STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Petition of Northland Solar LLC for a Certificate of Public Good, pursuant to 30 V.S.A. § 248, authorizing the installation and operation of a 4.999 MW solar electric generation facility off Route 100 in Lowell, Vermont to be known as the "Northland Solar Project"	)	Case No. 25-____-PET

PREFILED TESTIMONY OF SETH GODDARD

October 1, 2025

Summary: Mr. Goddard's testimony describes his work on developing the Northland Solar Project's site plans and addresses the Project's compliance with Section 248(b)(5) with respect to Air Pollution (sound), Water Pollution (including Waste Disposal, Water Conservation, Sufficiency of Water, and Burden on Existing Water Supply), Soil Erosion, and Primary Agricultural Soils.

Exhibits

NS-SG-1: Resume
NS-SG-2: Sound Study

Q1. Please state your name, occupation, and business address.

A1. My name is Seth Goddard. I am Vice President of Krebs and Lansing Consulting Engineers, Inc. ("K&L"), State of Vermont Professional Engineer #55582. My business address is 164 Main Street, Suite 201, Colchester, VT 05446.

Q2. What is the purpose of your testimony?

A2. My testimony supports the application of Northland Solar LLC ("NS") for Section 248 approval of a solar electric generation facility ("Project") on property in Lowell, Vermont that NS has an option to purchase.

Specifically, my testimony provides an overview of the Project, describes my work developing the site plan, and addresses the Project's compliance with Section 248(b)(5) with respect to Air Pollution (sound), Water Pollution (Waste Disposal, Water Conservation, Sufficiency of Water, Burden on Existing Water Supply), Soil Erosion, and Primary Agricultural Soils.

Q3. Please describe your professional background, qualifications, and experience.

A3. After receiving my BS in Civil Engineering from the University of Vermont in 2005, I joined Krebs and Lansing Consulting Engineers, Inc. where I have worked as an engineer. In 2014, I became a co-owner of the firm. In my present position, I continue to perform extensive work in civil engineering design, permitting and construction services for commercial, industrial, institutional, and residential construction projects. I have performed civil site design and related work for utility projects and several other

photovoltaic electric generation systems located in Vermont. A more detailed description of my experience is provided in ***Exhibit NS-SG-1***.

Q4. Have you previously testified before the Public Utility Commission ("PUC")?

A4. Yes, I have provided prefiled testimony on behalf of a number of projects. Recent projects where I have provided testimony include Lowery Road Solar, Case No. 23-1994-PET; Hunt Road Solar, Case No. 23-2420-PET; Barnet Solar, Case No. 23-3381-PET; Furnace Brook Solar, Case No. 23-4028-PET, Post Road Solar, Case No, 23-4324-PET; Little Brook Solar, Case No. 24-3420-PET; and Stone House Solar, Case No. 25-1827-PET.

Q5. Please describe the work you conducted with respect to the Project.

A5. I have worked on the civil/site engineering design for the Project and prepared the site plans and reviewed the potential impacts of the Project under certain Section 248 criteria. The site plans are presented by the Project overview witness, Thomas Hand, as ***Exhibit NS-TH-2.*** In preparing the site plans I have performed the following tasks and evaluations:

- Design of the site plans, including: shading analysis, array layout, access road, grading, erosion prevention and sediment control measures, fencing, and secondary oil containment design.
- Review of operational and construction stormwater permitting needs.
- Review of impacts to primary agricultural soils.
- Review of Project-related sound impacts.

SECTION 248 CRITERIA

Air Pollution – 10 V.S.A. § 6086(a)(1)

Q6. Will the Project have an undue adverse effect with respect to sound?

A6. No, it will not. The sound generated by Project construction will be of limited duration, will largely take place during daytime hours, and will be comparable to the sound generated by light construction equipment. Construction activities for the Project will be limited to the hours between 7:00 A.M. and 7:00 P.M., Monday through Friday, and between 8:00 A.M. and 5:00 P.M. on Saturdays, as needed. Construction will not occur on state or federal holidays or Sundays unless authorized by the Commission upon request.

With respect to potential noise impacts during operations, the Project components that will generate sound that may be audible from off-site locations (i.e., beyond the Project parcel) are the two 2,800 kVA transformers, 20 CPS inverters and the motors to power the single axis trackers. The transformers will be located near the center of the array. The string inverters will be mounted on four equipment racks located adjacent to the transformers. The tracker motors are located throughout the array interspersed with the panels. ***See Exhibit NS-TH-2.***

Estimates of the expected sound levels from the Project's inverters and transformer were developed using the distance damping equation shown on ***Exhibit NS-SG-2.*** These estimates are conservative in that I have assumed, for purposes of the daytime sound estimates, that all of the electrical equipment is operating simultaneously and continuously at its maximum sound levels. Likewise, I have not accounted for any

ambient background noise or the attenuating effect of any vegetation, buildings, or topography located between the sound source and off-site receptors, in particular proposed vegetation between the Project and closest residence.

