

**BATTERY ENERGY STORAGE SYSTEM-SPECIFIC**  
**DECOMMISSIONING PLAN**

**OAK HILL SOLAR 1 LLC & OAK HILL SOLAR 2 LLC**

**13590 DUANESBURG ROAD**  
**TOWN OF DUANESBURG**  
**SCHENECTADY COUNTY, NEW YORK**

**JULY 2021**  
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## **1.0 Introduction**

Oak Hill Solar 1, LLC & Oak Hill Solar 2, LLC (the “Applicant”), a New York limited liability company, hereby submits this plan for the eventual decommissioning of the Battery Energy Storage System (BESS) specific materials within two proposed 5 MWac community solar electric generation facilities located at 13950 Duanesburg Road, Delanson, NY 12053, in the Town of Duanesburg (the “Town”) within Schenectady County in New York State (the “Projects”) and the establishment of a decommissioning fund (the “Decommissioning Fund”) for review as part of the “Solar Energy Facilities Law” as adopted by the Town of Duanesburg through Resolution NO. 107-2016 (the “Solar Bylaw”), before the planning board of the Town of Duanesburg (the “Board”).

A site location plan is provided in Appendix 1 for reference.

## **2.0 Decommissioning Activities**

The Projects are anticipated to operate for 25-40 years. At the time the Projects cease to operate, Applicant will perform full site decommissioning which shall include removal of all energy facilities, structures and equipment including any subsurface wires and footings from the parcel. Any access roads created for building or maintaining the system shall also be removed from the project site, unless being reused or repurposed for another project, shall be recycled in accordance with all applicable New York State policies and procedures in effect at the time of decommissioning.

Further, decommissioning will include restoring the property to its pre-installed condition, including grading and vegetative stabilization to eliminate any negative impacts to surrounding properties. Specifically, such decommissioning shall include, but is not limited to, physical removal of all ground-mounted solar collectors, structures, equipment, security barriers and transmission lines from the site.

Site decommissioning activities are included in a separate decommissioning plan. Decommissioning activities specific to this decommissioning plan includes removal and recycling of the BESS containers and associated DC-DC converters, removal of their concrete pads, and restoration of the ground area impacted by these specific items. Each Project contains two BESS areas that will need to be decommissioned.

## **3.0 Cost of Decommissioning**

The inclusive cost to decommission the BESS areas within both Projects, as defined in Section 2 as specific to this decommissioning plan herein, is estimated at \$354,099 (the “Estimated Decommissioning Cost”) as detailed in Appendix 2.

## **4.0 Establishment of Decommissioning Fund**

The Decommissioning Fund will be funded with a surety bond that is solely for the benefit of the Town. No other entity, including Applicant, shall have the ability to demand payment under the

Decommissioning Fund. A decommissioning performance is attached to this plan as Appendix 4. The approved financial security shall be in place and filed with the Board upon commencement of construction.

Every five years and for the Project's life, Applicant shall file a report with the Board on the effect of the annual inflation adjustment, as noted above, including a Revised Estimated Decommissioning Cost. If the Revised Estimated Decommissioning Cost exceeds the then current Estimated Decommissioning Cost, Applicant shall create a new or amended Bond (or other appropriate financial security) to be issued to reflect the Revised Estimated Decommissioning Cost. In the event the CPI has a negative value at the time the annual adjustment is calculated, the value of the Bond (or other appropriate financial security) shall not be reduced.

At the end of the Project's useful life, and in the event the Applicant does not seek Board approval to repower the Project, Applicant will decommission the Project as required under the Board's Solar Bylaw. Upon completion of decommissioning, Applicant shall seek a certification of completion from the Board. The certification will be provided to the issuing bank with instruction to terminate the Bond (or another appropriate financial security).

The Board shall have the right to draw on the Bond (or other appropriate financial security) to pay the costs of decommissioning in the event that Applicant (or its successor) is unable or unwilling to commence decommissioning due to dissolution, bankruptcy, or otherwise. Prior to the Board drawing on the Bond (or other appropriate financial security), Applicant shall have a reasonable period of time to commence decommissioning, not to exceed ninety days following issuance of a Board order requiring decommissioning of the Project.

The decommissioning fund described in this decommissioning plan is for the BESS specific items and does not include the site decommissioning. A site-specific decommissioning fund will be established.

## **5.0 Demolition Instructions**

The following is the sequential procedure that should be followed by the Town for removal of the BESS specific items pursuant to this plan. Note that site decommissioning demolition instructions are established in the site decommissioning plan.

### **5.1 *Project Component Removal***

The DC-DC converters will be removed from their concrete pads. Their electronic components and internal cables will be removed. These components will be lowered to the ground where they will be transported whole for reconditioning and reuse or disassembled/cut into more easily transportable sections for salvageable, recyclable, or disposable components.

