. Typical ground conditions during the 2021 Project Site visit. The extension of resources W-01CFD and S-02JR were identifiable due to steep breaks in slope and persistent hydrophytic vegetation. Stantec: February 13, 2021.

Photo 17. Typical ground conditions during the 2021 Project Site visit. The extensions of wetland W-01CFD and S-02JR were identifiable due to persistent hydrophytic vegetation. Stantec: February 13, 2021.

APPENDIX C CORPS WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: EDF Maine Solar Portfolio City/County: Belfast/Waldo Sampling Date: 4/15/2020

Applicant/Owner: EDF Renewables State: ME Sampling Point: Upland

Investigator(s): Charles Ferris Section, Township, Range:

Landform (hillslope, terrace,etc.): Rise Local relief (concave, convex, none): Convex Slope (%) 1 - 3

Subregion (LRR or MLRA): LRR R Lat: 44.451371 Long: -68.994540 Datum: NAD83

Soil Map Unit Name: NWI Classification: UPL

Are climatic / hyrologic conditions on the site typical for this time of year? Yes X No ____ (if no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	if yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Surface Water Present?	Yes ____	No X	Depth (inches) ____	Wetland Hydrology Present? Yes ____ No X
Water Table Present?	Yes ____	No X	Depth (inches) ____	
Saturation Present?	Yes ____	No X	Depth (inches) ____	

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

Remarks:

VEGETATION - Use scientific names of plants Sampling Point: **Upland-W-01CFA/0**

Tree Stratum (Plot Size: 30'radius)	Absolute % Cover	Dominant Species?	Indicator Status
Acer rubrum	25	X	FAC
Fagus grandifolia	25	X	FACU
	50	= Total Cover	

Shrub Stratum (Plot Size: 15'radius)	Absolute % Cover	Dominant Species?	Indicator Status
Fagus grandifolia	70	X	FACU
Tsuga canadensis	2		FACU
Acer pensylvanicum	2		FACU
	74	= Total Cover	

Herb Stratum (Plot Size: 5'radius)	Absolute % Cover	Dominant Species?	Indicator Status
		= Total Cover	

Woody Vine Stratum (Plot Size: 30'radius)	Absolute % Cover	Dominant Species?	Indicator Status
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet:

OBL species	0	x 1	0	
FACW species	0	x 2	0	
FAC species	25	x 3	75	
FACU species	99	x 4	396	
UPL species	0	x 5	0	
Column Totals	124	(A)	471	(B)
Prevalence Index = B/A =			3.8	

Hydrophytic Vegetation Indicators:

_____ 1- Rapid Test For Hydrophytic Vegetation

_____ 2- Dominance Test is > 50%

_____ 3- Prevalence Index is =< 3.0

_____ 4- Morphological Adaptations

_____ 5- Problematic Hydrophytic Vegetation

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL Sampling Point: **Upland-W-01CFA/0**

Depth (inches	Matrix Color	%	Redox Features Color	%	Type	Loc	Texture	Remarks
0-2	10YR 3/3	100					Silt Loam	
2-8	10YR 4/6	100					Silt Loam	
8-16	2.5Y 5/6	100					Silt Loam	

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (B15)
- ___ Thin Dark Surface (S9)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matric (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Soils:

- ___ 2 cm Muck (A10)
- ___ Coast Prarie Redox (A16)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8)
- ___ Thin Dark Surface (S9)
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Mesic Spodic (TA6)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: Dense

Depth (inches): 16

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: EDF Maine Solar Portfolio City/County: Belfast/Waldo Sampling Date: 4/15/2020

Applicant/Owner: EDF Renewables State: ME Sampling Point: Wetland

Investigator(s): Charles Ferris Section, Township, Range:

Landform (hillslope, terrace,etc.): Side Slope Local relief (concave, convex, none): Concave Slope (%) 1 - 3

Subregion (LRR or MLRA): LRR R Lat: 44.451450 Long: -68.994726 Datum: NAD83

Soil Map Unit Name: NWI Classification: PFO

Are climatic / hyrologic conditions on the site typical for this time of year? Yes X No (if no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

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

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	if yes, optional Wetland Site ID: W-01CFA/01JRA
Wetland Hydrology Present?	Yes X	No	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Surface Water Present?	Yes X	No	Depth (inches) 3	Wetland Hydrology Present? Yes X No
Water Table Present?	Yes X	No	Depth (inches) 0	
Saturation Present?	Yes X	No	Depth (inches) 0	

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

Remarks:

VEGETATION - Use scientific names of plants Sampling Point: **Wetland-W-01CFA/**

Tree Stratum (Plot Size: 30'radius)	Absolute % Cover	Dominant Species?	Indicator Status
Acer rubrum	60	X	FAC
Fraxinus pennsylvanica	15		FACW
Abies balsamea	5		FAC
	80	= Total Cover	

Shrub Stratum (Plot Size: 15'radius)	Absolute % Cover	Dominant Species?	Indicator Status
Acer rubrum	10	X	FAC
	10	= Total Cover	

Herb Stratum (Plot Size: 5'radius)	Absolute % Cover	Dominant Species?	Indicator Status
Osmundastrum cinnamomeum	90	X	FACW
	90	= Total Cover	

Woody Vine Stratum (Plot Size: 30'radius)	Absolute % Cover	Dominant Species?	Indicator Status
		= Total Cover	

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

OBL species	0	x 1	0	
FACW species	105	x 2	210	
FAC species	75	x 3	225	
FACU species	0	x 4	0	
UPL species	0	x 5	0	
Column Totals	180	(A)	435	(B)

Prevalence Index = B/A = 2.42

Hydrophytic Vegetation Indicators:

- ___ 1- Rapid Test For Hydrophytic Vegetation
- X 2- Dominance Test is > 50%
- X 3- Prevalence Index is =< 3.0
- ___ 4- Morphological Adaptations
- ___ 5- Problematic Hydrophytic Vegetation

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL Sampling Point: **Wetland-W-01CFA/**

Depth (inches	Matrix Color	%	Redox Features Color	%	Type	Loc	Texture	Remarks
0-4	2.5Y 2/2	100					Muck	
4-16	2.5Y 5/2	85	2.5Y 4/6	15	C	M	Sandy Loam	

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (B15)
- ___ Thin Dark Surface (S9)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matric (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Soils:

- ___ 2 cm Muck (A10)
- ___ Coast Prarie Redox (A16)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8)
- ___ Thin Dark Surface (S9)
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Mesic Spodic (TA6)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: Dense

Depth (inches): 16

Hydric Soil Present? Yes X No ___

Remarks:

ATTACHMENT 8: OPTION TO LEASE AGREEMENT

EDF renewables

COVER PAGE

OPTION TO LEASE AGREEMENT

Agreement:	This Option to Lease Agreement between Option Holder and Optionor
Effective Date:	January 31 2020
Parties:	
Optionor or Landlord:	Legal Name(s): James K. Colcord Address: 51 Back Searsport Road, Belfast, ME 04915 Phone: 207-338-4599 Email: jimsvw@gmail.com Multiple persons shall be referred to as a single "Optionor" and all such persons shall be bound jointly and severally hereby.
Option Holder or Tenant:	EDF Renewables Distributed Solutions, Inc.. ("EDF RE") 5 Commerce Avenue, West Lebanon, NH 03784
Subject Property:	Address: 51 Back Searsport Road, Belfast, ME 04915 Description: 80.58 Acres; Parcel ID 007-002; Book 4336, Page 282 *Include - Total Acres; Parcel ID; Deed Book & Page; Other* The Subject Property is depicted or described on **Exhibit A**.
Leased Premises or Premises:	Up to a 35 -acre portion of the Subject Property, with the precise size and location of such portion to be determined by agreement of the Parties after due diligence
Option:	An exclusive option to lease the **Leased Premises**, exercisable by Option Holder's delivery to Optionor of written notice of exercise on or before the Termination Date
Option Payments and Due Dates:	**Option Payment:** [redacted] / **Due Date:** The 10th business day after the later of: (x) the Effective Date or (y) the date on which Optionor countersigns this Agreement and delivers an IRS Form W-9 to Option Holder April 30 , 20 20 April 30 , 20 21 April 30 , 20 22
Termination Date:	The earliest to occur of the following: A. the date that Optionor and Option Holder (or its assign) execute and deliver a Lease (defined below); B. the date on which Option Holder delivers to Optionor a written notice terminating this Agreement; C. the date immediately following a Due Date if, the Option Payment due on such Due Date is not paid; D. the anniversary (one year after) the last Due Date set forth above.
Option Term:	The period beginning on the Effective Date and ending on the Termination Date.
Terms and Conditions:	The Terms and Conditions attached as **Exhibit B**, are incorporated into and made part of this Agreement.

EDF JKC Optionor

Signature Page follows.

SIGNATURE PAGE TO OPTION TO LEASE AGREEMENT

In consideration of the Option Payment(s) and the mutual covenants and other good and valuable consideration set forth in this Agreement, Optionor and Option Holder agree to perform this Agreement in accordance with its terms, including the description of the Subject Property set forth on **Exhibit A** and the Terms and Conditions set forth in **Exhibit B**.

IN WITNESS WHEREOF, and intending to be bound in accordance with this Agreement, Optionor and Option Holder are executing and delivering this Agreement as of the Effective Date.

James K. Colcord
Name of Optionor

By: James Colcord
Name: James Colcord
Title: Property Owner
Duly Authorized

EDF Renewables Distributed Solutions, Inc.

By:
Name: Ted Vions
Title: SVP
Duly Authorized

Name of Optionor

By:
Name:
Title:
Duly Authorized

EDF renewables

EXHIBIT A

Subject Property

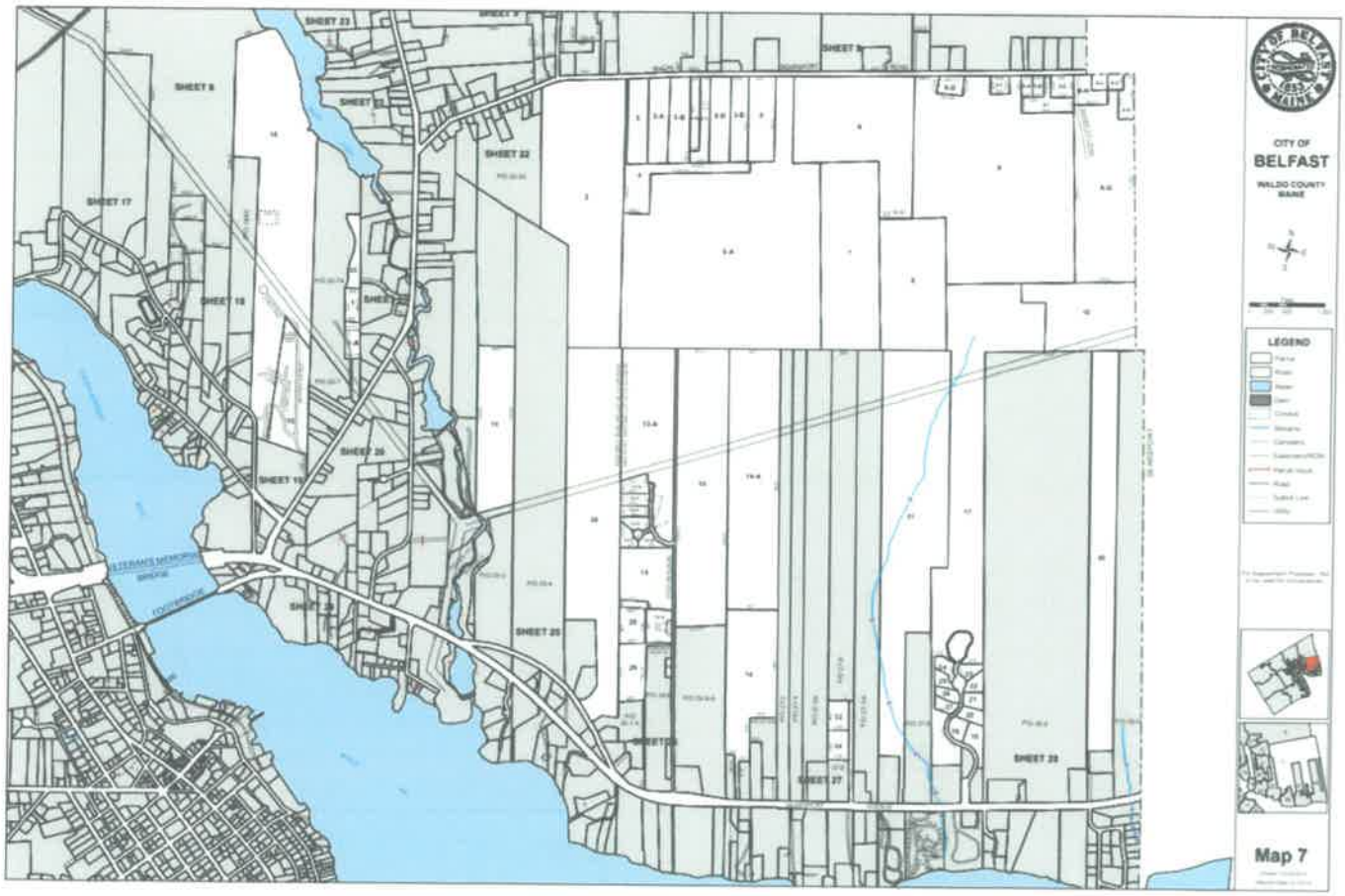
The address of the Subject Property is:

51 Back Searsport Road, Belfast, ME 04915

The Subject Property is further described as:

80.58 Acres; Parcel ID 007-002; Book 4336, Page 282

The Subject Property, and if indicated, the Leased Premises are more particularly described as follows:



N JKC

EDF Optionor

EDF renewables

EXHIBIT B

Terms and Conditions to Option to Lease Agreement

These Terms and Conditions are incorporated into and made part of the Option to Lease Agreement to which these Terms and Conditions are attached as **Exhibit B**; and such Option to Lease Agreement, and all Exhibits to such Option to Lease Agreement are referred to as this "**Agreement**." Capitalized terms used, but not defined, in these Terms and Conditions, have the meanings given to them elsewhere in this Agreement, including on the Cover Page.

1. **Grant of Exclusive Option to Lease.**

   a. ***Option.*** Optionor hereby grants to the Option Holder an exclusive option to lease ("**Option**") from Optionor pursuant to a lease (the "**Lease**") for the area of the Subject Property designated as the "Leased Premises", which Lease shall conform with the provisions of this Agreement and which otherwise shall be in the form and substance agreed by Optionor and Option Holder. Optionor and Option Holder will negotiate the terms and provisions of the Lease, consistent with the requirements of this Agreement, with the intention of agreeing on a form of Lease prior to the final Due Date.

   b. ***Restrictions.*** During the Option Term, (i) Optionor will not extend to any person, other than Option Holder, its successors, or assigns, any right to lease, acquire, option, control, or use the Subject Property that would interfere with the Option, and (ii) will not enter into any new agreement, commitment, or arrangement that provides ownership, occupancy, or control rights with respect to the Subject Property to any person, other than Option Holder or its successors or assigns, that would interfere with the rights or obligations of the parties under this Agreement. Notwithstanding the foregoing, during the Option Term, Optionor may enter into farming, hunting, timber, or apiary leases with third parties with respect to the Subject Property, provided that any such third party leases shall be terminable by Optionor on no more than thirty (30) days' notice to the tenants and sub-tenants thereunder and provided further that Optionor agrees to terminate or amend to exclude, upon or before the applicable Lease Start Date (defined below), any portion of said third-party leases that affect the contemplated use of the Leased Premises pursuant to the Lease.

2. **Optionor's Title.** Optionor represents and warrants to Option Holder that Optionor is the sole owner of the Leased Premises in fee simple, free and clear of liens, encumbrances, and restrictions, except for liens, encumbrances, and restrictions that do not and will not interfere with or impair the rights of Option Holder under this Agreement or pursuant to any Lease. Optionor has all requisite power and authority to execute and deliver this Agreement and any Lease, to perform its obligations hereunder and thereunder and to consummate the transactions contemplated hereby and thereby. The execution and delivery by Optionor of this Agreement, and the performance by Optionor of its obligations hereunder, have been duly and validly authorized by all necessary action on the part of such Optionor.

3. **Consideration.** In consideration of the Option granted pursuant to this Agreement, Option Holder shall pay to Optionor the Option Payment or Option Payments. If Option Holder fails to tender any Option Payment by the applicable Due Date, then the Option shall lapse and the Option Term shall terminate as of the day immediately following such Due Date.

4. **Exercise of the Option**. The Option Holder may exercise its Option hereunder by delivering to Optionor, at any time during the Option Term prior to the Termination Date, written notice of exercise, which notice shall include a description of the tract or tracts Option Holder is exercising its right to lease (i.e. the Leased Premises) (the "**Option Notice**"). Not later than five (5) business days after Optionor's receipt of the Option Notice, Option Holder shall execute and acknowledge a copy of the Lease and a memorandum of lease in recordable form ("**Memorandum of Lease**") with the legal description of the Leased Premises set forth in the Option Notice attached to each and deliver same to Optionor. Not later than fourteen (14) business after receipt of Option Holder's executed Lease and Memorandum of Lease, Optionor shall execute and acknowledge same and deliver fully executed counterparts of each to Option Holder. The Lease shall be effective on the date on which the last of the Parties executes the Lease, which shall not be later than thirty (30) business days following the date of the Option Notice.