The estimated daytime and nighttime Project-related sound levels at the nearest residence, Building G, are estimated to be approximately 44.9 dBA (daytime), and 18.0 dBA (nighttime). The nighttime sound level was modeled using the transformer only as the inverters and tracker motors do not operate in the absence of sunshine on the panels and will therefore not produce any sound. The calculations and supporting information are provided as ***Exhibit NS-SG-2.*** The anticipated sound levels are expected to be lower than the existing ambient noise conditions at the residence, which are primarily influenced by vehicular traffic along VT Route 58, located approximately 120 feet from Building G. Typical daytime noise levels for a rural road are estimated to range between 50 to 70 dBA.

These sound levels are generally low and are in the quiet to very quiet range compared to everyday noises in the sound chart in the report. It is my understanding that these sound levels are comparable to other solar projects previously approved by the Commission in that they are below 45 dBA at the nearest residence. Therefore, the Project will not have an undue adverse effect with respect to sound.

Water Pollution – 10 V.S.A. § 6086(a)(1)

Q7. Will the Project result in undue water pollution?

A7. No, for the reasons enumerated under the specific sub-criteria below and those set forth in ***Exhibit NS-MLS-2.***

Waste Disposal – 10 V.S.A. § 6086(a)(1)(B)

Q8. What are the Project's plans for waste disposal?

A8. As there will be no buildings associated with the Project, no on-site wastewater disposal system is required for the Project and thus a Wastewater System and Potable Water Supply Permit is not required.

Any metal or cardboard generated from the Project construction will be recycled. All construction waste that cannot be recycled will be disposed of in an approved sanitary landfill. During operation of the Project, there are no anticipated activities that will generate waste materials requiring disposal.

Project operations will not generate solid wastes, will not involve the injection of waste materials into groundwater or wells, and will not generate sanitary waste or stormwater runoff from new impervious surfaces that would require treatment pursuant to a Vermont Department of Environmental Conservation permit. With respect to stormwater runoff from Project construction or operation, see my testimony below under Soil Erosion.

As shown in ***Exhibit NS-TH-2*****,** there are approximately 2.3 acres of site preparation that will involve grading and earthwork, primarily necessary to construct the access road and equipment pads. The finish grades are portrayed on the Project Site Plan. There is no overall change to the drainage pattern within the site. Approximately 0.03 acres of vegetative management are proposed near the proposed interconnection poles. Tree trunks and large limbs will be removed from the site and utilized for firewood.

Smaller debris and limbs will be ground into chips and used in temporary and final stabilization practices around the site. No stumping is proposed.

Water Conservation, Sufficiency of Water Supply, and Burden on Existing Water Supply – 10 V.S.A. §§ 6068 (a)(1)(C), (a)(2), (a)(3)

Q9. Please describe any use of water during construction and operation of the Project.

A9. The Project may use a small amount of water during the construction phase if required for dust control and for occasional cleaning of panels during the operational phase. In both instances, any small amount of water needed will be brought to the site. Otherwise, the Project will not utilize any water supplies (on-site or off-site) during construction or operations and will not require connection to a well or municipal water supply.

Q10. Will the Project adversely impact local groundwater supplies?

A10. No. The Project is located within the groundwater Source Protection Area ("SPA") of the Lowell Grade School Water System (WSID: VT0006650). ***See Exhibit NS-TH-2***. The SPA is for the water supply source well WL001, Lowell Grade School. A small portion of the proposed gravel access road extension to the existing driveway and one proposed utility pole are located within the SPA. NS will implement the following best management practices:

- The Project's transformers are designed with a secondary oil containment system designed to hold 110% of the transformer's oil plus 5" of freeboard. Please note that the Project's transformers are located ±1,100 feet outside of the SPA.

- All pole-mounted transformers located within 200 feet of water supply well WL001 will be filled with nontoxic coolants and will not contain PCBs. There are currently no pole mounted transformers proposed.
- The proposed access drive extension will not be paved.
- NS will not use road salts or deicing agents within 200 feet of water supply well WL001.

Therefore, the Project will not adversely impact the SPA.

Soil Erosion – 10 V.S.A. § 6086(a)(4)

Q11. Please discuss whether a construction stormwater permit is needed for the Project.

A11. The Project will be subject to an Agency of Natural Resources ("ANR") Moderate Risk Construction Stormwater General Permit or Individual Construction Stormwater Permit ("INDC"). If the Project elects to concurrently disturb more than five acres, then an INDC permit will be required. Alternatively, if less than 5 acres of concurrent disturbance will occur, then a Moderate Risk permit will be required. The Project will be constructed in accordance with the Vermont Standards & Specifications for Erosion Prevention and Sediment Control, June 19, 2025. No work shall commence until the Project receives its Moderate Risk or INDC permit.

