



To: Essex A North Lot Solar, LLC

Date: June 12, 2024

Memorandum

Project #: 58972.01

From: Stephanie Wyman, PE; Civil Engineer

Re: Section 248 Primary Agricultural Soils Assessment

Introduction

On behalf of Essex A North Lot Solar, LLC ("Petitioner"), and at the request of Encore Renewable Energy ("Encore"), VHB has prepared this technical memorandum concerning the proposed solar electric generation facility ("Project") that will occupy approximately 13.2 acres within a 228-acre parcel owned by GlobalFoundries. All utility poles and overhead electrical lines will be owned and installed by Green Mountain Power (GMP). VHB understands that the Petitioner has agreed to accept responsibility for ensuring adequate steps are taken during the installation of the GMP components to avoid undue adverse impacts to protected resources. The content of this technical memorandum presents the results of an assessment of the Project as it relates to the following criterion under 30 V.S.A. § 248(b)(5), which is given due consideration by the Vermont Public Utility Commission ("PUC") under its review of the Project for a Certificate of Public Good ("CPG"):

- Primary Agricultural Soils – as defined at 10 V.S.A. § 6001(15)

Project Description

The Project consists of the installation and operation of a solar electric generation facility within the GlobalFoundries campus. GlobalFoundries Power LLC ("GF Power") is an owned subsidiary of GlobalFoundries and operates as a public service company. The Project Area was selected and designed after considering all site constraints – including topography, environmental resources, and aesthetic impacts – while maximizing the potential energy generation benefits. The Project will consist of a solar electric generation facility, capable of generating up to 3.5 MW AC. The approximately 13.2-acre Project will be located between Maple Street (Vermont Route 117) and Robinson Parkway in Essex Junction, Vermont (refer to **Exhibit EANL-JC-2**). The Project components will include:

- Approximately 7,488 fixed tilt photovoltaic panels installed on ground-mounted racking systems, across approximately 13.2 acres of the site. The solar panels will be coated with a non-reflective glazing to reduce glare from the array, on ground-mounted racking systems, approximately ten to fifteen feet off the ground at their highest point;
- A network of string-inverters dispersed across the array connected with underground cables installed in protective conduit;
- Approximately 4,485 feet of agricultural-style perimeter fence, seven to eight feet in height, that will allow small wildlife passage;
- Temporary staging areas for delivery and short-term storage of materials;
- Extending an existing access drive approximately 480 feet, and 12 feet wide to provide connectivity to an existing drive to the west;
- Approximately 390 feet of underground line from the transformer to a proposed riser pole;

- From the riser pole, the electricity will run north approximately 360 feet on new overhead 3-phase lines, which will require 5 new poles (1 riser pole, and 4 more poles to get to the existing Green Mountain Power (GMP) owned pole) to convey electricity to the point of interconnection with an existing GMP-owned pole on the east side of the Police Department access road. At the point where the new overhead lines connect with the existing GMP owned pole on the east side of the Police Station access road, the Project will interconnect with GMP's existing distribution network; and
- One 4.2 MVA pad-mounted transformer, located in the center of the arrays, with secondary oil containment providing 110% of the equipment oil volume with freeboard for 5 inches of rain.

The Project will also include approximately 2.7 acres of tree clearing (areas where woody material will be removed with stump removal/grubbing). Clearing will not occur between April 15 to September 30 of any given year, when bats are known to roost in trees.

Methods

Under 10 V.S.A. § 6001(15), a Primary Agricultural Soil ("PAS") is defined as:

(A) An important farmland soils map unit that the Natural Resources Conservation Service of the U.S. Department of Agriculture ("NRCS") has identified and determined to have a rating of prime, statewide, or local importance, unless the (Act 250) District Commission determines that the soils within the unit have lost their agricultural potential. In determining that soils within an important farmland soils map unit have lost their agricultural potential, the Commission shall consider:

- (i) impacts to the soils relevant to the agricultural potential of the soil from previously constructed improvements;*
- (ii) the presence on the soils of a Class I or Class II wetland under chapter 37 of this title;*
- (iii) the existence of topographic or physical barriers that reduce the accessibility of the rated soils so as to cause their isolation and that cannot reasonably be overcome; and*
- (iv) other factors relevant to the agricultural potential of the soils, on a site-specific basis, as found by the Commission after considering the recommendation, if any, of the Secretary of Agriculture, Food and Markets.*

(B) Soils on the project tract that the District Commission finds to be of agricultural importance, due to their present or recent use for agricultural activities and that have not been identified by the NRCS as important farmland soil map units.

VHB's review is limited to the NRCS soil map unit designations with a primary agricultural soil rating of 1 (most desirable) through 7 (least desirable), with some soils with a rating of 8 included. Soils of statewide importance have an agricultural value of 7 or less, and soils of local importance consist of selected soil types with an agricultural value of 8 or less. VHB conducted a review of the NRCS soil map data to determine if PAS were present on the Project site and prepared a site plan (see Sheet C2.00 of **Exhibit EANL-JC-2**) that depicts the following:

- Soil unit names, boundaries, and agricultural ratings for Chittenden County from the NRCS;
- Proposed impact activity type;

- Primary agricultural soils, provided from the Vermont Center for Geographic Information ("VCGI") and based on NRCS soil data; and,
- Aerial imagery provided by Nearmap depicting the existing site conditions.

The Project area, for purpose of this assessment, includes the following components:

- Array (defined by the perimeter fence);
- Five new GMP owned utility poles;
- Access drive;
- Temporary construction staging areas;
- Proposed underground power runs; and
- Equipment pad location.

Results

Approximately 13.3 (±) acres of the Project Area are mapped as PAS. Soils present within the Project Area defined above include the following, which are classified by the NRCS as Prime or Statewide importance, and would therefore meet the PAS definition;

- Agawam fine sandy loam, 0 to 5 percent slopes; Statewide,
- Belgrade and Eldridge soils, 3 to 8 percent slopes; Statewide,
- Hartland very fine sandy loam, 2 to 6 percent slopes; Statewide,
- Munson and Raynham silt loams, 2 to 6 percent slopes, Statewide, if drained (b),
- Munson and Raynham silt loams, 6 to 12 percent slopes; Statewide, if drained (b),

The Project includes a total of 17.1 acres (±) within the limits of work of which approximately 13.3 acres (±) are mapped as PAS. The site plans provided show areas of PAS within the limits of work. The 13.3 (±) acre total includes all areas of mapped PAS within the Project limits of work, not taking into account any prior impacts or other factors that would reduce or eliminate the agricultural potential of the soils. Approximately 8.3 (±) acres of these soils within the Project area are currently paved over and likely impacted by compaction and underground utilities. The Project site is adjacent to PAS with existing development and non-PAS soils. The Munson and Raynham silt loams, 6 to 12 percent slopes, adjacent to the site were previously impacted by grading to develop three baseball fields, no longer in use, and are currently designated as Class II wetlands. The Belgrade and Eldridge soils, 3 to 8 percent slopes, adjacent to the site consist of an area with previous impacts for underground utilities, a driveway and an existing pad. As such, the existing PAS on the parcel are already fragmented and disturbed, and the Project will not further fragment the potentially useable farmland on the parcel.

Conclusion

The Project will result in direct impacts to mapped PAS for the Project duration. However, based on the lack of connectivity to other PAS in the vicinity and the previous impacts and existing infrastructure it is VHB's opinion that the Project will not result in PAS impacts, or will impact an area of PAS with such little agricultural value that the impacts are *de minimis*.