5. **Lease Provisions.** During the Option Term the Optionor and the Option Holder will exercise good faith, commercially reasonable efforts to negotiate and draft a Lease that includes mutually agreed terms and provisions; provided, however, that, except as set forth on **Attachment B-2,** each of Option Holder and Optionor shall not object to the inclusion of the following provisions in the Lease:

   a. ***Use of Leased Premises.*** The following uses shall be permitted on the Leased Premises pursuant to the Lease: the development, permitting, staging, construction, interconnection, operation, maintenance, replacement, and removal of a solar photovoltaic electricity generating facility together with related improvements, one or more substations, transmission poles as necessary or useful to such facilities (collectively, the "**System**"). The System shall be the Tenant's personal property and shall not be or be deemed a fixture or part of any real property.

   b. ***Leased Premises.*** The exact location and size of the Leased Premises shall be as agreed in writing, by Landlord and Tenant.

   c. ***Lease Fee.***

      i. *Lease Fee*. In consideration of the lease of the Leased Premises, commencing the Lease Start Date (defined below) and through the last day of the Lease Term (defined below), the Tenant shall pay to Landlord an annual lease fee (the "**Lease Fee") as** set forth on **Attachment B-1**, with different Lease Fee levels applicable based on whether the Lease Fee is due prior to, or after, the Commercial Operation Date (defined below).

      ii. *Payment*. Except as set forth on **Attachment B-1**, the Lease Fee shall be payable: (A) monthly in advance, prior to the Commercial Operation Date, on the Effective Date and the first day of each calendar month thereafter through the Commercial Operation Date, and subject to proration for less than full calendar months; and (B) from and after the Commercial Operation Date, annually in advance on the Commercial Operation Date and on each anniversary of the Commercial Operation Date during the Lease Term, subject to proration if the Lease Term does not end on an anniversary of the Commercial Operation Date.

      iii. "*Commercial Operation Date*" means the date when, in Tenant's sole discretion, the System is ready to generate electricity and has received all approvals and consents from the interconnecting utility to operate.

   d. ***Lease Term***. The Lease shall be effective from the date the Lease first is executed and delivered by the Landlord and Tenant ("**Lease Start Date**") through the twenty-fifth (25th) anniversary of the Commercial Operation Date, subject to extension at the option of the Tenant for up to two (2) extension

periods of five (5) years each, subject to early termination upon default, as mutually agreed, and subject to the Removal Period (defined below). The period during which the Lease will be effective is the "**Lease Term.**" Each period of 12 consecutive months commencing the Commercial Operation Date or any anniversary of the Commercial Operation Date during the Lease Term is referred to as a "**Lease Year.**"

e. ***Removal Period.*** There shall be a "**Removal Period**" commencing on the last day of the Lease Term and ending on the date the System is removed from the Leased Premises or, if earlier, the 270th day after the last day of the Lease Term. During the Removal Period, on condition that Tenant pays Landlord a prorated Lease Fee based on the total days included in the Removal Period, Tenant shall have the right to access and use the Leased Premises solely for the purpose of removing the System from the Leased Premises.

f. ***Easements.*** As a material condition to the Tenant's obligations under the Lease, as of the Lease Start Date, Landlord shall grant to Tenant and Tenant's assignees, the following irrevocable, fully-paid easements and rights of ways ("**Easements**") over the Landlord's property (including the Subject Property and any adjacent parcels owned or controlled by Landlord), with the location of each Easement to be determined upon final site plan approval, and with the duration of the Easements to be at least co-extensive with the Lease Term, including any extensions, with certain Easements being perpetual:

i. *Construction and Maintenance Easement.* A temporary construction and access easement in, upon, over, along, above, and under a portion of Landlord's property abutting the Leased Premises as necessary for Tenant and its agents and subcontractors to access the Leased Premises and to construct, maintain, operate, and remove the System thereon. This Easement shall continue through the last day of any Removal Period.

ii. *Utility Interconnection Easements.* An Easement in favor of Tenant and an Easement in favor of the local utility for the installation, operation, maintenance, repair and replacement of utility lines and connections in, upon, over, along, above, and under Landlord's property, as are necessary for the operation of the System. The interconnection Easement in favor of the local utility shall be perpetual, and shall include such other terms as may be required by the local utility.

iii. *Ingress and Egress.* An Easement for access to the Leased Premises suitable for vehicular travel associated with construction, operation, maintenance, and removal of the System upon, over, along, and under a portion of Landlord's property abutting the Leased Premises through to a suitable public right of way. This Easement shall continue through the last day of the Removal Period.

iv. *Solar.* An easement restricting placement of buildings or structures or placement or growth of vegetation (including trees) on all or any portion of the Landlord's property that would impair the passage of sunlight onto the System on the Leased Premises.

g. Removal of Tenant's Components.

i. *Removal by Tenant.* Prior to the last day of any Removal Period, Tenant will remove the System, including any foundations to a depth of at least three (3) feet.

ii. *Removal by Landlord.* If Tenant fails to remove any of the System as provided in subclause 5.g.i by the last day of the Removal Period, Landlord may remove the System from the Premises and dispose of the System in Landlord's sole discretion. If Landlord removes such System at Landlord's

expense, then, within thirty (30) days after receipt of an invoice from Landlord, Tenant will reimburse Landlord for all reasonable out-of-pocket costs incurred by Landlord to remove the System as required by the Lease, less any salvage value received by Landlord.

h. ***Tenant's Liability***. Tenant assumes sole responsibility and liability to all persons and authorities related to Tenant's possession, occupancy, and use of the Leased Premises and will defend, indemnify, and hold Landlord harmless against all liability and claims of liability for injury or damage to person or property from any cause on or about the Leased Premises, excluding claims of liability or damage to person or property to the extent due to Landlord or Landlord's use of the Leased Premises, or related to claims occurring prior to the Lease Term.

i. ***Insurance***. At all times during the Lease Term and throughout any Removal Period, Landlord and Tenant shall, each at its own expense, maintain a policy or policies of comprehensive general liability insurance with respect to the respective activities of each with the premiums thereon fully paid on or before due date, affording minimum protection of not less than [redacted] combined single limit coverage of bodily injury, property damage or combination thereof.

j. ***Taxes.*** All real property taxes and assessments with respect to the Leased Premises shall be the responsibility of, and shall be paid when due by, the Landlord. Tenant shall be responsible for, and shall pay when due, all personal property taxes imposed or assessed with respect to the Tenant's improvements on the Leased Premises, including the System.

6. **Removal of Improvements.** If Optionor permits Option Holder to make or construct improvements or place equipment in, upon, over, along, above, or under the Subject Property and no Lease is entered into between the Parties, Option Holder, at its sole cost and expense, will remove any improvements or equipment it placed in, upon, over, along, above, and under the Subject Property and repair any damage caused by it to as close to the same condition as the Subject Property was in prior to the making or construction of such improvements or placement of any such equipment on the Subject Property.

7. **Due Diligence; Permitting.** Optionor grants to Option Holder and its employees, consultants, agents, and subcontractors, during the Option Term at reasonable times and upon reasonable notice, access to the Subject Property, including the Leased Premises, for the purpose of conducting such investigation and diligence of the Subject Property, including the Leased Premises, as Option Holder deems necessary, including, but not limited to, inspections, structural analysis, surveys, geotechnical testing, and inspection, review, and testing to determine environmental conditions. All tests, inspections, analyses, surveys, inspections, investigations or reviews shall be conducted by parties qualified and, where applicable, licensed to conduct such tests, inspections, analyses, surveys, inspections, or reviews. In addition, during the Option Term, at Option Holder's cost and expense, Optionor, will execute, deliver, file, and submit permit applications for, and will provide commercially reasonable cooperation to Option Holder with respect to the procurement of, permits and approvals from governmental authorities or local utilities necessary or appropriate to Option Holder's proposed use of the Leased Premises pursuant to the Lease. Option Holder shall pay the costs of all tests, inspections, analyses, surveys, inspections, investigations or reviews, permit applications, supporting submissions, and undertake the due diligence, attendance at meetings of permitting authorities, and related activities at its sole cost and expense. **Attachment B-2** may grant to Option Holder additional use and access rights during the Option Term.

8. **Confidentiality.** For a period of two years after the Option Term and during any Lease Term, as applicable (the "**Confidentiality Term**"), neither Optionor nor Option Holder (each, a "**Receiving Party**") will disclose or use, except as required to perform or enforce this Agreement or the Lease, any "Confidential Information" (defined below) of the other party (a "**Disclosing Party**"). A Receiving Party may provide the

Disclosing Party's Confidential Information to the Receiving Party's, officers, directors, members, managers, employees, agents, contractors, and consultants (collectively, "**Representatives**"), and affiliates, lenders, and potential assignees of this Agreement, in each case whose access is reasonably necessary to the negotiation and performance of this Agreement or the Lease. Each such Representative recipient of Confidential Information shall be informed by the Receiving Party making such disclosure of the confidential nature of the Confidential Information so disclosed and shall be directed to treat such information confidentially and shall agree to abide by these provisions. In any event, each Receiving Party shall be liable (with respect to the other Disclosing Party) for any breach of this provision by any Representative of the Receiving Party. Each Receiving Party agrees that the Disclosing Party would be irreparably injured by a breach of this provision by the Receiving Party or its Representatives and that the Disclosing Party may be entitled to equitable relief, including injunctive relief and specific performance, in the event of a breach of this provision. Upon the request of a Disclosing Party made any time during the Confidentiality Term, the Receiving Party shall return or destroy the Disclosing Party's Confidential Information in the Receiving Party's possession or under the Receiving Party's control. The term "**Confidential Information**" means the nonpublic, confidential or proprietary information of the Disclosing Party, including business plans, strategies, financial information, proprietary, patented, licensed, copyrighted or trademarked information, and/or technical information regarding the design, operation and maintenance of the System or the condition of the Subject Property or the Leased Premises to the extent not publicly available (except to the extent publicly available due to the fault of the Receiving Party). The grant of Option and the Lease provisions outlined in **Section 5**, and the Option Holder's right to access and investigate the Subject Property under **Section 6** shall not be "Confidential Information" of either party; but the consideration being paid for the Option pursuant to this Agreement is "Confidential Information" of the Option Holder.

9. **Assignment.** Option Holder has the right to assign this Agreement or any right of Option Holder under this Agreement (including the Option Holder's rights to enter into the Lease) to any other person, effective upon written notice received by Optionor and without the consent of the Optionor. This Agreement and all rights and obligations of Optionor hereunder shall be assigned and delegated by Optionor to the successor-in-interest of Optionor, if any, in and to the ownership of the Subject Property. On the effective date of such assignment, the assignee shall accept and succeed to all of the Optionor's rights and obligations under this Agreement.

10. **Notices.** Any notices or communication required or contemplated hereunder shall be made in writing and transmitted electronically, in person, via an established overnight courier (e.g. FedEx, DHL, or UPS), or by first-class mail, addressed as provided on the Cover Page:

11. **Governing Law.** This Agreement shall be governed by, and construed in accordance with, the laws of the state or commonwealth where the Subject Property is located, without regards to principles of conflicts of laws thereof.

12. **Exhibits; Attachments.** All Exhibits and Attachments attached hereto are an integral part of this Agreement and are incorporated herein by reference.

13. **No Rights or Obligations to Third Parties.** Except as otherwise expressly provided in this Agreement, the execution and delivery of this Agreement shall not be deemed to confer any rights upon, or obligate any of the parties to, any person or entity other than Optionor and Option Holder.

14. **Waiver of Jury Trial.** THE PARTIES HEREBY WAIVE THEIR RESPECTIVE RIGHTS TO TRIAL BY JURY IN ANY ACTION OR PROCEEDING INVOLVING THE SUBJECT PROPERTY OR ARISING OUT OF THIS AGREEMENT OR THE LEASE.

EDF _____ Optionor JSC

15. **Further Assurances.** Each of the Optionor and the Option Holder agree to provide such information, execute and deliver any instruments and documents, and to take such other actions as may be necessary or reasonably requested by the other party which are not inconsistent with the provisions of this Agreement and which do not involve the assumption of obligations other than those provided for in this Agreement, to give full effect to this Agreement and to carry out the intent of this Agreement.

16. **Cure Period.** Each of the Optionor and Option Holder may cure any failure to pay any payment due under this Agreement by tendering the payment due no later than 10 days after the applicable due date. Similarly, each of the Optionor and the Option Holder shall have the right to cure any default or breach of this Agreement if such cure is effected before the earlier to occur of: (a) 30 days after such breach or default occurs; or (b) 15 days following receipt by such party from the non-breaching party of notice of such party's breach or default.

17. **Additional Provisions**. Any provisions of this Agreement in addition to those set forth on the Cover Page, the Signature Page, or any Exhibit to this Agreement are as set forth on **Attachment B-2**.

EDF _____ Optionor _____

ATTACHMENT B-1

LEASE FEE

1. From the Lease Start Date through the Commercial Operation Date, the "Lease Fee" shall be: [redacted]

2. From and after the Commercial Operation Date, The Lease Fee shall equal approximately [redacted] of Leased Premises, rounded to the nearest surveyed 1/100th of an acre, per year. JKC

1. The annual Lease Fee shall escalate at [redacted] JKC

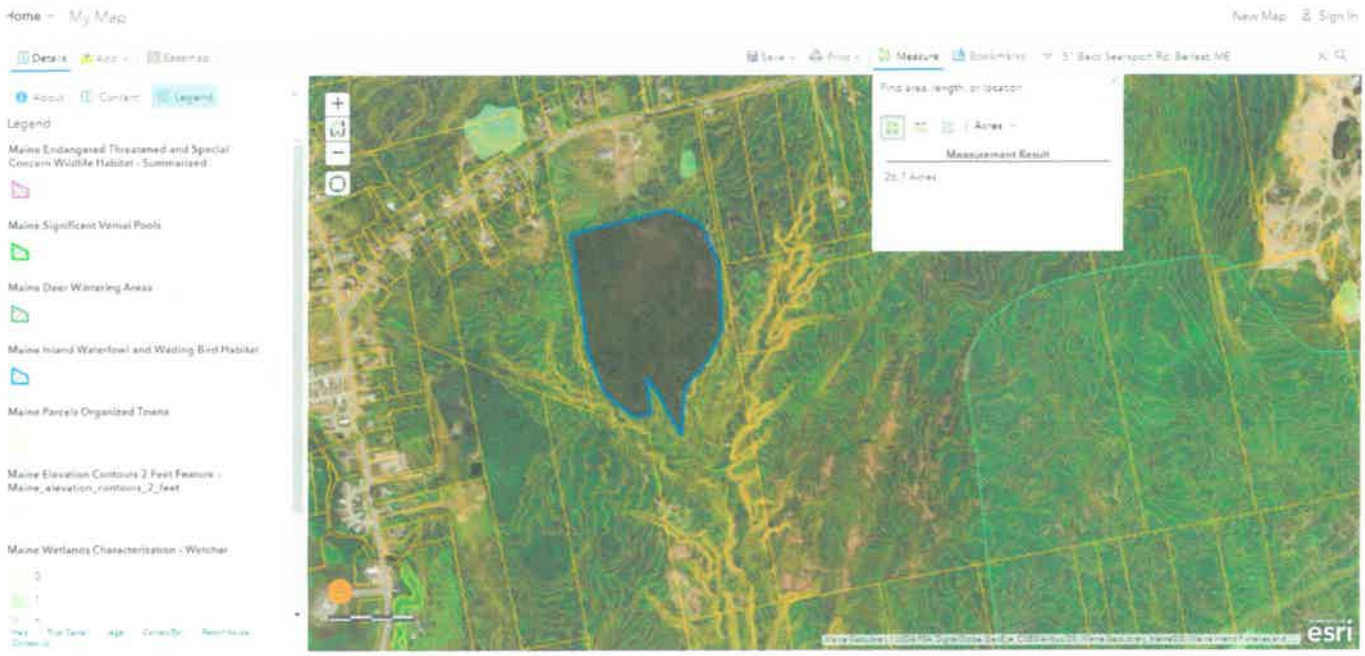
EDF _____ Optionor JKC

ATTACHMENT B-2

Additional Terms and Conditions

The additional terms and conditions set forth on this Attachment 2 supersede and replace any inconsistent term or provision of the Agreement.

The Leased Premises shall approximately include the areas below outlined in blue.



EDF renewables

December 11, 2020

Via Email
James K. Colcord
51 Back Searsport Road
Belfast, ME 04915

RE: First Amendment ("Amendment") of the Option to Lease Agreement dated January 31, 2020 ("Option Agreement") for Real Property at 51 Back Searsport Road, Belfast, ME, identified as Tax ID 007-002 (the "Subject Property").

Dear Mr. Colcord:

By this First Amendment ("**Amendment**"), the undersigned agree to amend the Option Agreement referred to above as provided in this Amendment. If you agree to the terms of this Amendment, please countersign and return this Amendment. Thank you very much for your consideration.

1. **Terminology**. Capitalized words used in this Amendment have the meanings assigned to in the Option Agreement.

2. **Change to Lease Fee**. To improve the prospects of the Subject Property being selected for development of a solar project, Optionor and Option Holder agree to reduce the required Lease Fee. As amended by this Amendment, Section 2 of Attachment B-1 and the handwritten sentence immediately following are deleted and replaced by the following:

   > From and after the Commercial Operation Date, the Lease Fee shall equal approximately [redacted] of Leased Premises, rounded to the surveyed 1/100th of an acre, per year. Beginning on the second anniversary of the Commercial Operation Date and continuing for the duration of the Lease Term, the annual Lease Fee shall be [redacted] greater than the Lease Fee paid in the immediately preceding Lease Year.

3. **Identification of the Leased Premises.** The Leased Premises shall be limited the area approximately shown by the fence line in the layout sketch set forth in Exhibit A of this Amendment.

4. **Vegetative Buffer.** If the Option Holder exercises the Option and the System is constructed, the Tenant will plant trees for a visual buffer along the northern fence-line of the System to mitigate viewshed concerns.
5. **Memorandum of Option.** If requested by Option Holder, Optionor will execute a memorandum evidencing the existence of the Option Agreement (such memorandum the "**Memorandum of Option**") and Option Holder shall be permitted to record said Memorandum of Option in the local land records at its own expense.
6. **Consideration.** By executing and delivering this Amendment, all signatories to this Amendment acknowledge and agree that the mutual covenants set forth in this Amendment are sufficient consideration for the amendment of the Option Agreement.
7. **No Other Changes.** Except as provided in this Amendment, including Exhibit A to this Amendment, the Option Agreement remains unchanged, and the Option Agreement, as amended by this Amendment, remains in full force and effect, and binds you individually, as Optionor, and EDF Renewables Distributed Solutions, Inc., as Option Holder.

Sincerely,
EDF Renewables Distributed Solutions, Inc.

12-16-2020

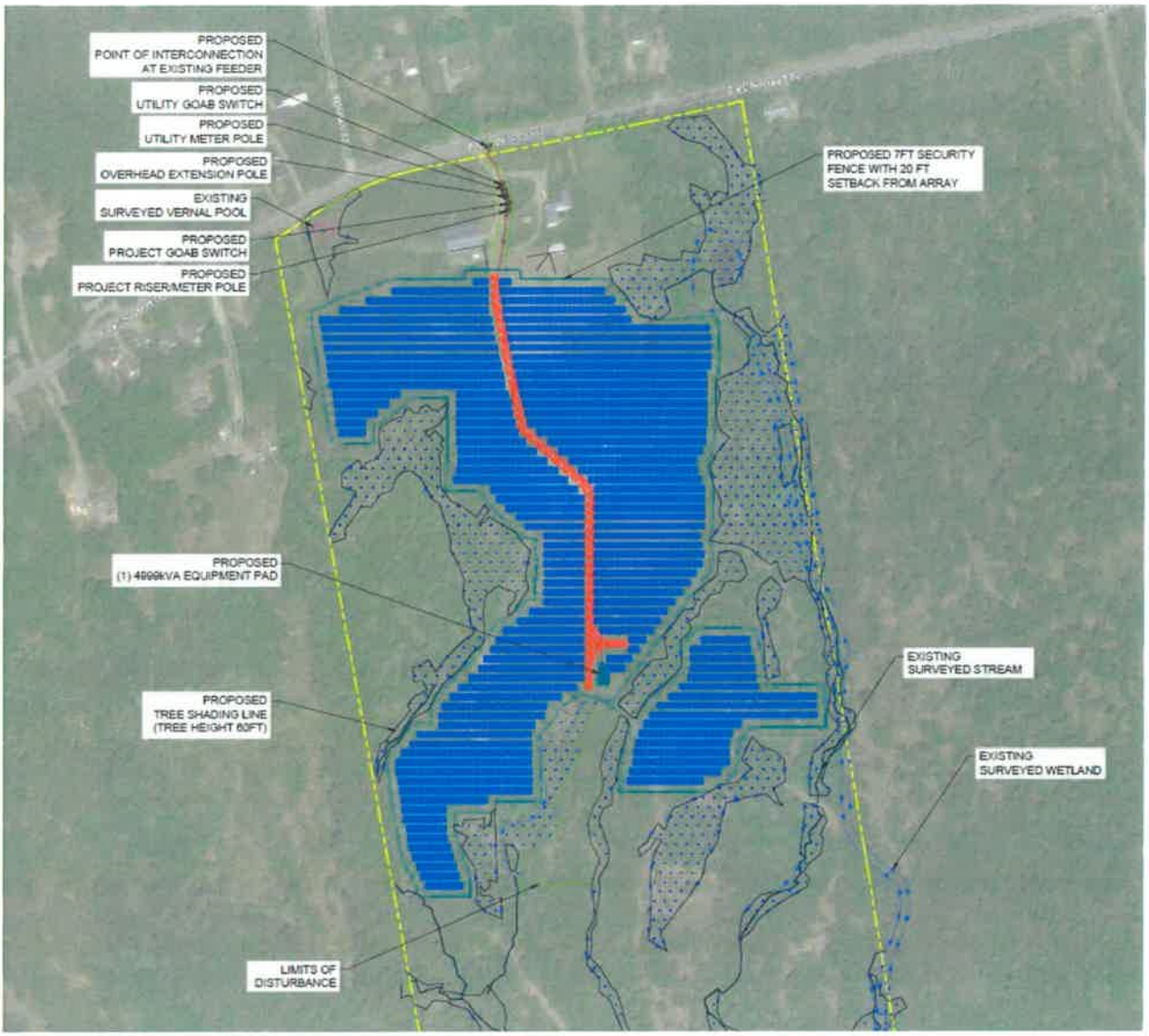
Name: ROB VIENS
Title: SVP

Accepted and Agreed as provided above:

By: James K. Colcord
Date: 12/15/2020

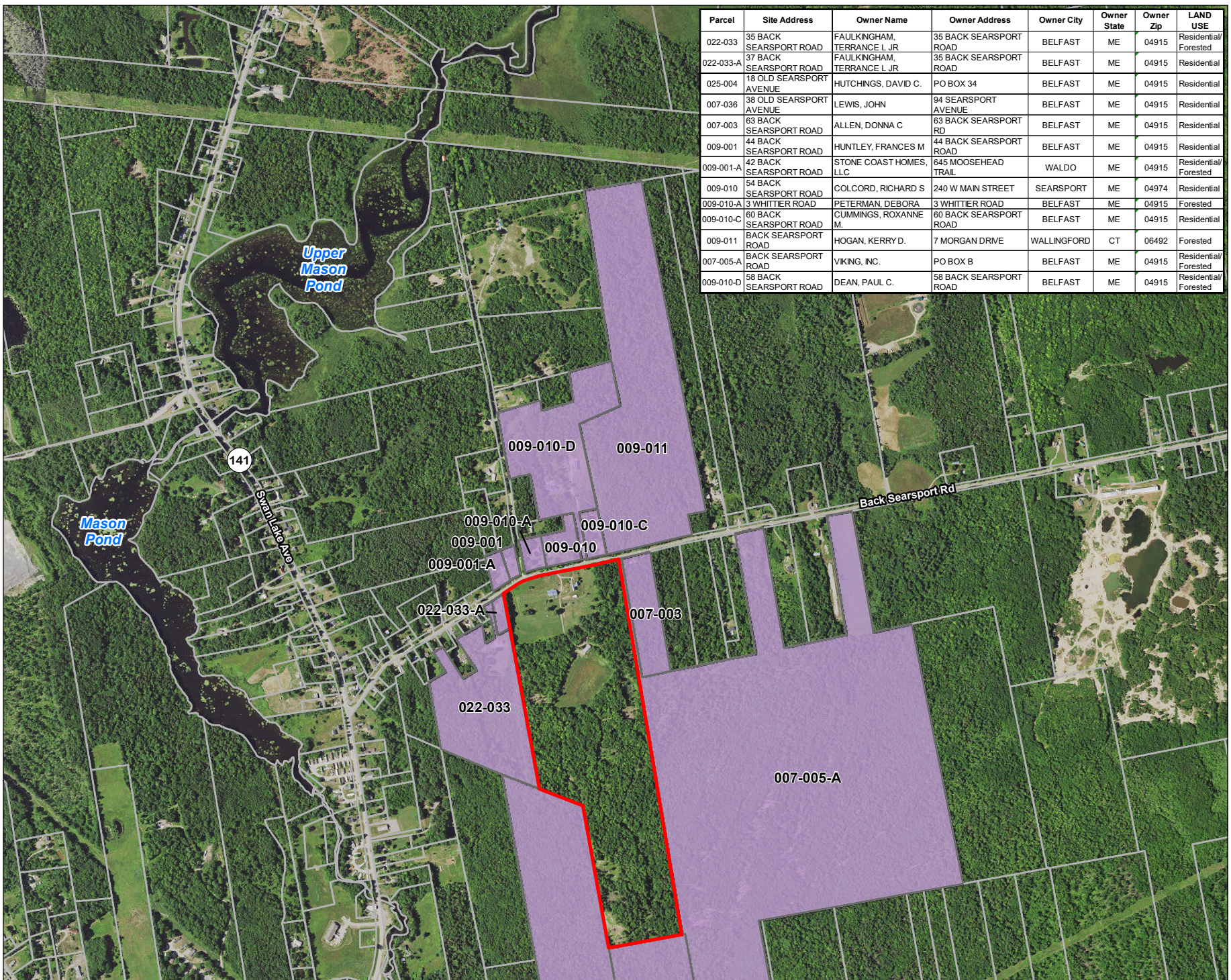
EXHIBIT A

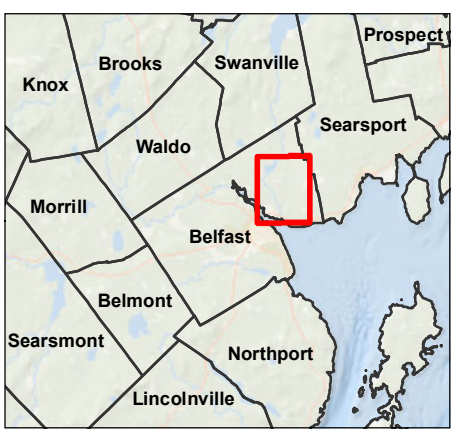
Leased Premises



ATTACHMENT 9: ABUTTER MAP

Parcel	Site Address	Owner Name	Owner Address	Owner City	Owner State	Owner Zip	LAND USE
022-033	35 BACK SEARSPORT ROAD	FAULKINGHAM, TERRANCE L JR	35 BACK SEARSPORT ROAD	BELFAST	ME	04915	Residential/ Forested
022-033-A	37 BACK SEARSPORT ROAD	FAULKINGHAM, TERRANCE L JR	35 BACK SEARSPORT ROAD	BELFAST	ME	04915	Residential
025-004	18 OLD SEARSPORT AVENUE	HUTCHINGS, DAVID C.	PO BOX 34	BELFAST	ME	04915	Residential
007-036	38 OLD SEARSPORT AVENUE	LEWIS, JOHN	94 SEARSPORT AVENUE	BELFAST	ME	04915	Residential
007-003	63 BACK SEARSPORT ROAD	ALLEN, DONNA C	63 BACK SEARSPORT RD	BELFAST	ME	04915	Residential
009-001	44 BACK SEARSPORT ROAD	HUNTLEY, FRANCES M	44 BACK SEARSPORT ROAD	BELFAST	ME	04915	Residential
009-001-A	42 BACK SEARSPORT ROAD	STONE COAST HOMES, LLC	645 MOOSEHEAD TRAIL	WALDO	ME	04915	Residential/ Forested
009-010	54 BACK SEARSPORT ROAD	COLCORD, RICHARD S	240 W MAIN STREET	SEARSPORT	ME	04974	Residential
009-010-A	3 WHITTIER ROAD	PETERMAN, DEBORA	3 WHITTIER ROAD	BELFAST	ME	04915	Forested
009-010-C	60 BACK SEARSPORT ROAD	CUMMINGS, ROXANNE M.	60 BACK SEARSPORT ROAD	BELFAST	ME	04915	Residential
009-011	BACK SEARSPORT ROAD	HOGAN, KERRY D.	7 MORGAN DRIVE	WALLINGFORD	CT	06492	Forested
007-005-A	BACK SEARSPORT ROAD	VIKING, INC.	PO BOX B	BELFAST	ME	04915	Residential/ Forested
009-010-D	58 BACK SEARSPORT ROAD	DEAN, PAUL C.	58 BACK SEARSPORT ROAD	BELFAST	ME	04915	Residential/ Forested





Legend
- Abutting Parcels
- Tax Parcel

0 600 1,200 Feet

(At original document size of 11x17)
1:14,400

N

Notes
1. Coordinate System: NAD 1983 StatePlane Maine East FIPS 1801 Feet
2. Data Sources: Base data obtained from the Maine Office of GIS (MEGIS).
3. Background: Aerial imagery provided by National Agriculture Imagery Program (NAIP). Maine, 2018.

Stantec

Project Location
Belfast, Maine

Prepared by PWB on 2021-02-17
TR by KWH on 2021-02-17
IR Review by EDB on 2021-02-22

Client/Project
195601958
Shining Solar Partners, LLC
Shining Solar Partners Project, Belfast, ME

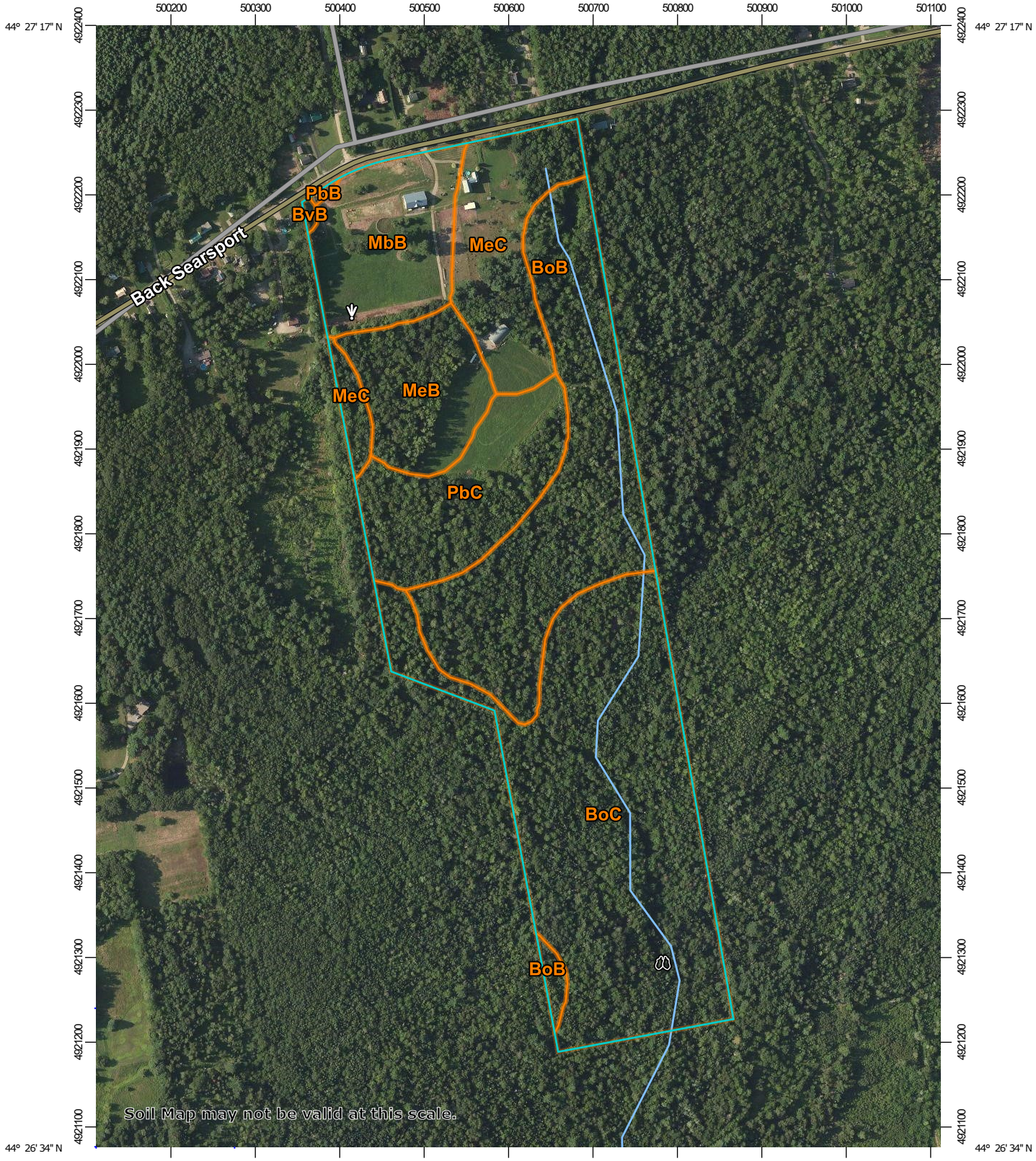
Attachment No.
10

Title
Project Abutters

V:\1956\active\195601958\03_data\gis_cad\gis\MXDs\Belfast\01958_0_Belfast_Abutters.mxd Revised: 2021-02-22 By: pbarbera

ATTACHMENT 10: NATURAL RESOURCES CONSERVATION SERVICES SOIL MAPPING

Soil Map—Waldo County, Maine
(Shining Solar Partners Project - Back Searsport Road, Belfast, Maine)



Map Scale: 1:6,450 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Waldo County, Maine
Survey Area Data: Version 20, May 29, 2020

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

Date(s) aerial images were photographed: Jul 27, 2010—Aug 31, 2010

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
BoB	Boothbay silt loam, 3 to 8 percent slopes	17.4	23.1%
BoC	Boothbay silt loam, 8 to 15 percent slopes	27.0	35.9%
BvB	Brayton fine sandy loam, 0 to 8 percent slopes, very stony	0.1	0.2%
MbB	Marlow fine sandy loam, 3 to 8 percent slopes	7.7	10.2%
MeB	Marlow fine sandy loam, 0 to 8 percent slopes, very stony	6.1	8.1%
MeC	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	8.6	11.4%
PbB	Peru fine sandy loam, 0 to 8 percent slopes, very stony	0.1	0.1%
PbC	Peru fine sandy loam, 8 to 15 percent slopes, very stony	8.4	11.1%
Totals for Area of Interest		**75.4**	**100.0%**

Map Unit Description (Brief, Generated)

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 in this report, along with the maps, provide information on the composition of map units and properties of their components.

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.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Waldo County, Maine

Map Unit: BoB—Boothbay silt loam, 3 to 8 percent slopes

Component: Boothbay (86%)

The Boothbay component makes up 86 percent of the map unit. Slopes are 3 to 8 percent. This component is on marine terraces. The parent material consists of fine-silty glaciolacustrine deposits and/or fine-silty marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 9 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Swanville (4%)

Generated brief soil descriptions are created for major soil components. The Swanville soil is a minor component.

Component: Biddeford (3%)

Generated brief soil descriptions are created for major soil components. The Biddeford soil is a minor component.

Component: Boothbay, slopes < 3 percent (3%)

Generated brief soil descriptions are created for major soil components. The Boothbay, slopes < 3 percent soil is a minor component.

Component: Tunbridge (2%)

Generated brief soil descriptions are created for major soil components. The Tunbridge soil is a minor component.

Component: Lyman (2%)

Generated brief soil descriptions are created for major soil components. The Lyman soil is a minor component.

Map Unit: BoC—Boothbay silt loam, 8 to 15 percent slopes

Component: Boothbay (85%)

The Boothbay component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on marine terraces. The parent material consists of fine-silty glaciolacustrine deposits and/or fine-silty marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Lyman (4%)

Generated brief soil descriptions are created for major soil components. The Lyman soil is a minor component.

Component: Tunbridge (4%)

Generated brief soil descriptions are created for major soil components. The Tunbridge soil is a minor component.

Component: Eldridge (3%)

Generated brief soil descriptions are created for major soil components. The Eldridge soil is a minor component.

Component: Swanville (2%)

Generated brief soil descriptions are created for major soil components. The Swanville soil is a minor component.

Component: Boothbay, slopes < 8 percent (1%)

Generated brief soil descriptions are created for major soil components. The Boothbay, slopes < 8 percent soil is a minor component.

Component: Boothbay, slopes > 15 percent (1%)

Generated brief soil descriptions are created for major soil components. The Boothbay, slopes > 15 percent soil is a minor component.

Map Unit: BvB—Brayton fine sandy loam, 0 to 8 percent slopes, very stony

Component: Brayton (82%)

The Brayton component makes up 82 percent of the map unit. Slopes are 0 to 8 percent. This component is on ground moraines on till plains. The parent material consists of lodgment till. Depth to a root restrictive layer, densic material, is 10 to 27 inches (depth from the mineral surface is 10 to 19 inches). The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches (depth from the mineral surface is 1 inches) during January, February, March, April, May, October, November, December. Organic matter content in the surface horizon is about 53 percent. Below this thin organic horizon the organic matter content is about 3 percent. Nonirrigated land capability classification is 7s. This soil meets hydric criteria.

Component: Colonel (8%)

Generated brief soil descriptions are created for major soil components. The Colonel soil is a minor component.

Component: Peru (5%)

Generated brief soil descriptions are created for major soil components. The Peru soil is a minor component.

Component: Peacham (3%)

Generated brief soil descriptions are created for major soil components. The Peacham soil is a minor component.

Component: Tunbridge (2%)

Generated brief soil descriptions are created for major soil components. The Tunbridge soil is a minor component.

Map Unit: MbB—Marlow fine sandy loam, 3 to 8 percent slopes

Component: Marlow (87%)

The Marlow component makes up 87 percent of the map unit. Slopes are 3 to 8 percent. This component is on hills on glaciated uplands, mountains on glaciated uplands. The parent material consists of loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite. Depth to a root restrictive layer, densic material, is 20 to 39 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 7 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Peru (6%)

Generated brief soil descriptions are created for major soil components. The Peru soil is a minor component.

Component: Tunbridge (4%)

Generated brief soil descriptions are created for major soil components. The Tunbridge soil is a minor component.

Component: Brayton (2%)

Generated brief soil descriptions are created for major soil components. The Brayton soil is a minor component.

Component: Colonel (1%)

Generated brief soil descriptions are created for major soil components. The Colonel soil is a minor component.

Map Unit: MeB—Marlow fine sandy loam, 0 to 8 percent slopes, very stony

Component: Marlow, very stony (86%)

The Marlow, very stony component makes up 86 percent of the map unit. Slopes are 0 to 8 percent. This component is on hills on glaciated uplands, mountains on glaciated uplands. The parent material consists of loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite. Depth to a root restrictive layer, densic material, is 20 to 41 inches (depth from the mineral surface is 20 to 39 inches). The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. Below this thin organic horizon the organic matter content is about 13 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Peru, very stony (6%)

Generated brief soil descriptions are created for major soil components. The Peru, very stony soil is a minor component.

Component: Tunbridge, very stony (4%)

Generated brief soil descriptions are created for major soil components. The Tunbridge, very stony soil is a minor component.

Component: Brayton, very stony (3%)

Generated brief soil descriptions are created for major soil components. The Brayton, very stony soil is a minor component.

Component: Berkshire, very stony (1%)

Generated brief soil descriptions are created for major soil components. The Berkshire, very stony soil is a minor component.

Map Unit: MeC—Marlow fine sandy loam, 8 to 15 percent slopes, very stony

Component: Marlow, very stony (86%)

The Marlow, very stony component makes up 86 percent of the map unit. Slopes are 8 to 15 percent. This component is on hills on glaciated uplands, mountains on glaciated uplands. The parent material consists of loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite. Depth to a root restrictive layer, densic material, is 20 to 41 inches (depth from the mineral surface is 20 to 39 inches). The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 85 percent. Below this thin organic horizon the organic matter content is about 13 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Peru, very stony (6%)

Generated brief soil descriptions are created for major soil components. The Peru, very stony soil is a minor component.

Component: Tunbridge, very stony (5%)

Generated brief soil descriptions are created for major soil components. The Tunbridge, very stony soil is a minor component.

Component: Brayton, very stony (2%)

Generated brief soil descriptions are created for major soil components. The Brayton, very stony soil is a minor component.

Component: Berkshire, very stony (1%)

Generated brief soil descriptions are created for major soil components. The Berkshire, very stony soil is a minor component.

Map Unit: PbB—Peru fine sandy loam, 0 to 8 percent slopes, very stony

Component: Peru, very stony (90%)

The Peru, very stony component makes up 90 percent of the map unit. Slopes are 0 to 8 percent. This component is on hills on glaciated uplands, mountains on glaciated uplands. The parent material consists of loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite. Depth to a root restrictive layer, densic material, is 21 to 43 inches (depth from the mineral surface is 20 to 39 inches). The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches (depth from the mineral surface is 17 inches) during January, February, March, April, May, October, November, December. Organic matter content in the surface horizon is about 80 percent. Below this thin organic horizon the organic matter content is about 13 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Brayton, very stony (6%)

Generated brief soil descriptions are created for major soil components. The Brayton, very stony soil is a minor component.

Component: Marlow, very stony (2%)

Generated brief soil descriptions are created for major soil components. The Marlow, very stony soil is a minor component.

Component: Berkshire, very stony (1%)

Generated brief soil descriptions are created for major soil components. The Berkshire, very stony soil is a minor component.

Component: Tunbridge, very stony (1%)

Generated brief soil descriptions are created for major soil components. The Tunbridge, very stony soil is a minor component.

Map Unit: PbC—Peru fine sandy loam, 8 to 15 percent slopes, very stony

Component: Peru, very stony (91%)

The Peru, very stony component makes up 91 percent of the map unit. Slopes are 8 to 15 percent. This component is on hills on glaciated uplands, mountains on glaciated uplands. The parent material consists of loamy lodgment till derived from granite and/or loamy lodgment till derived from mica schist and/or loamy lodgment till derived from phyllite. Depth to a root restrictive layer, densic material, is 21 to 43 inches (depth from the mineral surface is 20 to 39 inches). The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches (depth from the mineral surface is 17 inches) during January, February, March, April, May, October, November, December. Organic matter content in the surface horizon is about 80 percent. Below this thin organic horizon the organic matter content is about 13 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Brayton, very stony (4%)

Generated brief soil descriptions are created for major soil components. The Brayton, very stony soil is a minor component.