The earth disturbances that will occur during construction include site grading for the access road, stream crossing, installation of electrical equipment skid and associated secondary oil containment, electrical switchgear, underground trenching of the electrical conduit, construction staging areas, concentrated work areas, fencing, and miscellaneous other disturbances for construction vehicle travel and post installation. This construction

work will disturb ±32.97 acres. The majority of this disturbance is for construction traffic. All areas of construction disturbance, as well as the existing topography, are shown on the Project's Site Plan and EPSC Plan (Sheet C-100 & C-103), ***Exhibit NS-TH-2.***

Stormwater runoff and erosion control methods that will be used during construction include: temporary soil stabilization with mulch within 14 days of initial site disturbance, a temporary stabilized construction entrance, and silt fence downslope of all proposed disturbances and when work is proposed within 100' of a downslope wetland. Construction will also be phased so that no more than five acres of concurrent disturbance will occur if the Project applies for a Moderate Risk Construction Stormwater Permit. No more than 10 acres of concurrent disturbance shall occur if the Project applies for an INDC permit. These are established and proven measures accepted by ANR to prevent soil erosion from occurring and address any potential construction-related stormwater runoff effectively before it reaches receiving waters. Implementation of these measures will prevent undue soil erosion and protect water quality.

Q12. Will the Project require an operational stormwater permit?

A12. No. The Project will create ±0.41 acres of impervious surfaces due to the proposed gravel access drive and concrete equipment skid for the transformers and miscellaneous electrical equipment. There are ±0.08 acres of existing impervious surface on the Project parcel. Following construction, there will be 0.49 acres of total impervious surface on the parcel. During construction the contractor shall install a temporary 12' wide access road to access the northern section of the array. This access road will likely be removed

and revegetated post construction. The temporary access road will be built in accordance with the Agency of Agriculture, Food, & Markets ("AAFM") "Reclamation of Vermont Agricultural Soils" procedure. Alternatively, NS may opt to install a permanent pervious access road that would remain on the site for the life of the Project. The detail for a pervious road is shown on the Site Plan, ***Exhibit NS-TH-2*** (Sheet C-106)**.** As there is less than half an acre of new impervious surface added to the parcel as a result of the Project, no operational stormwater permit will be required. ***Exhibit NS-TH-2.***

Q13. Will the Project cause unreasonable soil erosion or the reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result?

A13. No. The implementation of erosion prevention and sediment control measures outlined above during construction and consistent with the EPSC Plan will ensure that all sediment is contained on the site during construction. The Project will be constructed in accordance with the Vermont Standards & Specifications for Erosion Prevention and Sediment Control, June 19, 2025. Thus, the Project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition could result.

Q14. Will the Project have any adverse impact on municipal stormwater infrastructure downstream from the Project site?

A14. No. The Project as proposed will result in an increase of ±0.41 acres of impervious surfaces on the site from the installation of the equipment pads and gravel access road. Stormwater runoff from the proposed equipment pad will not be concentrated and will

sheet flow over vegetated surfaces and infiltrate into the existing ground. Stormwater runoff from the gravel access drive will be collected in a roadside conveyance swale and directed towards existing vegetated surfaces and infiltrate into the existing ground. The swale will be constructed with stone in areas where the slope exceeds 5% and water bars to reduce the stormwater runoff velocity. There are no permanent stormwater treatment practices proposed for the site which would concentrate the outlet of water. The site will continue to drain as it did prior to construction allowing stormwater to infiltrate into the ground. Since minimal stormwater runoff will be generated, the Project will not have any adverse impact on municipal stormwater infrastructure downstream from the Project site.

Q15. Will the Project increase stormwater flows to any residence in the Project vicinity?

A15. No. The Project proposes minimal change to the flow of existing stormwater and no stormwater will be directed towards any of the nearby residences. The soil below the project is defined as "excessively drained" Adams loamy sand so groundwater from the project area will infiltrate into the soil.

<u>Primary Agricultural Soils – 10 V.S.A. § 6086(a)(9)(B)</u>

Q16. Will the Project have an undue adverse impact any Primary Agricultural Soils, as defined by 10 V.S.A. § 6001(15)?

A16. No, the Project will not have an undue adverse impact on primary agricultural soils ("PAS"). There are ±40.31 acres of mapped PAS on the Project parcel, with ±30.27 acres of mapped PAS within the limits of disturbance ("LOD") that are potentially subject to disturbance. Approximately 0.52 acres of PAS will be disturbed to create the access road,

install the equipment pads, grading associated with the access road and equipment pad areas, and conduit trenching. Soils disturbed for trenching will be separated by their horizons and re-laid in the same order following installation of the buried lines/conduit. If sand bedding is used, then the PAS shall be removed by horizon and stored in a PAS stockpile area as shown on the site plan. All other PAS removed during construction will be stockpiled within the Project fence line and preserved on site in accordance with the AAFM guidelines for the life of the Project. See proposed stockpile locations in ***Exhibit SHS-TH-2***. At Project decommissioning, these soils will be restored to the site in accordance with the Vermont AAFM guidelines. As the soils will be maintained on site and returned at the end of the Project lifetime, there will be no permanent impacts to PAS soils and no undue adverse impacts to these soils.

Q17. Does that conclude your testimony at this time?

A17. Yes, it does.