The BESS containers will be removed from their concrete pads. The BESS containers will be removed by crane and set on tractor trailers for transport. The containers will be transported to their manufacturing facility where they will be recycled. The battery recycling estimate is based

on an estimate provided by the battery system integrator.

## **5.2 Concrete Slab Removal**

Concrete slabs used for the DC-DC converters and BESS containers will be broken and removed to a depth of two feet below grade. Clean concrete will be crushed and disposed of off-site and/or recycled and reused either on or off-site. The excavation will be filled with subgrade material found on-site of quality and compacted density comparable to the surrounding area.

## **5.3 Site Restoration Process**

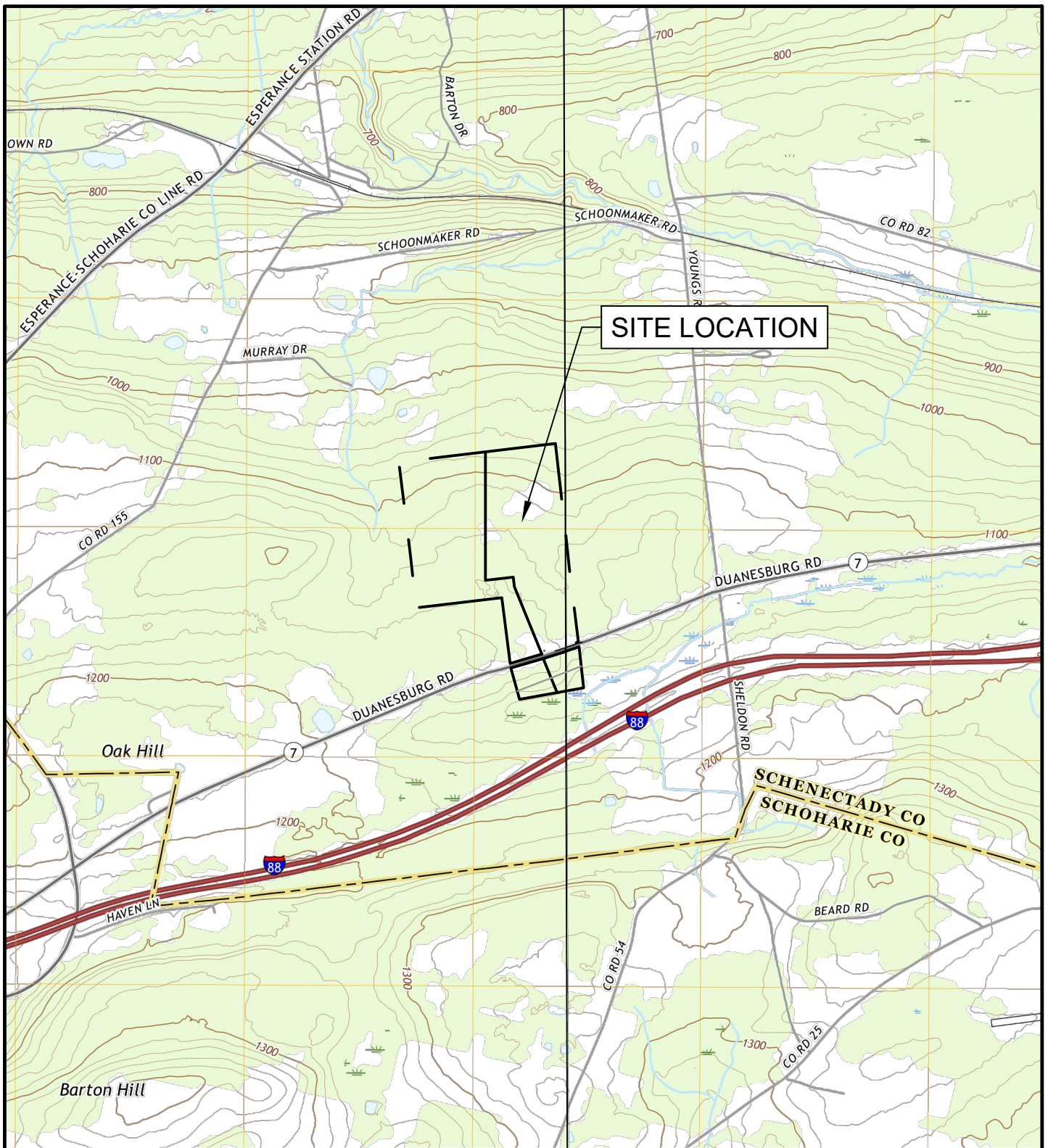
The site consists of 65.2 acres of agricultural land. The area containing BESS specific equipment is approximately 5,000 square feet (0.11 acres). Following the decommissioning activities, the subgrade material, and topsoil from affected areas will be de-compacted and restored to a density and depth consistent with the surrounding areas. All unexcavated areas compacted by used in decommissioning shall be de-compacted in a manner to adequately restore the topsoil and subgrade material to the proper density consistent and compatible with the surrounding area.