Component: Marlow, very stony (3%)

Generated brief soil descriptions are created for major soil components. The Marlow, very stony soil is a minor component.

Component: Lyman, very stony (1%)

Generated brief soil descriptions are created for major soil components. The Lyman, very stony soil is a minor component.

Component: Colonel, very stony (1%)

Generated brief soil descriptions are created for major soil components. The Colonel, very stony soil is a minor component.

Data Source Information

Soil Survey Area: Waldo County, Maine
Survey Area Data: Version 20, May 29, 2020

ATTACHMENT 11: PUBLIC UTILITIES COMMISSION AGREEMENT AND INTERCONNECTION SCHEMATIC

Level 4 Interconnection Agreement

This Agreement is made and entered into this 14th day of July, 2020 by and between EDF Renewables, ("Interconnection Customer") located at 51 Back Searsport Road, Belfast, Maine, and Central Maine Power Company, a Maine corporation having its office and principal place of business in Augusta, Kennebec County, Maine, existing under the laws of the State of Maine, (" T & D Utility "). Interconnection Customer and T & D Utility each may be referred to as a "Party," or collectively as the "Parties."

Recitals:

Whereas, Interconnection Customer is proposing to develop a Small Generator Facility, consisting of **4.999 MW** of photovoltaic (PV) generation, limited to **4.999 MW** of total export, consistent with the Interconnection Request completed by Interconnection Customer on February 19, 2020; and

Whereas, Interconnection Customer desires to interconnect the Small Generator Facility with T & D Utility 's Electric Distribution System.

Now, therefore, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 This Agreement shall be used for all approved Level 2, Level 3, and Level 4 Interconnection Requests according to the procedures set forth in the Standard Small Generator Interconnection Rule.

1.2 This Agreement governs the terms and conditions under which the Small Generator Facility will interconnect to, and operate in Parallel with, T & D Utility 's Electric Distribution System.

1.3 This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power.

1.4 Nothing in this Agreement is intended to affect any other agreement between T & D Utility and the Interconnection Customer. However, in the event that the provisions of this agreement are in conflict with the provisions of the T & D Utility tariff, the T & D Utility tariff shall control.

1.5 Responsibilities of the Parties

1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, and Operating Requirements.

1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Small Generator Facility, and construct, operate, and maintain its Interconnection Equipment in accordance with the applicable manufacturer's recommended maintenance schedule, in accordance with this Agreement.

1.5.3 T & D Utility shall construct, own, operate, and maintain its Electric Distribution System and Interconnection Facilities in accordance with this Agreement.

1.5.4 The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed the National Electrical Code, the American National Standards Institute, IEEE, Underwriters Laboratories, and any other Operating Requirements.

1.5.5 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Exhibits to this Agreement and shall do so in a manner as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the other party

1.5.6 Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the Point of Common Coupling.

1.6 Parallel Operation Obligations Once the Small Generator Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all written rules and procedures developed by the T & D Utility which pertain to the parallel operation of the Small Generator Facility, copies of which are provided as an Exhibits 1, 2, and 3 to this Agreement.

1.7 Reactive Power
The Interconnection Customer shall design its Small Generator Facility to maintain a composite power delivery at continuous rated power output at the Point of Common Coupling at a power factor within the range of 0.95 leading to 0.95 lagging.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection
The Interconnection Customer shall test and inspect its Small Generator Facility and Interconnection Facilities prior to interconnection, and in accordance with IEEE 1547 Standards.

2.2 Certificate of Completion
Prior to commencing parallel operation, the Interconnection Customer shall provide T & D Utility with a Certificate of Completion in the form of Attachment 6 of the Interconnection Forms and Agreements. The Certificate of Completion must either be signed by an electrical inspector with the authority to approve the interconnection or be accompanied by the electrical inspector's own form authorizing interconnection of the Small Generation Facility.

2.3 Parallel Operation Obligations
The Interconnection Customer shall abide by all permissible written rules and procedures developed by the T & D Utility which pertain to the parallel operation of the Small Generation Facility. In the event of conflicting provisions the Interconnection Procedures shall take precedence over the T & D Utility's rule or procedure. Copies of the Utilities rules and procedures for parallel operation are either provided as an Exhibit to this Agreement or an Exhibit that provides a reference to a website where copies of the rule or procedure is maintained.

2.4 Right of Access
At reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, Company shall have access to Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its Customers.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date
This Agreement shall become effective upon execution by the Parties.

3.2 Term of Agreement
This Agreement shall become effective on the Effective Date and shall remain in effect perpetually, unless terminated earlier in accordance with Article 3.3 of this Agreement.

3.3 Termination
No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.

3.3.1 The Interconnection Customer may terminate this Agreement at any time by giving T & D Utility 20 Business Days written notice.

3.32 Either Party may terminate this Agreement after Default pursuant to Article 6.6.

3.33 Upon termination of this Agreement, the Small Generator Facility will be disconnected from T & D Utility's Electric Distribution System. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.4 The provisions of this Article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection
The T & D Utility may temporarily disconnect the Small Generator Facility from its Electric Distribution System for so long as reasonably necessary in the event one or more of the following conditions or events occurs:

3.4.1 Emergency Conditions
"Emergency Condition" shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of T & D Utility, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to the Electric Distribution System, T & D Utility 's Interconnection Facilities or (3) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generator Facility or the Interconnection Equipment. Under Emergency Conditions, T & D Utility or the Interconnection Customer may immediately suspend interconnection service and temporarily disconnect the Small Generator Facility. T & D Utility shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer's operation of the Small Generator Facility. The

Interconnection Customer shall notify T & D Utility promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect T & D Utility's Electric Distribution System. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 Routine Maintenance, Construction, and Repair
T & D Utility may interrupt interconnection service or curtail the output of the Small Generator Facility and temporarily disconnect the Small Generator Facility from T & D Utility's Electric Distribution System when necessary for routine maintenance, construction, and repairs on T & D Utility's Electric Distribution System. T & D Utility shall provide the Interconnection Customer with five Business Days notice prior to such interruption. T & D Utility shall use reasonable efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

3.4.3 Forced Outages
During any forced outage, T & D Utility may suspend interconnection service to effect immediate repairs on T & D Utility's Electric Distribution System. T & D Utility shall use reasonable efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, T & D Utility shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 Adverse Operating Effects
T & D Utility shall provide the Interconnection Customer with a written notice of its intention to disconnect the Small Generator Facility if, based on Good Utility Practice, the T & D Utility determines that operation of the Small Generator Facility will likely cause disruption or deterioration of service to other Customers served from the same electric system, or if operating the Small Generator Facility could cause damage to T & D Utility's Electric Distribution System. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. T & D Utility may disconnect the Small Generator Facility if, after receipt of the notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time which shall be at least five Business Days from the date the Interconnection Customer receives the T & D Utility's written notice supporting the decision to disconnect, unless Emergency Conditions exist in which case the provisions of Article 3.4.1 apply.

3.4.5 Modification of the Small Generator Facility
The Interconnection Customer must receive written authorization from T & D Utility before making any change to the Small Generator Facility that may have a material impact on the safety or reliability of the Electric Distribution System. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. If the Interconnection Customer makes such modification without T & D Utility's prior written authorization, the latter shall have the right to temporarily disconnect the Small Generator Facility.

3.4.6 Reconnection
The Parties shall cooperate with each other to restore the Small Generator

Facility, Interconnection Facilities, and T & D Utility 's Electric Distribution System to their normal operating state as soon as reasonably practicable following a temporary disconnection.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1 Interconnection Facilities

4.1.1 The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in the Exhibits to this Agreement. If a Facilities Study was performed, T & D Utility shall identify its Interconnection Facilities necessary to safely interconnect the Small Generator Facility with T & D Utility's Electric Distribution System, the cost of those facilities, and the time required to build and install those facilities.

4.1.2 The Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its Interconnection Equipment, and (2) operating, maintaining, repairing, and replacing T & D Utility's Interconnection Facilities as set forth in the Exhibits to this Agreement.

4.2 Distribution Upgrades
T & D Utility shall design, procure, construct, install, and own any Distribution Upgrades. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

Article 5. Billing, Payment, Milestones, and Financial Security

5.1 Billing and Payment Procedures and Final Accounting

5.1.1 T & D Utility shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of T & D Utility provided Interconnection Facilities and Distribution Upgrades contemplated by this Agreement as set forth in the Exhibits to this Agreement, on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within thirty (30) calendar days of receipt, or as otherwise agreed to by the Parties.

5.1.2 Within ninety (90) calendar days of completing the construction and installation of T & D Utility 's Interconnection Facilities and Distribution Upgrades described in the Exhibits to this Agreement, T & D Utility shall provide the Interconnection Customer with a final accounting report of any difference between (1) the actual cost incurred to complete the construction and installation and the budget estimate provided to the Interconnection Customer and a written explanation for any significant variation. (2) the Interconnection Customer's previous deposit and aggregate payments to T & D Utility for such Interconnection Facilities and Distribution Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous deposit and aggregate payments, T & D Utility shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to T & D Utility within thirty (30) calendar days. If the Interconnection Customer's previous deposit and aggregate payments exceed its cost responsibility under this Agreement, T & D Utility shall refund to the Interconnection Customer an amount equal to the

difference within thirty (30) calendar days of the final accounting report.

5.2 Interconnection Customer Deposit
At least twenty (20) Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of T & D Utility 's Interconnection Facilities and Distribution Upgrades, the Interconnection Customer shall provide T & D Utility with a deposit equal to 50 percent of the cost estimated for its Interconnection Facilities prior to its beginning design of such facilities.

Article 6. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

6.1 Assignment
This Agreement may be assigned by either Party upon fifteen (15) Business Days prior written notice, and with the opportunity to object by the other Party. When required, consent to assignment shall not be unreasonably withheld; provided that:

6.1.1 Either Party may assign this Agreement without the consent of the other Party to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement;

6.1.2 The Interconnection Customer shall have the right to assign this Agreement, without the consent of T & D Utility, for collateral security purposes to aid in providing financing for the Small Generator Facility;

6.1.3 Any attempted assignment that violates this Article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same obligations as the Interconnection Customer.

6.2 Limitation of Liability
Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.

6.3 Indemnity

6.3.1 This provision protects each Party from liability incurred to third Parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 6.2.

6.3.2 The Parties shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third Parties, arising out of or resulting from the indemnified Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

6.3.3 If an indemnified person is entitled to indemnification under this Article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

6.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this Article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

6.3.5 Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

6.4 Consequential Damages

Neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

6.5 Force Majeure

6.5.1 As used in this Article, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

6.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance, and if the initial notification was verbal, it should be promptly followed up with a written notification. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be reasonably mitigated. The Affected Party will use reasonable efforts to resume its performance as soon as possible.

6.6 Default

6.6.1 No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement, or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in Article 6.6.2, the defaulting Party shall have 60 calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.

6.6.2 If a Default is not cured as provided for in this Article, or if a Default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this Article will survive termination of this Agreement.

Article 7. Insurance

The Interconnection Customer may be required by the T & D Utility to carry liability insurance for its interconnection subject to the restrictions and limitations found in Maine Public Utility Commission Rule Ch. 324 §12(F). To the extent T & D Utility requires liability insurance, its requirements for the Interconnecting Customer and any required documentation of coverage shall be included herewith under Exhibit 4.

Article 8. Dispute Resolution (see provisions in the Maine Public Utility Commission's Standard Small Generator Interconnection Rules)

Article 9. Miscellaneous

9.1 Governing Law, Regulatory Authority, and Rules
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of Maine, without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

9.2 Amendment
The Parties may amend this Agreement by a written instrument duly executed by both Parties.

9.3 No Third-Party Beneficiaries
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

9.4 Waiver

9.4.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

9.4.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from T & D Utility. Any waiver of this Agreement shall, if requested, be provided in writing.

9.5 Entire Agreement
This Agreement, including all Exhibits, constitutes the entire Agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.

9.6 Multiple Counterparts
This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

9.7 No Partnership
This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

9.8 Severability
If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

9.9 Environmental Releases
Each Party shall notify the other Party, first orally and then in writing, of the release any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generator Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

9.10 Subcontractors
Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

9.10.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall T & D Utility be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

9.10.2 The obligations under this Article will not be limited in any way by any limitation of subcontractor's insurance.

Article 10. Notices

10.1 General
Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national currier service, or sent by first class mail, postage prepaid, to the person specified below:

If to Interconnection Customer:

EDF Renewables
5 Commerce Avenue
West Lebanon, NH, 03784
Phone: 802-272-6519

If to T & D Utility:

Central Maine Power Company
Attention: Nathan Pelletier, Project Manager
83 Edison Drive
Augusta, ME 04336
Phone: 207-629-2356
Fax: 207-629-0696

With Copy to:
Legal Department
Central Maine Power Company
83 Edison Drive
Augusta, ME 04336
Phone: 207-621-6546
Fax: 207-621-6538

10.2.1 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

If to Interconnection Customer:

EDF Renewables
5 Commerce Avenue
West Lebanon, NH, 03784
Phone: 802-272-6519

If to T & D Utility:

Central Maine Power Company
Attention: Nathan Pelletier, Project Manager
83 Edison Drive
Augusta, ME 04336
Phone: 207-629-2356
Fax: 207-629-0696

10.3 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

If to Interconnection Customer:

EDF Renewables
5 Commerce Avenue
West Lebanon, NH, 03784
Phone: 802-272-6519

If to T & D Utility:

Central Maine Power Company
Attention: Nathan Pelletier, Project Manager
83 Edison Drive
Augusta, ME 04336
Phone: 207-629-2356
Fax: 207-629-0696

Article 11. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Transmission Provider: Central Maine Power Company

Name: _____ Date: 7/15/2020
Eric N. Stinneford

Title: Vice-President Controller, Treasurer

Name: Keith Radonis Digitally signed by: Keith Radonis DN: CN = Keith Radonis email = keith.radonis@cmpco.com C = US O = Interconnection Services OU = Central Maine Power Date: 2020.07.14 16:48:11 -05'00' Date: _____
Keith Radonis

Title: Manager – Interconnection Services

For the Interconnection Customer: EDF Renewables

Name: _____ Date: 7/14/20

Title: Senior Manager, Business Development

Exhibits:

1. **Transmission & Distribution Interconnection Requirements for Generation**
2. **Metering O&M Charge for Metering Equipment (Schedule D)**
3. **Interconnection Facilities Support Charges (Schedule L)**
4. **Insurance Requirements**
5. **Biennial relay calibration and operational testing**
6. **Costs**
7. **ISO-NE i.3.9 and Reliability Committee approval**
8. **Payment Plan**

EXHIBIT 1

Transmission & Distribution Interconnection Requirements for Generation: The customer is required to be interconnected per CMP's Transmission & Distribution Interconnection Requirements for Generation (also known as the "Blue Book") which is updated and will be provided to the customer annually.

EXHIBIT 2

Metering O&M Charge for Metering Equipment (Schedule D):

This EXHIBIT 2 is based on estimates from the Impact Study. The parties agree that this exhibit will be amended once actual costs have been determined.

Monthly O&M Charge for Metering Equipment

Note: The Interconnection Customer is responsible for providing a phone line for the metering equipment and is responsible for owning, maintaining, and paying all associated monthly costs for the metering phone line.

EXHIBIT 3

Interconnection Facilities Support Charges (Schedule L):

This EXHIBIT 3 is based on estimates from the Impact Study. The parties agree that this exhibit will be amended once actual costs have been determined.

Note: The applicable rates for monthly Operation and Maintenance (herin "O&M") charges for Distribution Upgrades and Interconnection Facilities installed by the T&D Utility pursuant to the Interconnection Agreement and those set forth in Section 55 of T&D Utility's Terms and Conditions, filed with and approved by the Maine Public Utilities Commission, as revised from time to time.

EXHIBIT 4

Insurance Requirement: The customer is responsible for having insurance for their interconnection. Please see below requirements of insurance and provide an updated insurance certificate annually.

EXHIBIT 5

Biennial relay calibration and operational testing of your facility's protection system is required per in the Transmission and Distribution Interconnection Requirements for Generations.

EXHIBIT 6

Cost: A total cost estimate of [redacted] was identified within the combined Feasibility/Impact Final Report dated June 18, 2020. Per the Chapter 324 of the MPUC rules, the Feasibility/Impact Final Report is intended to produce an estimate of system modification costs (within ± twenty-five percent (25%)). The Company and Customer have mutually agreed to not conduct a facilities study, which would have provided the detailed costs of the electric system modifications necessary to interconnect the Customer's proposed generator. Therefore, the Customer shall be responsible for all costs of such electric system modifications, even if they are in excess of [redacted], plus twenty-five percent. In executing this Interconnection Agreement the Customer is agreeing to proceed forward financially as well as within the parameters defined within the **PRJ 355 EDF Renewables Distributed Solutions, Inc. (Belfast) Final Report.**

EXHIBIT 7

Additional Utility Study, ISO-NE i.3.9, and Reliability Committee Approval:

Both Parties agree that this Interconnection Agreement is not valid and permission to operate will not be granted by the T&D Utility until the Interconnection Customer has:

1) Completed any T&D Utility required transmission study, including but not limited to non-comprehensive, cluster, or regional studies, and agreed to any resulting upgrades required to interconnect;
2) Completed the ISO-NE i.3.9 process and agreed to any resulting upgrades required to interconnect;
3) Upon completion of the i.3.9 process, received approval at the most immediately available Reliability Committee meeting;

The Interconnection Customer may delay payment for upgrades called for in Chapter 324 until the Interconnection Customer's Small Generator Facility has been approved by the NEPOOL Reliability Committee. Upon Reliability Committee approval, payment shall be made in accordance with Chapter 324 and this Interconnection Agreement. Should the Interconnection Customer elect to delay payment pursuant to the previous sentence, the payment terms and timelines outlined in Exhibit 8 remain valid, except that the first payment will be due 30 days after Reliability Committee approval and subsequent payments will be in accordance with the time period between payments as established in Exhibit 8.

EXHIBIT 8

Payment Plan: The Parties agree that this Interconnection Agreement shall be governed by Chapter 324 of the rules of the Maine Public Utilities Commission (""MPUC"), as adopted by the MPUC though Order Amending Rule dated March 6, 2020, which rule became effective on March 15, 2020 ("Chapter 324"). In the event of any conflict between the provisions set forth in this Interconnection Agreement and those set forth in Chapter 324, the provisions of Chapter 324 shall govern.

Both Parties agree to a payment plan by which the initial payment of [redacted] of the costs of required Distribution Upgrades and Interconnection Facilities shall be due 90 Business Days after execution of the Interconnection Agreement and the final [redacted] payment shall be due 90 Business Days after the [redacted] payment is made. This payment schedule shall supersede the payment schedule set forth in Article 5 of this Interconnection Agreement. Any such payments will be adjusted and refunded to the Interconnection Customer in accordance with § 12(G) Cost Sharing, § 13(I) (Cancellation of Interconnection Agreement), and 13(J) Cost Reconciliation of Chapter 324.

PV SYSTEM SUMMARY

MODULE WATTAGE (W)	400 & 440
NUMBER OF MODULES	16,458
NUMBER OF MODULES PER STRING	26
NUMBER OF STRINGS	740
INVERTER TYPE	POWER ELECTRONICS (1) FS3190 (FACTORY LIMITED TO 2,999kVA) (1) FS2125 (FACTORY LIMITED TO 2,000kVA
RATED DC POWER (kWp)	7,010.64
RATED AC POWER (kWac)	4999

PROPOSED PROTECTION RELAY SETTINGS

DEVICE	PICKUP			Time Delay		Total Clearing Time	
	Primary		Secondary				
27-1	50%	(3599.8 V)	(60 V)	63 CYC	1.05 SEC	66 CYC	1.1 SEC
27-2	88%	(6335.6 V)	(105.6 V)	117 CYC	1.95 SEC	120 CYC	2 SEC
59-1	110%	(7919.5 V)	(132 V)	117 CYC	1.95 SEC	120 CYC	2 SEC
59-2	120%	(8639.5 V)	(144 V)	6.6 CYC	0.11 SEC	9.6 CYC	0.16 SEC
81U-1	58.5 HZ			17997 CYC	299.95 SEC	18000 CYC	300 SEC
81U-2	56.5 HZ			6.6 CYC	0.11 SEC	9.6 CYC	0.16 SEC
81O-1	61.2 HZ			17997 CYC	299.95 SEC	18000 CYC	300 SEC
81O-2	62 HZ			6.6 CYC	0.11 SEC	9.6 CYC	0.16 SEC
51		289 A	1.21 A	SET PER UTILITY STANDARDS			
51G		96 A	0.4 A	SET PER UTILITY STANDARDS			

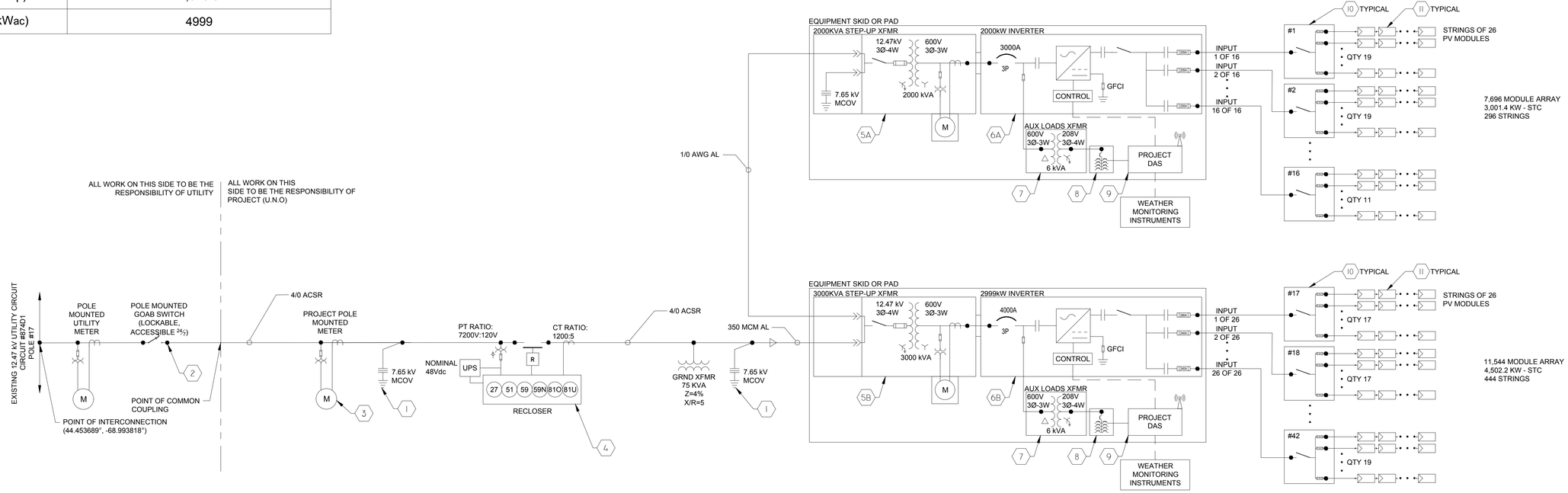
SETTINGS ASSUME 3 CYCLE ESTIMATED DEVICE TRIP OPENING TIME
SETTINGS ARE BASED ON IEEE 1547-2018 TABLE 1 (VOLT) AND 2 (FREQ)
SETTINGS ARE BASED ON A 120V SECONDARY PT BASE.

PROPOSED UL1741 INVERTER INTERNAL CONTROL SETTINGS

DEVICE	PICKUP		CLEARING TIME		
27-1	50%	(300 V)	66	CYC	(1.1 SEC)
27-2	88%	(528 V)	120	CYC	(2 SEC)
59-1	110%	(660 V)	120	CYC	(2 SEC)
59-2	120%	(720 V)	9.6	CYC	(0.16 SEC)
81U-1	58.5 HZ		18000	CYC	(300 SEC)
81U-2	56.5 HZ		9.6	CYC	(0.16 SEC)
81O-1	61.2 HZ		18000	CYC	(300 SEC)
81O-2	62 HZ		9.6	CYC	(0.16 SEC)

Base Voltage 600 V.

PF = 1.0



EQUIPMENT AND MATERIALS SCHEDULE (THIS SHEET ONLY)		
ITEM	QTY	DESCRIPTION
1	9	7.65 kV MCOV SURGE ARRESTOR (1 PER PHASE)
2	1	GANG OPERATED ACCESSIBLE BREAKER (GOAB), UTILITY LOCKABLE
3	1	POLE MOUNTED CUSTOMER REVENUE METER
4	1	POLE MOUNTED PROJECT RECLOSER
5A	1	PAD MOUNTED 2000kVA 12.47 kV GROUNDED WYE PRIMARY: 600V WYE SECONDARY STEP-UP TRANSFORMER
5B	1	PAD MOUNTED 3000kVA 12.47 kV GROUNDED WYE PRIMARY: 600V WYE SECONDARY STEP-UP TRANSFORMER
6A	1	FS2125 POWER ELECTRONICS CENTRAL INVERTER WITH INTEGRAL FUSED PV RECOMBINER AND 1500V NOMINAL SYSTEM INPUT
6B	1	FS3190 POWER ELECTRONICS CENTRAL INVERTER WITH INTEGRAL FUSED PV RECOMBINER AND 1500V NOMINAL SYSTEM INPUT
7	2	6 kVA DRY TYPE AUX POWER TRANSFORMER 600 V DELTA:208 V GROUNDED WYE, NEMA 3R ENCLOSURE.
8	2	AUX LOAD 208/120V PANELBOARD WITH 25 A MCB AND (8) 20 A BRANCH CIRCUIT BREAKERS, NEMA 3R ENCLOSURE.
9	1	DATA ACQUISITION SYSTEM DATA LOGGER
10	42	PV COMBINER BOX WITH LOCAL MANUAL DISCONNECT AND FUSED STRING INPUTS, 1500V RATED
11	16588	390 W PV MODULE, JA SOLAR JAM72S09-390/PR

NOTES:

1. CONDUCTORS SIZED AS PER THE NEC 2017 REQUIREMENTS.
2. DAS WILL RECORD THE PV SYSTEM'S ENERGY PRODUCTION FROM THE ENERGY METER AS SHOWN, INVERTER OPERATIONAL STATUS, ALONG WITH METEOROLOGICAL DATA (POA IRRADIANCE, AMBIENT TEMPERATURE, MODULE TEMPERATURE AND WIND SPEED).
3. INVERTER VOLTAGE AND FREQUENCY OUT-OF-RANGE DISCONNECTION TO BE IN ACCORDANCE WITH THE UL 1741 STANDARD.

LEGEND:

CONDUCTOR

COMMUNICATIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SEAL: STATE OF MAINE 02-05-20 JEFFERY J. STELLY 13899 LICENSED PROFESSIONAL ENGINEER

REV:	DESCRIPTION:	DATE:	DRWN:	CHKD:	APRVD:
A	ISSUE FOR IA	02/05/20	PAV	JJS	JJS

RLC ENGINEERING
267 Whitten Road
Hallowell, ME 04347
Phone 207-621-1077
Fax 207-621-1177
www.rlc-eng.com

EDF renewables
4.99 MWAC PV GENERATION FACILITY

SCALE: NONE | BELFAST, ME | SIZE: ARCH D

GENERAL ARRANGEMENT
PV PANEL LAYOUT
DC & AC SINGLE LINE

DATE: 02/05/20
DRAWN BY: PAV
ENGN'D BY: JJS
PROJECT #: 25123-17
DRAWING #: 2100

ATTACHMENT 12: EQUIPMENT SPECIFICATIONS

CanadianSolar

HiKu

HIGH POWER POLY PERC MODULE

400 W ~ 425 W

CS3W-400|405|410|415|420|425P

MORE POWER

- 24 % higher power than conventional modules
- Up to 4.5 % lower LCOE
  Up to 2.7 % lower system cost
- Low NMOT: 42 ± 3 °C
  Low temperature coefficient (Pmax): -0.36 % / °C
- Better shading tolerance

MORE RELIABLE

- Lower internal current, lower hot spot temperature
- Minimizes micro-crack impacts
- Heavy snow load up to 5400 Pa, wind load up to 3600 Pa*

* For detailed information, please refer to Installation Manual.

12 Years **Enhanced Product Warranty on Materials and Workmanship***

25 Years **Linear Power Performance Warranty***

1st year power degradation no more than 2%
Subsequent annual power degradation no more than 0.55%

*According to the applicable Canadian Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental management system
ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES*

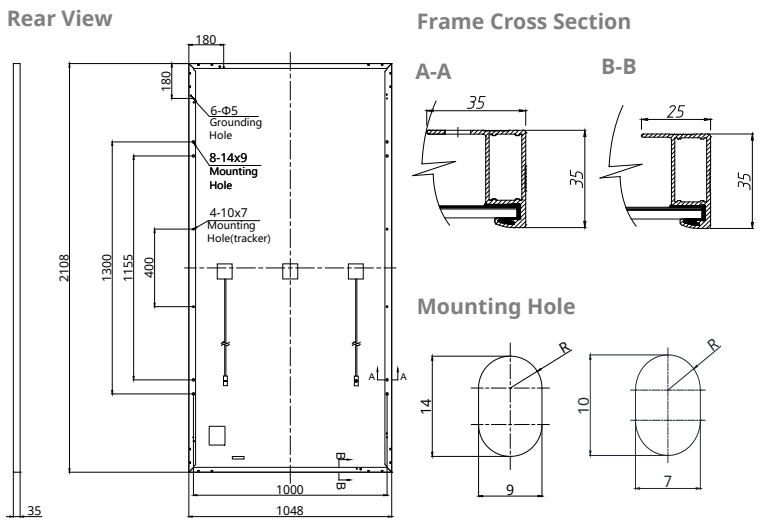
IEC 61215 / IEC 61730 / CE / MCS / INMETRO
CEC listed (US California) / FSEC (US Florida)
UL 61730 / IEC 61701 / IEC 62716
UNI 9177 Reaction to Fire: Class 1 / Take-e-way

* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your product and applicable in the regions in which the products will be used.

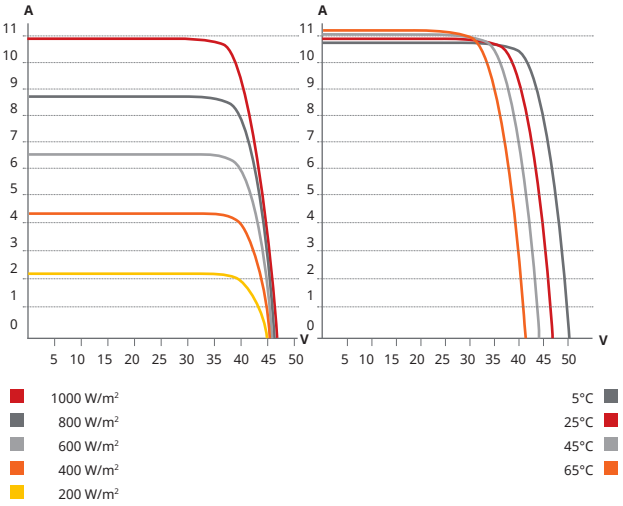
CSI Solar Co., Ltd. is committed to providing high quality solar products, solar system solutions and services to customers around the world. Canadian Solar was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey, and is a leading PV project developer and manufacturer of solar modules, with over 50 GW deployed around the world since 2001.

CSI Solar Co., Ltd.
199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

ENGINEERING DRAWING (mm)



CS3W-400P / I-V CURVES



ELECTRICAL DATA | STC*

CS3W	400P	405P	410P	415P	420P	425P
Nominal Max. Power (Pmax)	400 W	405 W	410 W	415 W	420 W	425 W
Opt. Operating Voltage (Vmp)	38.7 V	38.9 V	39.1 V	39.3 V	39.5 V	39.7 V
Opt. Operating Current (Imp)	10.34 A	10.42 A	10.49 A	10.56 A	10.64 A	10.71 A
Open Circuit Voltage (Voc)	47.2 V	47.4 V	47.6 V	47.8 V	48.0 V	48.2 V
Short Circuit Current (Isc)	10.90 A	10.98 A	11.06 A	11.14 A	11.26 A	11.29 A
Module Efficiency	18.1%	18.3%	18.6%	18.8%	19.0%	19.2%
Operating Temperature	-40°C ~ +85°C					
Max. System Voltage	1500V (IEC/UL) or 1000V (IEC/UL)					
Module Fire Performance	TYPE 1 (UL 61730 1500V) or TYPE 2 (UL 61730 1000V) or CLASS C (IEC 61730)					
Max. Series Fuse Rating	20 A					
Application Classification	Class A					
Power Tolerance	0 ~ + 10 W					

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

MECHANICAL DATA

Specification	Data
Cell Type	Poly-crystalline
Cell Arrangement	144 [2 X (12 X 6)]
Dimensions	2108 X 1048 X 35 mm (83.0 X 41.3 X 1.38 in)
Weight	24.3 kg (53.6 lbs)
Front Cover	3.2 mm tempered glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4 mm² (IEC), 12 AWG (UL)
Cable Length (Including Connector)	500 mm (19.7 in) (+) / 350 mm (13.8 in) (-) or customized length*
Connector	T4 series or H4 UTX or MC4-EVO2
Per Pallet	30 pieces
Per Container (40' HQ)	660 pieces

* For detailed information, please contact your local Canadian Solar sales and technical representatives.

ELECTRICAL DATA | NMOT*

CS3W	400P	405P	410P	415P	420P	425P
Nominal Max. Power (Pmax)	298 W	302 W	305 W	309 W	313 W	317 W
Opt. Operating Voltage (Vmp)	36.0 V	36.2 V	36.4 V	36.6 V	36.8 V	36.9 V
Opt. Operating Current (Imp)	8.27 A	8.33 A	8.39 A	8.45 A	8.51 A	8.57 A
Open Circuit Voltage (Voc)	44.3 V	44.5 V	44.7 V	44.9 V	45.1 V	45.3 V
Short Circuit Current (Isc)	8.79 A	8.86 A	8.92 A	8.99 A	9.08 A	9.11 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.36 % / °C
Temperature Coefficient (Voc)	-0.28 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	42 ± 3°C

PARTNER SECTION

* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement .CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice.
Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CSI Solar Co., Ltd.
199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

Distribution Transformers

COOPER Power Systems

Electrical Apparatus

210-12

Three-Phase Pad-Mounted Compartmental Type Transformer

GENERAL

At Cooper Power Systems, we are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality, most reliable transformers. Cooper Power Systems Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing. In order to drive this innovation, we have invested both time and money in the Thomas A. Edison Technical Center, our premier research facility in Franksville, Wisconsin. Headquarters for the Systems Engineering Group of Cooper Power Systems, such revolutionary products as distribution-class UltraSIL™ Polymer-Housed Evolution™ surge arresters and Envirotemp™ FR3™ fluid have been developed at our Franksville lab.

With transformer sizes ranging from 45 kVA to 12 MVA and high voltages ranging from 2400 V to 46 kV, Cooper Power Systems has you covered. From fabrication of the tanks and cabinets to winding of the cores and coils, to production of arresters, switches, tap changers, expulsion fuses, current limit fuses, bushings (live and dead) and molded rubber goods, Cooper Power Systems does it all. Cooper Power Systems transformers are available with electrical grade mineral oil or Envirotemp™ FR3™ fluid, a less-flammable and bio-degradable fluid. Electrical codes recognize the advantages of using Envirotemp™ FR3™ fluid both indoors and outdoors for fire sensitive applications. The bio-based fluid meets Occupational Safety and Health Administration (OSHA) and Section 450.23 NEC Requirements.

Figure 1.
Three-phase pad-mounted transformer.

PRODUCT SCOPE

Type	Three Phase, 50 or 60 Hz, 65 ºC Rise (55 ºC, 55 ºC/65 ºC)
Fluid Type	Mineral oil or Envirotemp™ FR3™ fluid
Size	45 – 12,000 kVA
Primary Voltage	2,400 – 46,000 V
Secondary Voltage	208Y/120 V to 14,400 V
Specialty Designs	Inverter/Rectifier Bridge
	K-Factor (up to K-19)
	Vacuum Fault Interrupter (VFI)
	UL Listed & Labeled and Classified
	Factory Mutual (FM) Approved
	Solar/Wind Designs
	Differential Protection
	Seismic Applications (including OSHPD)

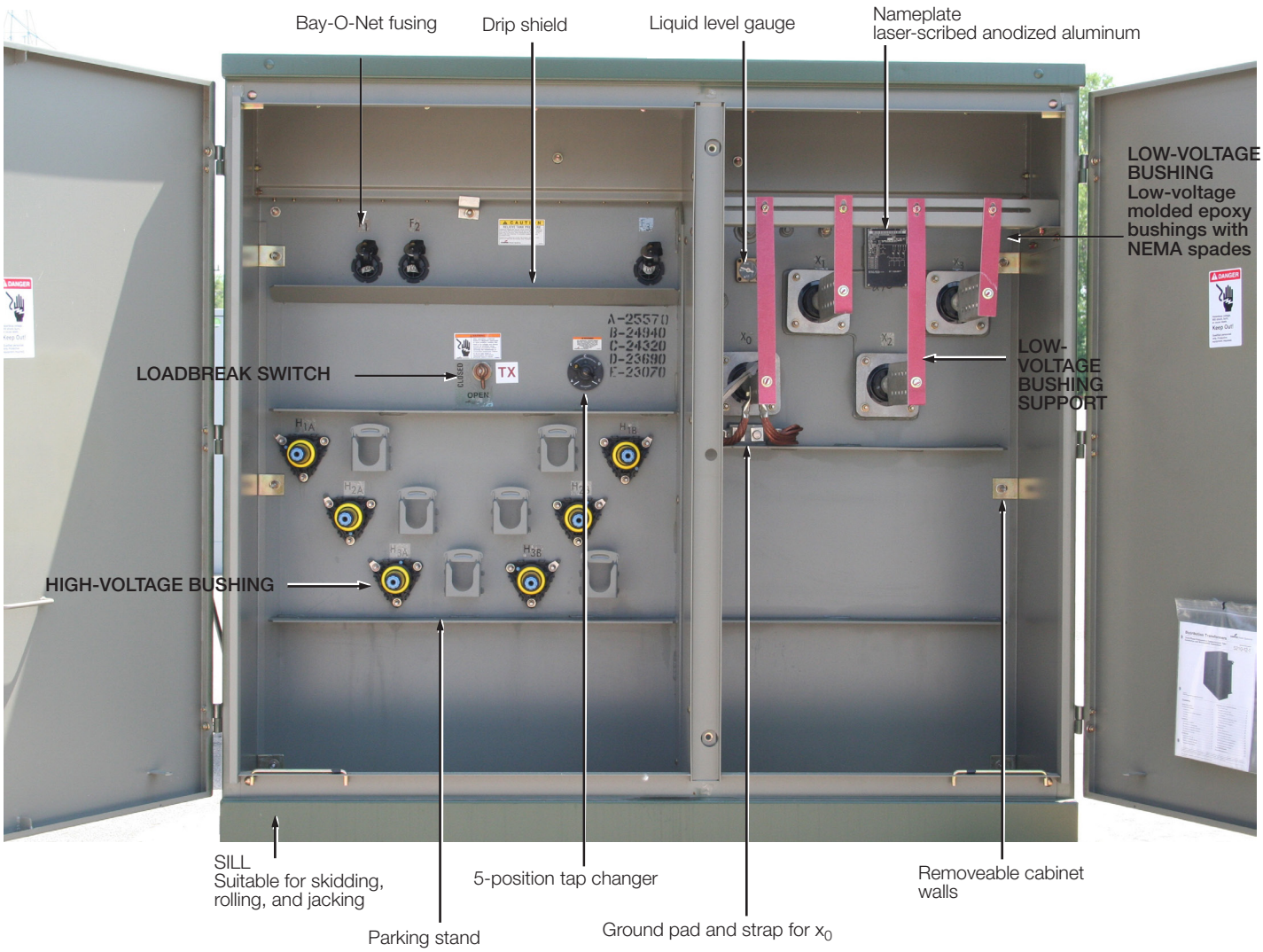


Figure 2.
Three-phase pad-mounted compartmental type transformer.