If the subsequent use for the Project site will involve agriculture, a deep till of the Project site will be undertaken. The affected areas will be inspected, thoroughly cleaned, and all construction related debris removed. Disturbed areas will be reseeded to promote the revegetation of the area unless the area is to be immediately redeveloped. In all areas restoration shall include, as reasonably required, levelling, terracing, mulching, and other necessary steps to prevent soil erosion, to ensure the establishment of suitable grasses and forbs, and to control noxious weeds and pests. The future use of the land for agricultural purposes would not be prejudiced.

## **6.0 Emergency BESS Decommissioning**


In the event of a BESS failure that requires emergency removal (such as a BESS container fire) the Applicant will be responsible for proper removal and disposal of the BESS system and any damaged equipment surrounding the BESS. The BESS equipment will be replaced in kind or equivalent at the Applicant's expense. If an equivalent BESS system is used as replacement the Town will be notified of the equivalent replacement. Additional training for the equivalent BESS system will be required and provided by the Applicant. The decommissioning fund does not include decommissioning costs and salvage value for emergency BESS decommissioning. The emergency decommissioning dollar value would be covered by the standard decommissioning surety. A revised surety will be posted prior to providing any new/replacement equipment under a post emergency event.

Appendix 1  
**Site Location Plan**



Map Data Source: U.S. Geological Survey (USGS; <http://www.usgs.gov>)



Engineer  <b>VERDANTERRA</b> 601 TECHNOLOGY DRIVE, STE. 200 CANONSBURG, PA 15317 724.916.4541 WWW.VERDANTERRA.COM	Project Title <p style="text-align: center;"><b>OAK HILL 1 &amp; 2 SOLAR FARM</b></p>	USGS Quadrangle: GALLUPVILLE, NY SCHOHARIE, NY
	Drawing Description <p style="text-align: center;"><b>LOCATION MAP</b></p>	Project Number: 05221002 Drawn By: THR Checked By: CWC Scale: 1" = 2000' Sheet Number:
		<b>FIGURE 1</b>

## Appendix 2

### BESS Specific Breakdown of Decommissioning Costs

Applicant submits this breakdown of the Estimated Decommissioning Cost to support the proposed decommissioning fund of \$354,099 for the BESS specific decommissioning for both Projects based on 2021 cost of work estimates following the NYSERDA guidance which is based on the estimated practices by the State of Massachusetts and New York Southeast scrap value prices.

It should be further noted that while the Decommissioning Fund is established in the amount equal to the gross decommissioning costs of \$354,099, there will likely be significant salvage value that would make the net system decommissioning cost (site and BESS specific decommissioning) lower than the proposed Decommissioning Fund amount.

To better explain the potential salvage value for this Project we have completed a more detailed analysis of the current value of the BESS specific project components: DC-DC converter/steel content. Note that the BESS containers will be recycled by the manufacturing company and are not included in potential salvage value. The current published values for these materials can have a fairly large spread. For each item we chose the most conservative pricing available to assume current worst-case scenario. As you can see the current salvage value is less than the proposed decommissioning bond for the BESS specific work.

Estimated Decommissioning Cost - BESS Specific					
Description	Type	Quantity	Cost Per Item	Total	Total after 25 Years of Inflation (2.5% rate)
Remove DC-DC Converters & Concrete Pads	Each	20	\$ 300.00	\$ 6,000.00	\$ 11,123.66
Remove BESS Containers & Concrete Pads	Each	4	\$ 5,000.00	\$ 20,000.00	\$ 37,078.88
Transport BESS Containers to Manufacturer For Recycling	Each	4	\$ 2,500.00	\$ 10,000.00	\$ 18,539.44
Site Restoration, Grade and Seed	Acre	0.11	\$ 900.00	\$ 99.00	\$ 183.54
Oak Hill Battery Recycling Estimate (per project)*	Each	2	\$ 159,000.00	\$ 318,000.00	\$ 589,554.22
<b>Total Decommissioning Cost</b>				<b>\$ 354,099.00</b>	<b>\$ 656,479.75</b>
<b>Detailed Salvage Value</b>					
DC-DC Converter Panels / Steel	Lbs	40684	\$ 0.08	\$ 3,254.73	
<b>Total Salvage Value</b>				<b>\$ 3,254.73</b>	
<b>Proposed Decommissioning Fund</b>				<b>\$ 354,099.00</b>	

\* = The battery recycling estimate is based on an estimate provided by the battery system integrator.