TABLE 1
Three-Phase Ratings

Three-Phase 50 or 60 Hz
kVA Available[1]: 45, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3750, 5000, 7500, 10000, 120000

[1]Transformers are available in the standard ratings and configurations shown or can be customized to meet specific needs.

TABLE 2
Audible Sound Levels

Self-Cooled, Two Winding kVA Rating	NEMA TR-1 Average Decibels (dB)
45-500	56
501-700	57
701-1000	58
1001-1500	60
1501-2000	61
2001-2500	62
2501-3000	63
3001-4000	64
4001-5000	65
5001-6000	66
6001-7500	67
7501-12000	68

TABLE 3
Insulation Test Levels

KV Class	Induced Test 180 or 400 Hz 7200 Cycle	kV BIL Distribution	Applied Test 60 Hz (kV)
1.2	TWICE RATED VOLTAGE	30	10
2.5		45	15
5		60	19
8.7		75	26
15		95	34
25 (grd Y Only)		125	40
25		150	50
34.5 (grd Y Only)		125	40
34.5		150	70
46		200	95

TABLE 4
Temperature Rise Ratings 0-3300 Feet (0-1000 meters)

	Standard	Optional
Unit Rating (Temperature Rise Winding)	65 ºC	55 °C, 55/65 ºC
Ambient Temperature Max	40 ºC	50 ºC
Ambient Temperature 24 Hour Average	30 ºC	40 ºC
Temperature Rise Hotspot	80 ºC	65 ºC

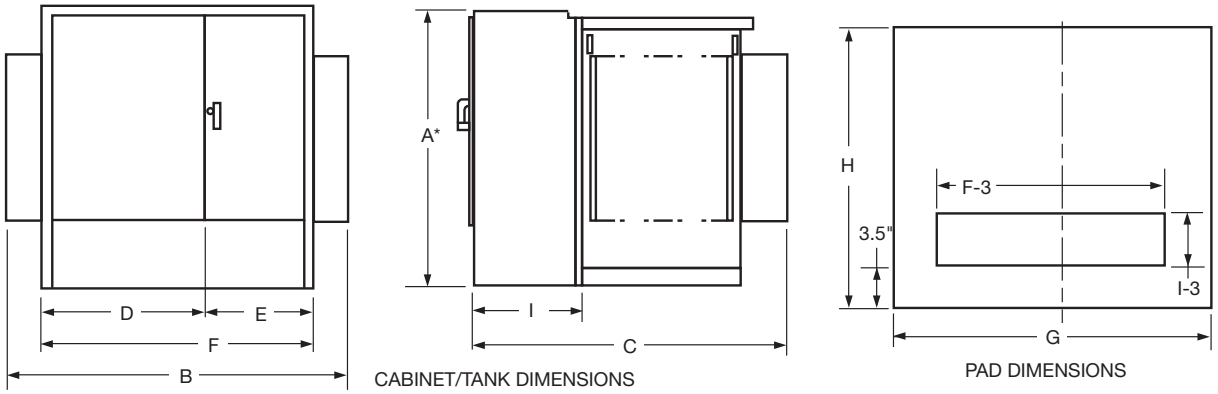


Figure 3.
Transformer and pad dimensions.

* Add 9" for Bay-O-Net fusing.

TABLE 5
Fluid-filled—aluminum windings 55/65 °C Rise1

65° Rise	DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—ALUMINUM WINDINGS										
	OUTLINE DIMENSIONS (in.)									Gallons of Fluid	Approx. Total Weight (lbs.)
kVA Rating	A*	B	C	D	E	F	G	H	I		
45	50	68	39	42	26	68	72	43	20	110	2,100
75	50	68	39	42	26	68	72	43	20	115	2,250
112.5	50	68	49	42	26	68	72	53	20	120	2,350
150	50	68	49	42	26	68	72	53	20	125	2,700
225	50	72	51	42	30	72	76	55	20	140	3,150
300	50	72	51	42	30	72	76	55	20	160	3,650
500	50	89	53	42	30	72	93	57	20	190	4,650
750	64	89	57	42	30	72	93	61	20	270	6,500
1000	64	89	59	42	30	72	93	63	20	350	8,200
1500	73	89	86	42	30	72	93	90	24	410	10,300
2000	73	72	87	42	30	72	76	91	24	490	12,500
2500	73	72	99	42	30	72	76	103	24	530	14,500
3000	73	84	99	46	37	84	88	103	24	620	16,700
3750	84	85	108	47	38	85	88	112	24	660	19,300
5000	84	96	108	48	48	96	100	112	24	930	25,000
7500	94	102	122	54	48	102	100	126	24	1,580	41,900

[1] Weights, gallons of fluid, and dimensions are for reference only and not for construction. Please contact Cooper Power Systems for exact dimensions.
* Add 9" for Bay-O-Net fusing.

TABLE 6
Fluid-Filled—Copper Windings 55/65 °C Rise[1]

65° Rise	DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—COPPER WINDINGS										
	OUTLINE DIMENSIONS (in.)									Gallons of Fluid	Approx. Total Weight (lbs.)
kVA Rating	A*	B	C	D	E	F	G	H	I		
45	50	64	39	34	30	64	69	43	20	110	2,100
75	50	64	39	34	30	64	69	43	20	115	2,350
112.5	50	64	49	34	30	64	69	53	20	115	2,500
150	50	64	49	34	30	64	69	53	20	120	2,700
225	50	64	51	34	30	64	73	55	20	140	3,250
300	50	64	51	34	30	64	75	55	20	160	3,800
500	50	81	53	34	30	64	85	57	20	200	4,800
750	64	89	57	42	30	72	93	61	20	255	6,500
1000	64	89	59	42	30	72	93	63	20	300	7,800
1500	73	89	86	42	30	72	93	90	24	410	10,300
2000	73	72	87	42	30	72	76	91	24	420	11,600
2500	73	72	99	42	30	72	76	103	24	500	14,000
3000	73	84	99	46	37	84	88	103	24	720	18,700
3750	84	85	108	47	38	85	88	112	24	800	20,500
5000	84	96	108	48	48	96	100	112	24	850	25,000
7500	94	102	122	54	48	102	100	126	24	1,620	46,900

[1] Weights, gallons of fluid, and dimensions are for reference only and not for construction. Please contact Cooper Power Systems for exact dimensions.
* Add 9" for Bay-O-Net fusing.

STANDARD FEATURES

Connections and Neutral Configurations

- Delta - Wye: Low voltage neutral shall be a fully insulated X0 bushing with removable ground strap.
- Grounded Wye-Wye: High voltage neutral shall be internally tied to the low voltage neutral and brought out as the H0X0 bushing in the secondary compartment with a removable ground strap.
- Delta-Delta: Transformer shall be provided without a neutral bushing.
- Wye-Wye: High voltage neutral shall be brought out as the H0 bushing in the primary compartment and the low voltage neutral shall be brought as the X0-bushing in the secondary compartment.
- Wye-Delta: High voltage neutral shall be brought out as the H0 bushing in the primary compartment. No ground strap shall be provided (line to line rated fusing is required).

High and Low Voltage Bushings

- 200 A bushing wells (15, 25, 35 kV)
- 200 A, 35 kV Large Interface
- 600 A (15, 25, 35 kV) Integral bushings (dead-front)
- Electrical-grade wet-process porcelain bushings (live-front)

Tank/Cabinet Features

- Bolted cover for tank access (45-1750 kVA)
- Welded cover with hand hole (2000-12,000 kVA)
- Three-point latching door for security
- Removable sill for easy installation
- Lifting lugs (4)
- Stainless steel cabinet hinges and mounting studs
- Steel divider between HV and LV compartment
- 20” Deep cabinet (45-1000 kVA)
- 24” Deep cabinet (1500-7500 kVA)
- 30” Deep cabinet (34.5/19.92 kV)
- Pentahead Captive Bolt
- Stainless steel 1-hole ground pads (45-500 kVA)
- Stainless steel 2-hole ground pads (750-10,000 kVA)
- Parking Stands

Valves/Plugs

- One-inch upper filling plug
- One-inch drain plug (45-500 kVA)
- One-inch combination drain valve with sampling device in low voltage compartment (750-12,000 kVA)
- Automatic pressure relief valve

Nameplate

- Laser-scribed anodized aluminum Nameplate

Figure 4.
Drain valve with sampler.

Figure 5.
Automatic Pressure relief valve.

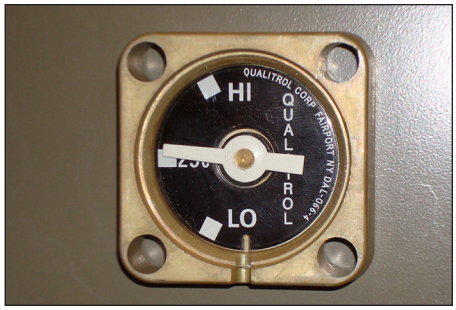


Figure 6.
Liquid level gauge.

OPTIONAL FEATURES

High and Low Voltage Bushings

- 200 A (15, 25 kV) bushing inserts
- 200 A (15, 25 kV) feed thru inserts
- 200 A (15, 25 kV) (HTN) bushing wells with removable studs
- High-voltage 600 A (15, 25, 35 kV) deadbreak one-piece bushings
- Low voltage 6-, 8-holes spade
- Low voltage 12-, 16-, 20-holes spade (750-2500 kVA)
- Low voltage bushing supports

Tank/Cabinet Features

- Stainless steel tank base and cabinet
- Stainless steel tank base, cabinet sides and sill
- 100% Stainless Steel Unit
- Service entrance (2 inch) in sill or cabinet side
- Touch-up paint (domestic)
- Copper Ground Bus Bar
- Kirk-Key Provisions
- Nitrogen Blanket
- Bus duct cutout

Special Designs

- Factory Mutual (FM)
- UL Classified
- Triplex
- High altitude
- K-Factors
- Step-up
- Critical Application
- Modulation Transformers
- Seismic Applications (including OSHPD)

Switches

- One, two, or three On/Off loadbreak switches
- 4-position loadbreak V-blade switch or T-blade switch
- Delta-wye switch
- 3-Position V-Blade selector switch
- 100 A, 150 A, 300 A Tap Changers
- Dual voltage switch

Gauges and Devices

- Liquid level gauge (Optional Contacts)
- Pressure vacuum gauge (Optional Contacts and Bleeder)
- Dial-type thermometer (Optional Alarm Contacts)
- Cover mounted pressure relief device
- Ground connectors
- Hexhead captive bolt
- Breaker mounting provisions

Overcurrent Protection

- Bay-O-Net fusing (Current sensing, dual sensing, dual element, high amperage overload)
- Bay-O-Net expulsion fuse in series with a partial range under-oil ELSP current limiting fuse (below 23 kV)
- Cartridge fusing in series with a partial range under-oil ELSP current limiting fuse (above 23 kV)
- MagneX™ Interrupter with ELSP current limiting fuse
- Vacuum Fault Interrupter (VFI)
- Visible Break Window
- Fuse/switch interlock

Valves/Plugs

- Drain/sampling valve in high-voltage compartment
- Globe type upper fill valve

Overvoltage Protection

- Distribution-, Intermediate-, or Station-class surge arresters
- Elbow arresters (for dead-front connections)

Metering/Fan/Control

- Full metering package
- Current Transformers (CTs)
- Metering Socket
- NEMA 4 Control Box (Optional Stainless Steel)
- NEMA 7 Control Box (Explosion Proof)
- Fan Packages

Testing

- Customer Test Witness
- Customer Final Inspection
- Zero Sequence Impedance Test
- Heat Run Test
- ANSI Impulse Test
- Audible Sound Level Test
- RIV (Corona) Test
- Dissolved Gas Analysis (DGA) Test
- 8- or 24-Hour Leak Test

Coatings (Paint)

- ANSI Bell Green
- ANSI #61 Light Gray
- ANSI #70 Sky Gray
- Special paint available per request

Nameplate

- Stainless Steel Nameplate

Decals and Labels

- High voltage warning signs
- Mr. Ouch
- Bi-lingual Warning
- DOE Compliant
- Customer stock code
- Customer stenciling
- Shock and Arc Flash Warning Decal
- Non-PCB Decal

CONSTRUCTION

Core

The three-legged, step-lap mitered core construction is manufactured using a high-quality cutting machine. For maximum efficiency, cores are precisely stacked, virtually eliminating gaps in the corner joints.

Five-legged wound core or shell-type triplex designs are used for wye-wye connected transformers, and other special transformer designs.

Cores are manufactured with precision cut, burr-free, grain-oriented silicon steel. Many grades of core steel are available for optimizing core loss efficiency.

Coils

Pad-mounted transformers feature a rectangular coil configuration with wire-wound, high-voltage primaries and sheet-wound secondaries. The design minimizes axial stress developed by short circuits and provides for magnetic balancing of tap connections.

Coils are wound using the highest quality winding machines providing exacting tension control and conductor placement for superior short-circuit strength and maximum efficiency.

Extra mechanical strength is provided by diamond pattern, epoxy-coated paper insulation, used throughout the coil, with additional epoxy at heavy stress points. The diamond pattern distribution of the epoxy and carefully arranged ducts, provide a network of passages through which cooling fluid can freely circulate.

Coil assemblies are heat-cured under calculated hydraulic pressure to ensure performance against short-circuit forces.

Core and Coil Assemblies

Pad-mounted transformer core and coil assemblies are braced with heavy steel ends to prevent the rectangular coil from distorting under short-circuit conditions. Plates are clamped in place using presses, and welded or bolted to form a solid core and coil assembly. Core and coil assemblies exceed ANSI/IEEE requirements for short-circuit performance. Due to the rigidity of the design, impedance shift after short-circuit is comparable to that of circular wound assemblies.

Tanks

Transformer tanks are designed for high strength and ease of handling, installation, and maintenance. Tanks are welded using precision-cut, hot rolled, pickled and oiled steel. They are sealed to protect the insulating fluid and other internal components.

Transformer tanks are pressure-tested to withstand 7 psig without permanent distortion and 15 psig without rupture.

Tank Finish

An advanced multi-stage finishing process exceeds IEEE Std C57.12.28™ standards. The eight-stage pre-treatment process assures coating adhesion and retards corrosion. It converts tank surfaces to a nonmetallic, water insoluble iron phosphate coating.

The paint method consists of two distinct layers of paint. The first is an epoxy primer (E-coat) layer which provides a barrier against moisture, salt and corrosives. The two-component urethane final coat seals and adds ultraviolet protection.

Vacuum Processing

Transformers are dried and filled with filtered insulating fluid under vacuum, while secondary windings are energized. Coils are heated to drive out moisture, ensuring maximum penetration of fluid into the coil insulation system.

Insulating Fluid

Transformers from Cooper Power Systems are available with electrical-grade mineral insulating oil or Envirotemp™ FR3™ fluid. The highly refined fluids are tested and degassed to assure a chemically inert product with minimal acid ions. Special additives minimize oxygen absorption and inhibit oxidation. To ensure high dielectric strength, the fluid is re-tested for dryness and dielectric strength, refiltered, heated, dried, and stored under vacuum before being added to the completed transformer.

Cooper Power Systems transformers filled with Envirotemp™ FR3™ fluid enjoy unique fire safety, environmental, electrical, and chemical advantages, including insulation life extending properties.

A bio-based, sustainable, natural ester dielectric coolant, Envirotemp™ FR3™ fluid quickly and thoroughly biodegrades in the environment and is non-toxic per acute aquatic and oral toxicity tests.

Building for Environmental and Economic Sustainability (BEES) total life cycle assessment software, utilized by the US Dept. of Commerce, reports its overall environmental performance impact score at 1/4th that reported for mineral oil. Envirotemp™ FR3™ fluid has also earned the EPA Environmental Technology Verification of transformer materials.

With a fire point of 360 °C, Envirotemp™ FR3™ fluid is FM Approved and Underwriters Laboratories Classified “Less-Flammable” per NEC Article 450-23, fitting the definition of a Listed Product per NEC.

Pad-Mounted VFI Transformer

Figure 7.
VFI transformer with visible break.

The VFI transformer combines a conventional distribution transformer from Cooper Power Systems with the proven Vacuum Fault Interrupter (VFI). This combination provides both voltage transformation and transformer over current protection in one space saving and money saving package. The pad-mounted VFI transformer protects the transformer and provides proper coordination with upstream protective devices. When a transformer fault or overload condition occurs, the VFI breaker trips and isolates the transformer.

The three-phase VFI breaker has independent single-phase initiation, but is three-phase mechanically gang-tripped. A trip signal on any phase will open all three phases. This feature eliminates single-phasing of three phase loads. It also enables the VFI breaker to be used as a three-phase load break switch.

Due to the resettable characteristics of the VFI breaker, restoring three-phase service is faster and easier.

The sealed visible break window and switch is an option that can be installed to provide visible break contact. This feature provides enhanced safety and allows an operator to see if the loadbreak switch contacts are in an open or closed position before performing maintenance.

Envirotran™ FM Approved Special Protection Transformer

The Envirotran™ transformer from Cooper Power Systems is FM Approved and suitable for indoor locations. Factory Mutual Research Corporation's (FMRC) approval of the Envirotran transformer line makes it easy to comply with and verify compliance with Section 450.23, 2008 NEC, Less-Flammable Liquid-Filled Transformer Requirements for both indoor and outdoor locations.

Envirotran FM Approved transformers offer the user the benefit of a transformer that can be easily specified to comply with NEC, and makes FM Safety Data Sheet compliance simpler, while also providing maximum safety and flexibility for both indoor and outdoor installations.

Because the "FM Approved" logo is readily visible on the transformer and its nameplate, NEC compliance is now easily verifiable by the inspector.

Envirotran FM Approved transformers are manufactured under strict compliance with FMRC Standard 3990 and are filled with FM Approved Envirotemp™ FR3™ fluid, a fire-resistant dielectric coolant.

SPECIAL APPLICATION TRANSFORMERS

Data Center Transformer

With focus rapidly shifting from simply maximizing uptime and supporting demand to improving energy utilization, the data center industry is continually looking for methods to increase its energy efficiency and reliability. Utilizing cutting edge technology, Cooper Power Systems Hardened Data Center (HDC) transformers are the solution. Designed with special attention given to surge protection, HDC liquid-filled transformers provide superior performance under the harshest electrical environments. Contrary to traditional dry-type units, HDC transformers provide unsurpassed reliability, overloadability, operational life, efficiency, thermal loading and installed footprint. These Cooper Power Systems units have reliably served more than 750 MW of critical data center capacity for a total of more than 4,000,000 hours without an hour of downtime.

The top priority in data center operations is uninterrupted service. Envirotran HDC transformers from Cooper Power Systems, having substantially higher levels of insulation, are less susceptible to voltage surges. Cooper Power Systems has experienced zero failures due to switching transients. The ANSI/IEEE standard impulse withstand ratings are higher for liquid-filled transformers, making them less susceptible to insulation failure. The Envirotran HDC transformer provides ultimate protection by increasing the BIL rating one level higher than standard liquid-filled transformer ratings. The cooling system of liquid-filled transformers provides better protection from severe overloads—overloads that can lead to significant loss of life or failure.

Data center design typically includes multiple layers of redundancy, ensuring maximum uptime for the critical IT load. When best in class transformer manufacturing lead times are typically weeks, not days, an unexpected transformer failure will adversely affect the facility's reliability and profitability. Therefore, the ability to determine the electrical and mechanical health of a transformer can reduce the probability of costly, unplanned downtime. Routine diagnostic tests, including key fluid properties and dissolved gas analysis (DGA), can help determine the health of a liquid-filled transformer. Although sampling is not required for safe operation, it will provide the user with valuable information, leading to scheduled repair or replacement, and minimizing the duration and expense of an outage. With a dry-type transformer, there is no reliable way to measure the health or likelihood of an impending failure.

Solar Transformer

As a result of the increasing number of states that are adopting aggressive Renewable & Alternative Energy Portfolio Standards, the solar energy market is growing—nearly doubling year over year. Cooper Power Systems, a key innovator and supplier in this expanding market, is proud to offer Envirotran transformers specifically designed for Solar Photovoltaic medium-voltage applications. Cooper Power Systems is working with top solar photovoltaic developers, integrators and inverter manufacturers to evolve the industry and change the way we distribute power.

In accordance with this progressive stance, every Cooper Power Systems Envirotran Solar transformer is filled with non-toxic, biodegradable Envirotemp™ FR3™ dielectric fluid, made from renewable seed oils. On top of its biodegradability, Envirotemp™ FR3™ fluid substantially extends the life of the transformer insulation, saving valuable resources. What better way to distribute green power than to use a green transformer. In fact, delaying conversion to Envirotran transformers places the burden of today's environmental issues onto tomorrow's generations. Cooper Power Systems can help you create a customized transformer, based on site specific characteristics including: temperature profile, site altitude, solar profile and required system life. Some of the benefits gained from this custom rating include:

- Reduction in core losses
- Improved payback on investment
- Reduction in footprint
- Improved fire safety
- Reduced environmental impact

For the solar photovoltaic industry, Cooper Power Systems is offering standard step up transformers and dual secondary designs.

Wind Transformer

Cooper Power Systems is offering custom designs for renewable energy power generation. Cooper Power Systems manufactures Generator Step-Up (GSU) transformers for installation at the base of every wind turbine. Additionally, grounding transformers are available for wind power generation.

DOE Efficiency

The United States Department of Energy (DOE) has mandated efficiency values for most liquid type, medium voltage transformers. As a result, all applicable Cooper Power Systems transformers are designed to meet or exceed the standard efficiency values per DOE 2010; Final Ruling, 10 CFR Part 431.

Underwriters Laboratories® (UL®) Listed and Labeled/ Classified

The Envirotran transformer from Cooper Power Systems can be specified as UL Listed & Labeled, and/ or UL Classified. Underwriters Laboratories (UL) listing is a verification of the design and construction of the transformer to the ANSI/IEEE standards. UL listing generally is the most efficient, cost-effective solution for complying with relevant state and local electrical codes. UL Combination Classification/Listing is another way in which to comply with Section 450.23, 2008 NEC requirements. This combines the UL listed transformer with a UL Classified Less-Flammable Liquid and complies with the use restrictions found within the liquid Classification.

K-Factor Transformer

With a drastic increase in the use of ferromagnetic devices, arcing devices, and electric power converters, higher frequency loads have increased significantly. This harmonic loading has the potential to generate higher heat levels within a transformer's windings and leads by as much as 300%. Harmonic loading has the potential to induce premature failure in standard-design distribution transformers.

In addition to standard UL "K-Factor" ratings, transformers can be designed to customer-provided specifications detailing precise loading scenarios. Onsite measurements of magnitude and frequency, alongside harmonic analysis of the connected load can be performed by Cooper Power Systems engineers or a third party consultant. These field measurements are used to determine exact customer needs and outline the transformer specifications.

Cooper Power Systems will design harmonic-resistant transformers that will be subjected to the unique harmonic loads. These units are designed to maintain normal temperature rise under harmonic, full-load conditions. Standard UL "K-Factor" designs can result in unnecessary costs when the "next-highest" K-Factor must be selected for a calculated design factor. To save the customer these unnecessary costs, Cooper Power Systems can design the transformer to the specific harmonic spectrum used in the application. K-factor transformers from Cooper Power Systems are filled with mineral oil or Envirotemp™ FR3™ fluid and enjoy the added benefits of dielectric cooling such as higher efficiencies than dry-type transformers.

Modulation Transformer

Bundled with an Outboard Modulation Unit (OMU) and a Control and Receiving Unit (CRU), a Modulation Transformer Unit (MTU) is designed to remotely achieve two way communication.

The use of an MTU reduces travel time and expense versus traditional meter reading performed by high voltage electricians. Additionally, with MTU it is possible to manage and evaluate energy consumption data, providing reduced metering costs and fewer tenant complaints.

An MTU utilizes existing utility infrastructure, therefore eliminating the need to engineer and construct a dedicated communication network.

Figure 8.
Modular transformer.

Inverter/Rectifier Bridge

Cooper Power Systems complements its range of applications for transformers by offering dual winding designs. These designs are intended for connection to 12-pulse rectifier bridges.

PRODUCT ATTRIBUTES

To set us apart from other transformer manufactures, Cooper Power Systems includes the following guarantees with every three-phase pad-mounted transformer.

Engineered to Order (ETO)

Providing the customer with a well developed, cost-effective solution is the number one priority at Cooper Power Systems. Using customer specifications, Cooper Power Systems will work with the customer from the beginning to the end to develop a solution to fit their needs. Whether it is application specific, site specific, or a uniquely specified unit, Cooper Power Systems will provide transformers with the best in class value and performance, saving the customer time and money.

Made in the U.S.A.

Cooper Power Systems three-phase pad-mounted transformers are produced right here in the United States of America. Our manufacturing facilities are positioned strategically for rapid shipment of products. Furthermore, should the need arise, Cooper Power Systems has a broad network of authorized service repair shops throughout the United States.

Superior Paint Performance

Protecting transformers from nature's elements worldwide, Cooper Power Systems E-coat system provides unrivaled transformer paint life, and exceeds ANSI standards C57.12.28 and C57.12.29. In addition to the outside of the unit, each transformer receives a gray E-coat covering in the interior of the tank and cabinet, providing superior rust resistance and greater visibility during service.

If the wide range of standard paint selections does not suit the customer's needs, Cooper Power Systems will customize the paint color to meet their requirements.

Rectangular Coil Design

Cooper Power Systems utilizes a rectangular coil design. This winding technique results in a smaller overall unit footprint as well as reducing the transformer weight. The smaller unit size does not hinder the transformer performance in the least. Units have proven short circuit withstand capabilities up to 12 MVA.

TESTING

Cooper Power Systems performs routing testing on each transformer manufactured including the following tests:

- Insulation Power Factor: This test verifies that vacuum processing has thoroughly dried the insulation system to required limits.
- Ratio, Polarity, and Phase Relation: Assures correct winding ratios and tap voltages; checks insulation of HV and LV circuits. Checks entire insulation system to verify all live-to-ground clearances.
- Resistance: This test verifies the integrity of internal high-voltage and low-voltage connections; provides data for loss upgrade calculations.
- Applied Potential: Applied to both high-voltage and low-voltage windings, this test stresses the entire insulation system to verify all live-to-ground clearances.
- Induced Potential: 3.46 times normal plus 1000 volts for reduced neutral designs.
- Loss Test: These design verification tests are conducted to assure that guaranteed loss values are met and that test values are within design tolerances. Tests include no-load loss and excitation current along with impedance voltage and load loss.
- Leak Test: Pressurizing the tank to 7 psig assures a complete seal, with no weld or gasket leaks, to eliminate the possibility of moisture infiltration or fluid oxidation.

Design Performance Tests

The design performance tests include the following:

- Temperature Rise: Our automated heat run facility ensures that any design changes meet ANSI/IEEE temperature rise criteria.
- Audible Sound Level: Ensures compliance with NEMA requirements.
- Lightning Impulse: To assure superior dielectric performance, this test consists of one reduced wave, two chopped waves and one full wave in sequence, precisely simulating the harshest conditions.

THOMAS A EDISON RESEARCH AND TEST FACILITY

We are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality transformer for the lowest cost. Cooper Power Systems Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing. We have invested millions of dollars in the Thomas A. Edison Technical Center, our premier research facility in Franksville, Wisconsin affirming our dedication to introducing new innovations and technologies to the transformer industry. Headquarters for the Systems Engineering group of Cooper Power Systems, this research facility is fully available for use by our customers to utilize our advanced electrical and chemical testing labs.

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COOPER Power Systems

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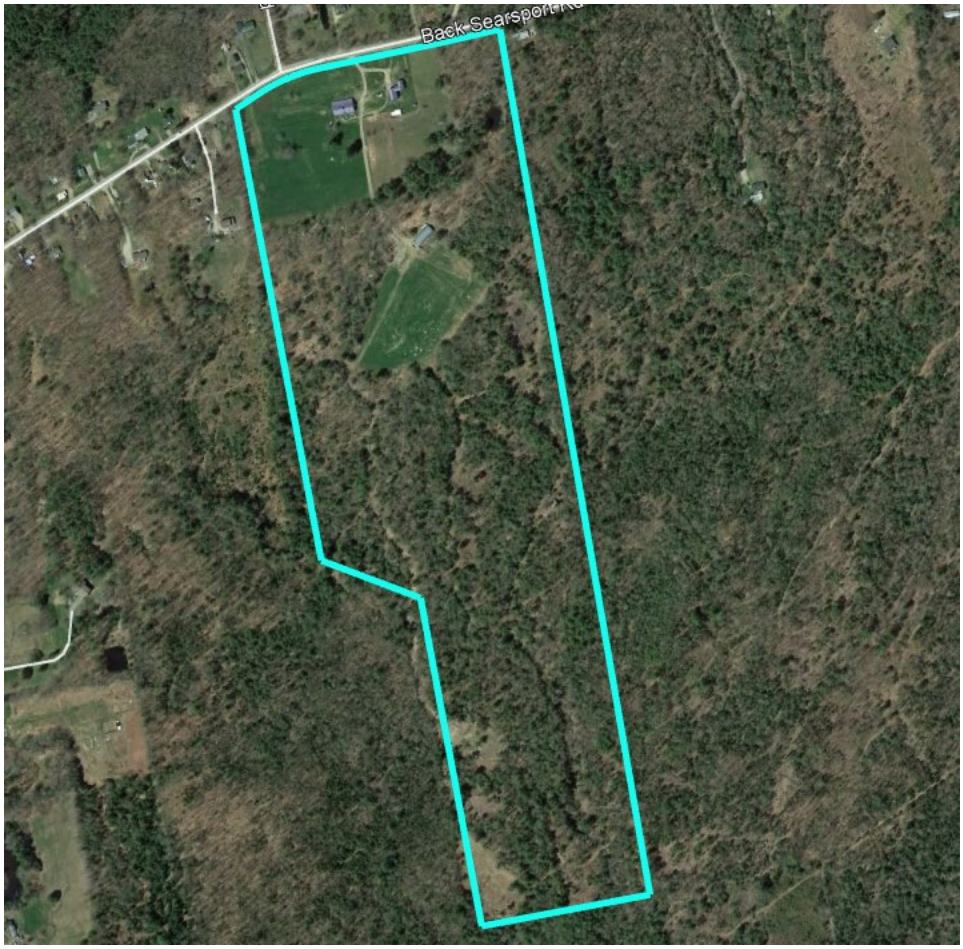
ATTACHMENT 13: EMERGENCY RESPONSE PLAN



Shining Solar Partners, LLC

EMERGENCY RESPONSE PLAN

March 2021
EDF Renewables Distributed Solutions

Contents

1. Purpose and Project Information

1.1. Purpose

The purpose of the Emergency Response Plan ("ERP") is to familiarize the local fire response to the solar equipment and system operation and assist responders to feel confident and operate safely when responding to an emergency event. This ERP provides a high-level system description and identifies actions and procedures to safely and effectively respond in the unlikely event of an emergency. The actions and procedures identified in the ERP are tailored to the types of emergencies more plausible to occur on the Project site hosting a solar photovoltaic electrical generating facility ("Solar Facility").

This ERP supports the local fire department in preparation and planning for the unlikely event of a fire or extreme weather emergency. It should be noted that a regular Operation and Maintenance (O&M) program is applied to the project during operation to assist in preventing system fires due to equipment failure or extreme conditions.

1.2. Project Description

Shining Solar Partners, LLC ("Project") is a 4.99-megawatt (MW) solar photovoltaic (PV) facility to be located on Back Searsport Road, Belfast, Maine. The Project site is currently made up of open field and wooded area. The Project will occupy approximately 19 acres of the 80.6-acre property. The Project site is listed as Parcel 27010_007-002.

The 911 Response address for the project site is 51 Back Searsport Road, Belfast, Maine 04915.

Interconnection to the electric distribution grid will occur through a direct line tap onto Central Maine Power Grid distribution feeder located on Back Searsport Road, served from the Belfast 115kv Substation.

The Project will consist of approximately 16,458 Canadian Solar PV modules (solar modules). The modules will be south facing, fixed tilt. These ground-mounted solar modules will have a height of approximately 8-10 feet and will be arranged in rows with approximately 8-9 feet of space between the rows. There will be two Power Electronics HEMK central inverters ((1) FS2125K and (1) FS3190K). Note that Shining Solar Partners, LLC reserves the right to replace specific modules, inverters, or other solar equipment with comparable Tier 1 equipment due to availability, price, and technological advancements. Electrical collector lines run between the inverters and two medium voltage transformers and associated Solar Facility disconnects. The medium voltage transformers "step up" the low voltage from the inverters to the interconnecting voltage on the Central Maine Power distribution line of 12.47 kV. The Project includes expanding and existing road to access the two equipment pads and new utility poles. There will be a minimum 7-foot fixed-knot agricultural style fence around the perimeter of the Project to provide security and safety.

1.3. Project Activities During Operational Term

Once constructed, the Solar Facility is passive equipment and does not require day to day personnel for operation. Regular inspections and maintenance are conducted, but generally no personnel are on the Project site. This ERP is drafted for the post construction operational term of the Project.

1.3.1. Site Access

The Project site is accessed via an expanded gravel driveway on Back Searsport Road in Belfast. The access is located about ½ mile from Swan Lake Ave (Rt 141).

Figure 1 – Shining Solar Partners Solar Farm General Location

The access road provides emergency vehicles and equipment access to the perimeter of the Solar Facilities as well as the two inverter and transformer equipment pads located at the turn around point in the access drive.

Access to all areas of the Project is provided via access aisles between individual rows of the PV solar arrays. Access aisles are not suitable for all emergency services vehicles. However, access aisles do provide emergency responders with access routes to all areas of the Project site via walking or by use of 4x4 vehicles.

1.3.2. Project Site Security

The Project site itself is surrounded by a minimum 7-foot fence with 6” x 6” square mesh to allow for passage of small wildlife. [Exact dimensions to be confirmed after construction.] Additionally, the Project Site will include no trespass signage and cautionary signage such as “Danger High Voltage” which will be located near electrical hazards and on the project fence, as required by relevant codes.

The Project gate is locked and a Knoxbox will be installed on site to provide rapid access to keys needed to enter the Project gate if necessary, in case of emergency. The Belfast Fire Department will have access to the project and isolation switch by accessing the on-site Knoxbox.

Figure 2 - Knoxbox®

Knoxbox is a secure way to manage key access to the project site, is UL 1037 listed and enables first responders’ rapid access to the site and, if necessary, to the system isolation switch.

1.4. Emergency Response Jurisdiction

The Belfast Fire Department (BFD) has jurisdiction over the response to any emergency conditions that may occur on the Project site. The BFD is located at 273 Main Street Belfast, ME 04915 just 3.2 miles from the Project site. BFD provides the citizens of its fire district with fire suppression, prevention, extrication, emergency medical services and rescue.

2. Emergency Management and Points of Contact

In an emergency that involves immediate threat to human injury, such as fire or a medical emergency, initial contact should be to 911 for emergency response. Off-site emergency response officials will make the determination for required support. For all other emergencies not involving immediate threat to human injury, contact should be made as specified according to the nature of the emergency. For all emergencies, the O&M Contractor and the project owner, Shining Solar Partners, LLC should be notified.

Project Contact

As of the publication of this plan, EDF Renewables Distributed Solutions, Inc. ("EDFR") will serve as the operations and maintenance contractor for the Project (the "O&M Contractor"). EDFR and designated staff will serve as primary point of contact for the Project. Additionally, Shining Solar Partners, LLC will be notified of any emergency that takes place on the Project Site. See Appendix A for the list of contacts. This list will be updated as needed.

3. Fire Prevention and Response Plan

3.1. Immediate Response for All Fires – Dial 911

Upon detection of any fire, regardless of size, the initial observer, whether on site or remotely detecting, shall **immediately** dial 911 for emergency response. If the initial observer is on site, the call should be made from a safe location.

3.2. System Isolation

Once emergency responders arrive on site in response to a 911 call if the system is found to be experiencing a fire or other unsafe operating condition, the system can be isolated from the local utility grid. This can be accomplished by using a key secured within the on-site Knoxbox, to access and open the Utility or Project Recloser (Gang Operated Air Break - GOAB) switch.

Depending on the nature of the emergency, the Belfast Fire Department may isolate the Solar Facility from the utility distribution system by opening the project recloser located inside the project fence.

3.3. Contact O&M Provider and Project Owner

Contact the local utility and notify them of the emergency conditions. Depending on the nature of the emergency, the utility can isolate the PV system from the local distribution system by opening the recloser located on a utility pole at the Project.

Contact the O&M provider and or project owner and notify them of the emergency conditions. Depending on the nature of the emergency conditions, they may isolate the PV system from the local distribution system by opening the *project recloser* located inside the Project fence.

3.4. Fire Prevention

3.4.1. Solar Facility Inspection, Monitoring, and Maintenance

The Project's Solar Facility will be regularly inspected and maintained to reduce the risk of faults or malfunctions that could result in ignition of a fire. Additionally, the Solar Facility operations will be monitored remotely for faults or malfunctions. Most faults and malfunctions will be resolved remotely. Technicians will respond to alarms, faults, or malfunctions that cannot be resolved remotely. A Solar Facility Operations Plan is attached as Appendix B.

3.4.2. Reduction of Risk from Vegetative Fires

In order to reduce the chance of ignition of vegetative material under and around the Solar Facility and the chances of fire spreading within the Project Site, the Project Site will be largely free of heavy combustible vegetation, such as trees or shrubs, with only a ground cover of maintained native vegetation adjacent and beneath the Solar Facility. Scheduled mowing of the ground cover will prevent heavy combustible vegetation from growing and prevent vegetative fuel loading over life of the Project.

3.4.3. Reduction of Risk of Ignition from Onsite Activities

All personnel engaged in activities on the Project shall make themselves aware of the Fire Danger Report as published by the Maine Forestry Service or other appropriate service prior to conducting activities on the Project Site. Personnel shall factor in the fire danger level into their planned activities and take appropriate precautions.

3.5. Conditions Associated with PV Solar Arrays

PV systems convert light into electricity. The unique PV system characteristic is that even when isolated from the utility distribution system, the solar array is still generating electricity and capable of producing up to 1,500 Volts. When there is solar irradiance or other non-sunlight sources of light (e.g. mobile lighting systems or moonlight) falling on the solar panels they are generating electricity and can pose a risk of electric shock to a first responder. Below is a summary of hazards associated with firefighting activities in PV solar arrays:

- Shock hazard due to the presence of water and PV power during suppression activities;
- Outdoor related electrical enclosures may not resist water intrusion from the high-pressure stream of a fire hose;
- PV panels damaged in the fire may not resist water intrusion;
- Damaged conductors may not resist water intrusion;
- Shock hazard due to direct contact with energized components;
- No means of complete electrical disconnect;

3.6. Fire Department Response and Preparedness

On all fire calls, the Belfast Fire Department will respond with equipment and resources they deem appropriate and necessary.

Shining Solar Partners, LLC will provide the following resources to the Belfast Fire Department to assist with emergency response planning:

- This Emergency Response Plan
- Project design and as-built plans (digital and/or hard copy, as requested);
- Solar Facility shut-off and disconnect training;
- Key to the Knoxbox which allows access to operate the Gang Operated Air Break Switch and the site gate lock;
- Updated as-built plans once the Solar Project has reached commercial operation;
- Contact information for O&M Contractor (Appendix A.)

4. Medical Emergency

Dial 911 for emergency response. Off-site emergency response officials will make the determination for required support.

Identify the person making the request, the nature of the emergency, and location of the emergency.

5. High Damage Weather Event

Depending on the available forecasting, prior to a weather event with high probability for damaging impacts on the Solar Facility, the O&M Contractor will place response staff on alert. Personnel should not be on the Project site during a potentially high damage weather event. Following a high damage weather event, the O&M Contractor will verify the functionality of the Solar Project and make any required repairs in a timely fashion, dependent on the nature of the repair required, to avoid any hazardous malfunction of the Project.

Appendix A

Emergency Contact List

Project Owner | Shining Solar Partners, LLC
EDF Renewables Distributed Solutions, Inc., manager of Shining Solar Partners, LLC

Contact Name to be provided prior to construction

O&M Contractor | EDF Renewables Distributed Solutions, Inc.

Dave Holland, Director, Technology Operations
6940 Columbia Gateway Drive, Suite 400
Columbia, MD 21046
(p) (443) 359-6609
(e) dave.holland@edf-re.com

Utility Contact | Central Maine Power

911 and they will contact Central Maine Power
800.696.1000 (to report an electricity emergency)

Appendix B

Solar Facility Operations Plan (Frequency and Location)

Item	Operations Description	Frequency / Location
A.	**Solar Facility – Monitoring and Diagnostics**	
1.	Monitoring of the Solar Facility from a remote site.	Daily – Off-Site
2.	Remote troubleshooting of Solar Facility faults.	Daily as needed – Off-Site
3.	Troubleshooting of Solar Facility faults, with on-site response when the troubleshooting cannot be accomplished remotely.	As needed – Off-Site and On-Site, as needed by 1-2 technicians
B.	**Solar Facility - Preventive Maintenance**	
1.	Visually inspect entire Solar Facility: Record, correct, identify potential problems.	At least annually– On-Site by 1-2 technicians
2.	Address (repair, adjust) all problems and faults discovered by inspection.	As needed (at least annually) – On-Site by 1-2 technicians, plus, if required representatives of various component manufacturers
3.	Receipt and inventory of spare parts for Solar Facility.	Annually or as needed (not to exceed once a calendar quarter) – On-Site by 1-2 technicians, plus delivery personnel
4.	Erosion and sediment control, site maintenance (roads, fencing, etc.), and module washing.	Annually - On-Site by one to two technicians and maintenance subcontractor
5.	Vegetation abatement	On-Site by vegetation maintenance subcontractor crew (up to 10 individuals, mowing machines, and related).

C.	**Solar Facility – Alarm/Fault Response**	
1.	Respond quickly on-site to Solar Facility faults and alarms that cannot be resolved remotely. See A.3.	As needed – On-Site by 1-2 technicians
2.	Repair and replacement of Solar Facility components to address and resolve fault.	As needed – On-Site by 1-2 technicians, plus, if required, representatives of component manufacturers, and subcontractors.
D.	**Utility – Shutdowns; Maintenance**	
1.	Coordinate with the Utility to safely turn off the Solar Facility for Utility provided maintenance, repair and or replacement of utility equipment. Safely reactivate the Solar Facility after Utility has completed work and confirmed the Solar Facility can be reactivated.	As needed – On-Site by 1-2 technicians. In addition, Utility crews may be present on site and adjacent to site in utility easement areas.

ATTACHMENT 14: DECOMMISSIONING PLAN AND DRAFT FINANCIAL ASSURANCE

1.0 DECOMMISSIONING PLAN

The proposed Project is a 5.0 Megawatt-alternating current solar generation facility located in Belfast, Maine. The Project parcel is approximately 80.6-acres (Belfast Tax Map 7, Lot 2), and total area of the proposed Project is approximately 19-acres. The anticipated life expectancy of the Project equipment is 25 to 30 years. Decommissioning of the system will occur within 120 days following the 25-year end of lease term or if the Project fails to operate for 12 consecutive months[1]. At the time of decommissioning, the Applicant or its successor will be responsible for the removal, recycling, and disposal of the solar panels, panel racks, inverters, fencing, and transformers.

1.1 PROJECT DECOMMISSIONING

The Project decommissioning process will return the Project area to open land that, over time, is expected to return to its current state. The Applicant will be responsible for all decommissioning costs. The Applicant will also obtain any additional permits required for the decommissioning process, remove and dispose of all Project infrastructure to a depth of 36 inches[2], and revegetate in accordance with permits. All waste from dismantling the array will be transported by licensed transporters and recycled or disposed of in accordance with all local, state, and federal rules and regulations. Certain improvements, including the access road may remain on-site.

For the purposes of decommissioning, the Project can be separated into the following major components including:

- Ground-mounted solar arrays, with approximately 16,548 solar modules, associated racking, two central inverters, and two transformers;
- Project POI consisting of five overhead utility poles, switchgear, and associated overhead electrical collection line;
- Buried electrical collection line;
- Perimeter fencing; and
- Site restoration, including the solar array area.

Of the components listed above, the following items will be recycled: inverters, transformers, switchgear, solar modules, racks, fencing, utility poles, and collection lines. Key assumptions include that the previously mentioned materials are all 100% recyclable; therefore, the primary cost of decommissioning is the labor to dismantle and load, as well as the cost of transport. The concrete pads will be broken up at the site and taken to an Aggregate Base Course recycling facility where the material will be accepted without charge. All other recyclables will be taken to an appropriate facility, e.g., Belfast Transfer Station.

[1] Per Chapter 102-1098(k)(1) of the Belfast Zoning Ordinance.
[2] Project infrastructure located greater than 36 inches below grade will be abandoned in place.

1.2 ESTIMATED COST AND FINANCIAL ASSURANCE

1.2.1 Cost Estimate

The estimated cost at current rates for decommissioning the Project is approximately $155,936 (Table 1). Estimates are based on the collective experience of developing, operating, and providing decommissioning plans for prior EDF solar projects.

Table 1. Opinion of Potential Decommissioning Costs

Project Component / Task	Estimated Decommissioning Cost
1. Civil Infrastructure Removal (Fencing, Equipment Pads)	$11,626
2. Module Racking System	$34,900
3. Electrical System Removal	$52,738
4. Site Restoration	$6,685
5. Disposal	$31,987
6. Project Management	$18,000
Total Cost	**$155,936**
150% of Total Cost	**$233,904**

1.2.2 Financial Assurance

The Applicant will demonstrate financial assurance (150% of the estimated total decommissioning cost[3], see Table 1) to the City of Belfast through a parental guaranty, performance bond, surety bond, or letter of credit prior to the start of construction. Financial assurance will be updated based on the most recent estimates and will remain in place until the decommissioning work has been completed. To assess any changes in the estimated net cost of decommissioning, the Applicant will reassess the decommissioning costs every ten years after commencement of operations, and after decommissioning of any components, unless waived by the City of Belfast. The draft decommissioning security is included as Appendix A.

[3] Per Chapter 102-1100(k)(2) of the Belfast Zoning Ordinance.

Appendix A DRAFT DECOMMISSIONIG FINANCIAL ASSSURANCE

GUARANTY

This GUARANTY (the "Guaranty") is made as of [***Date***] by EDF Renewables Distributed Solutions, Inc. ("**Guarantor**"), for the benefit of **City of Belfast, Maine** (the "**Beneficiary**"). Guarantor and the Beneficiary are sometimes collectively referred to herein as the "**Parties**."

RECITALS

A. The Beneficiary has issued to Shining Solar Partners, LLC, a subsidiary of Guarantor (the "**Company**"), a [***Permit title and Number, as applicable***] (the "**Permit**") to develop, construct, and operate a solar, photovoltaic electricity generation system ("**System**") to be located on the property described as 51 Back Searsport Rd, Belfast, ME 04915 (the "**Site"**).

B. The Beneficiary requires, as a condition of Permit approval, that Company provide and maintain financial assurance in the form of this Guaranty to support the obligations of the Company pursuant to the decommissioning plan for the System submitted to the Beneficiary (the "**Decommissioning Plan**"), a copy of which is attached hereto as **Exhibit A**.

C. Guarantor is willing to issue this Guaranty on the terms and conditions set forth herein.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is hereby agreed as follows:

SECTION 1. Definitions.

1.1 Capitalized terms used and not otherwise defined herein shall have the meanings ascribed to such terms in the Decommissioning Plan.

1.2 As used in this Guaranty, the following terms shall have the following meanings:

"**Business Day**" means a day of the year on which banks are not required or authorized by law to close in the State of New York.

"**Guaranteed Obligations**" means any and all of the obligations of the Company under the Decommissioning Plan, subject to the limitations set forth in the Decommissioning Plan and herein.

1.3 In this Guaranty:

(a) unless otherwise specified, references to Sections and clauses are references to Sections and clauses of this Guaranty; and

(b) except as otherwise specifically provided herein, including without limitation in this Section 1.3(b), references to any document or agreement, including this Guaranty, shall be deemed to include references to such document or agreement as

amended, supplemented or replaced and in effect from time to time in accordance with its terms and subject to compliance with the requirements set forth therein;

1.4 The captions and section headings appearing herein are included solely for convenience of reference and are not intended to affect the interpretation of any provision of this Guaranty.

SECTION 2. Guaranty. Subject to the provisions hereof, Guarantor hereby unconditionally and irrevocably guarantees, to the Beneficiary, as primary obligor and not as surety, the full and prompt payment when due of the Guaranteed Obligations. To the extent that Company shall fail to pay any Guaranteed Obligations, Guarantor shall promptly pay to Beneficiary the amount due.

SECTION 3. Limitation on Guarantor's Liability. Guarantor's liability hereunder shall be and is specifically limited to payments expressly required to be made in accordance with the Decommissioning Plan, and in no event shall Guarantor be subject hereunder to any indirect, special, incidental, exemplary or consequential damages, losses, or liability of any kind whatsoever, including loss of utilization or use, loss of opportunity, loss of profits, business interruption or expected income, or any other damages, costs or attorneys' fees. The foregoing limitation shall apply for any and all manners of liability including liabilities based in contract, tort, statutory, regulatory, environmental or any basis in any law or equity. Notwithstanding anything herein to the contrary, the maximum aggregate liability of Guarantor in respect of the Guaranteed Obligations is limited to and shall not exceed [ ] Dollars ($[ ]) (it being understood that any payment by Guarantor or Company of any portion of the Guaranteed Obligations shall limit and reduce Guarantor's maximum aggregate liability hereunder on a dollar-for-dollar basis). Except as specifically provided in this Guaranty, Beneficiary shall have no claim, remedy or right to proceed against Guarantor or against any past, present or future stockholder, partner, member, director or officer thereof for the payment of any of the Guaranteed Obligations, as the case may be, or any claim arising out of any agreement, certificate, representation, covenant or warranty made by Company in the Decommissioning Plan.

SECTION 4. Payment Demand. If Company fails or refuses to pay any Guaranteed Obligations when due and owing, Beneficiary shall notify Company in writing of the manner in which Company has failed to pay and demand that payment be made by Company. If Company's failure or refusal to pay continues for a period of three (3) Business Days after the date of Beneficiary's notice to Company, and Beneficiary has elected to exercise its rights under this Guaranty, Beneficiary shall make a demand upon Guarantor (hereinafter referred to as a "Payment Demand"). A Payment Demand shall be in writing and shall reasonably and briefly specify in what manner and what amount Company has failed to pay and an explanation of why such payment is due and owing, with a specific statement that Beneficiary is calling upon Guarantor to pay under this Guaranty. A Payment Demand satisfying the foregoing requirements shall be deemed sufficient notice to Guarantor that it must pay such Guaranteed Obligations and such payment shall be made to Beneficiary by Guarantor within three (3) Business Days after receipt of such Payment Demand. A single written Payment Demand shall be effective as to any specific default under the Decommissioning Plan that is susceptible of being cured by the payment of money during the continuance of such default and additional written demands concerning such default shall not be required until such default is cured.

SECTION 5. Nature of Guaranty. This Guaranty constitutes a guaranty of payment when due and not of collection, and Guarantor specifically agrees, subject to Section 4 above, that it shall not be necessary or required that the Beneficiary exercise any right, assert any claim or demand or enforce any remedy whatsoever against Company, either before or as a condition to the obligations of Guarantor hereunder; *provided* that Guarantor shall have the benefit of and the right to assert any defenses against the claims of the Beneficiary which are available to Company, and which would have also been available to Guarantor if Guarantor had been in the same contractual position as Company under the Decommissioning Plan, other than (i) defenses arising from the insolvency, reorganization or bankruptcy of Company, (ii) defenses expressly waived in this Guaranty, and (iii) defenses previously asserted by Company against such claims to the extent such defenses have been finally resolved in the Beneficiary's favor by a court of last resort or by arbitration conducted pursuant to the Decommissioning Plan. For the avoidance of doubt, a payment shall be due for purposes of this Guaranty only when and if a payment is due and payable by Company to the Beneficiary under the terms and conditions of the Decommissioning Plan.

SECTION 6. Unconditional Obligations. An action may be brought and prosecuted against Guarantor to enforce this Guaranty, irrespective of whether any action is brought against Company, or whether Company is joined in any such action or actions. The liability of Guarantor under this Guaranty shall be continuing, irrevocable, absolute and unconditional irrespective of, and Guarantor hereby irrevocably waives, any circumstance which constitutes a legal or equitable discharge of a guarantor or surety other than satisfaction in full of the Guaranteed Obligations. This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Guaranteed Obligations is rescinded or must otherwise be returned by the Beneficiary upon the insolvency, bankruptcy or reorganization of Company or otherwise, all as though such payment had not been made and, in such event, Guarantor will pay to the Beneficiary upon demand an amount equal to any such payment that has been rescinded or returned.

SECTION 7. Waiver. Except as set forth in this Guaranty, Guarantor hereby unconditionally waives (a) presentment, demand of payment, protest for nonpayment or dishonor, diligence, notice of acceptance and any other notice with respect to any of the Guaranteed Obligations by the Beneficiary, and (b) any requirement that the Beneficiary enforce or exhaust any right or remedy or take any action against Company.

SECTION 8. Subrogation; Setoffs and Counterclaims. Guarantor will not exercise any rights which it may acquire by way of rights of subrogation under this Guaranty, by any payment made hereunder or otherwise, until the prior payment, in full, of all Guaranteed Obligations (or such lesser amount as is required to be paid by Guarantor hereunder) and other amounts owing by Guarantor hereunder; provided, however, that if (a) Guarantor has made payment to Beneficiary of all or any part of the Guaranteed Obligations, and (b) all Guaranteed Obligations and other amounts owing by Guarantor hereunder have been paid in full, Beneficiary agrees that, at Guarantor's request, Beneficiary will execute and deliver to Guarantor appropriate documents (without recourse and without representation or warranty) necessary to evidence the transfer by subrogation to Guarantor of an interest in the Guaranteed Obligations resulting from such payment by Guarantor. So long as any Guaranteed Obligations remain outstanding, Guarantor shall refrain from taking any action or commencing any proceeding the Company (or its successors or assigns, whether in connection with a bankruptcy proceeding or otherwise) to recover any

amounts in the respect of payments made under this Guaranty to any Beneficiary. Without limiting Guarantor's own defenses and rights hereunder, Guarantor reserves to itself all rights, set-offs, counterclaims and other defenses to which Company or any other affiliate of Guarantor is or may be entitled to arising from or out of the Decommissioning Plan or otherwise, except for defenses arising out of the bankruptcy, insolvency, dissolution or liquidation of Company.

SECTION 9. Representations and Warranties. Guarantor hereby represents and warrants, as follows:

(a) Guarantor is a corporation duly organized and validly existing under the laws of Delaware.

(b) The execution, delivery and performance by Guarantor of this Guaranty are within Guarantor's corporate powers, have been duly authorized by all necessary corporate action, and do not contravene (i) Guarantor's organizational documents, (ii) any contractual restriction binding on or affecting Guarantor or (iii) applicable law.

(c) No authorization or approval by, and no notice to or filing with, any governmental authority or regulatory body or any other third party is required for the due execution, delivery and performance by Guarantor of this Guaranty.

(d) There is no action, suit or proceeding now pending or, to Guarantor's knowledge, threatened against Guarantor before any court, administrative body or arbitral tribunal that could be reasonably likely to have a material adverse effect on Guarantor's ability to perform its obligations under this Guaranty.

SECTION 10. Governing Law. This Guaranty shall be governed by and interpreted in all respects in accordance with the laws of the State of New York, United States of America, without reference to conflicts of laws (other than Section 5-1401 and Section 5-1402 of the New York General Obligations Law).

SECTION 11. Dispute Resolution.

(a) Meeting. In the event a dispute, controversy, or claim arises between Guarantor and Beneficiary relating to this Guaranty, the aggrieved party shall promptly provide notice of the dispute to the other party after such dispute arises. A meeting shall be held within fifteen (15) days between the parties, attended by representatives of the parties with decision-making authority regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute.

(b) Consent to Jurisdiction. Each of the Parties hereto hereby agrees that any legal action or proceeding arising out of or relating to this Guaranty, or for recognition or enforcement of any judgment shall be brought in or removed to the federal or state courts located in Portland, Maine to the exclusion of any and all other courts, forums or venue. By execution and delivery of this Guaranty, the Parties hereto accept, for themselves and in respect of their property, generally and unconditionally, the exclusive jurisdiction of the aforesaid courts. Each Party hereto hereby irrevocably consents to the service of process out of any of the aforementioned courts in any manner permitted by law. Each Party hereto

hereby waives any right to stay or dismiss any action or proceeding under or in connection with this Guaranty brought before the foregoing courts on the basis of forum non-conveniens.

SECTION 12. Waiver of Jury Trial. EACH OF THE PARTIES KNOWINGLY, VOLUNTARILY, INTENTIONALLY AND IRREVOCABLY WAIVES ANY RIGHT IT MAY NOW OR HEREAFTER HAVE TO A TRIAL BY JURY IN ANY LITIGATION BASED HEREIN, OR ARISING OUT OF, UNDER, OR IN RESPECT OF THIS GUARANTY, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER ORAL OR WRITTEN) OR ACTIONS OF THE BENEFICIARY OR GUARANTOR.

SECTION 13. Amendments, Etc. No amendment or waiver of any provision of this Guaranty, and no consent to any departure by Guarantor or the Beneficiary herefrom, shall in any event be effective unless the same shall be in writing and signed by the Beneficiary and Guarantor and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given.

SECTION 14. Addresses for Notices. All notices and other communications provided for hereunder shall be in writing (including telecopier) and mailed, telecopied or delivered to each of the Parties as follows: if to Guarantor to: EDF Renewables Distributed Solutions, Inc., 5 Commerce Avenue, West Lebanon, NH 03784, Attention: Senior Vice President and General Counsel, Telephone: (802) 295-4415, and if to the Beneficiary to:

[_____]
[_____]
[_____]

All such notices and other communications shall be effective (a) if mailed, five (5) Business Days after deposit in the mails, postage prepaid, certified or registered, return receipt requested, (b) if telecopied, when sent and receipt has been confirmed by telephone (c) if delivered by hand or by courier, when signed for by or on behalf of the relevant Party, and (d) if sent by overnight delivery service (e.g., Federal Express or DHL), on the next Business Day.

SECTION 15. No Waiver Remedies. No failure on the part of the Beneficiary or Guarantor to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

SECTION 16. Severability. In case any one or more of the provisions contained in this Guaranty should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

SECTION 17. Counterparts. This Guaranty may be executed in one or more counterparts. Delivery of an executed signature page of this Guaranty by facsimile transmission shall be effective as delivery of a manually executed counterpart thereof.

SECTION 18. Entire Agreement. This Guaranty and any agreement, document or instrument referred to herein integrate all the terms and conditions mentioned herein or incidental hereto and supersede all oral negotiations and prior writings in respect of the subject matter hereof.

SECTION 19. Continuing Guaranty. Notwithstanding anything to the contrary in the Decommissioning Plan, this Guaranty is a continuing guaranty and shall remain in full force and effect until the earlier to occur of (a) the [ ] anniversary of the Effective Date and (b) payment in full of the Guaranteed Obligations.

SECTION 20. Successors and Assigns. This Guaranty shall be binding upon the Parties and their successors and assigns and inure to the benefit of and be enforceable by the Parties and their successors and assigns.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, Guarantor and the Beneficiary have caused this Guaranty to be duly executed and delivered by their respective officers thereunto duly authorized as of the date first above written.

EDF RENEWABLES DISTRIBUTED SOLUTIONS, INC.

By:_____
Name:
Title:

Accepted and agreed to
as of the date first
above written:
[_____]

By:_____
Name:
Title: