



Authorization Application for Disruption of a Solid Waste Disposal Area

Please complete this form in accordance with RCSA Section 22a-209-7(u) in order to ensure the proper handling of your application. Print or type unless otherwise noted.

DEP Use Only

Part I: Applicant Information

1. Applicant's Name and Contact Information:

Name: **VCP Montville LF, LLC (Verogy)**

Mailing Address: **124 LaSalle Road, 2nd Floor**

City/Town: **West Hartford**

State: **CT**

Zip Code: **06107**

Business Phone: **860-228-7215**

ext.

Fax:

Contact Person: **Brad Parsons, PE, PMP**

Title: **Director of Design and Permitting**

☐ Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.

2. List the owner of the site where the solid waste disposal area is located.

Owner: **Town of Montville**

Site Name: **Montville Landfill**

Mailing Address: **310 Norwich-New London Tpke**

City/Town: **Uncasville**

State: **CT**

Zip Code: **06382**

Business Phone: **860-848-3030**

ext.

Fax:

3. List the name and location of the permitted site/disposal facility retained to dispose of such waste.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

Fax:

Contact Person:

Title:

4. List any engineer(s) or other consultant(s) employed or retained to assist in preparing the application or to assist in the disposal of the waste. Check here if additional sheets are necessary, and label and attach them to this sheet. ☒

Name: **Weston & Sampson Engineers, Inc.**

Mailing Address: **55 Walkers Brook Drive**

City/Town: **Reading**

State: **MA**

Zip Code: **01867**

Business Phone: **978-532-1900**

ext.

Fax:

Contact Person: **Robert Bukowski, PE**

Title: **Practice Leader**

Part II: Site Information

1. Location of the solid waste disposal area:
Street Address or Description of Location: **669 Oakdale Road**
City/Town: **Montville**
Assessor's Map No.: **38** Block No.: **56** Lot No.: **00**
Latitude and Longitude of the approximate "center of the site" in degrees, minutes and seconds:
Latitude: **41.464155** Longitude: **-72.156791**
Method of determination (check one):
☐ GPS ☐ USGS Map ☒ Other (specify): **Google Maps**
2. Is the Solid Waste Disposal Area permitted? ☒ Yes ☐ No
If permitted, Permit Number: **SW-086-2-L** Year Issued: **1985**
3. Describe the solid waste disposal area: ☐ Active ☐ Inactive ☒ Closed
4. Ground water classification of the site: **GA, GAA**
5. Acreage of site: **29.09**

Part III: Activity Information

1. Type of waste (e.g., municipal solid waste, bulky waste, construction and demolition, etc.) to be removed or disrupted:
No waste is anticipated to be encountered or removed
2. Identify the quantity of waste (i.e., tons, cubic yards) to be removed or disrupted:
No waste is anticipated to be encountered or removed
3. Provide a detailed description of the material to be removed or disrupted:
Details for managing excavation materials are provided in Section 5.0 of the attached application.
4. Has a waste characterization been conducted? ☐ Yes ☒ No
If yes, describe:
5. Depending on the extent of the disruption, you may be required to also obtain DEP authorization under the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities*. Information and registration forms for this general permit are available at the DEP website at www.ct.gov/dep/permits&licenses or by calling 860-424-3018.
Have you already obtained such authorization? ☐ Yes ☒ No
If yes, list registration number:

Part IV: Supporting Documents

Please check the attachments submitted as verification that *all applicable* attachments have been submitted with this authorization application form.

- ☒ Detailed site map(s), *prepared by a professional engineer licensed by the State Of Connecticut*, at a scale of one inch equals one hundred feet depicting: topographic contours (i.e., existing and final grades); all existing and proposed test pit and/or boring locations; areal extent of the solid waste disposal area; type and location of existing and proposed sedimentation/erosion controls; existing and proposed locations of water quality monitoring locations (e.g., surface water, ground water); locations of on-site structures including buildings, roads, fences, etc. and any other pertinent information that provides an accurate depiction of the site and the immediate surroundings.
- ☒ A detailed report describing the measures that will be implemented during disruption activities to protect the public health and the environment, including the control of dust, odors, fires, vectors and blowing litter. The report should also include a proposed schedule for the completion of disruption activities and any other pertinent information that provides an accurate description of the site and the proposed disruption activities.
- ☒ Site Health and Safety Plan that complies with all applicable requirements of the Occupational Safety and Health Administration's (OSHA) 29 CFR Part 1910.120.

Part V: Application Certifications

The applicant(s) *and* the individual(s) responsible for actually preparing the application must sign this part. An application will be considered insufficient unless *all* required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the Commissioner without alteration of the text."



Signature of Applicant

Date 06/27/2023

Bradley J. Parsons

Director of Design and Permitting

Name of Applicant (print or type)

Title (if applicable)



Signature of Preparer

Date 06/28/2023

Robert J. Bukowski, PE

Principal Engineer

Name of Preparer (print or type)

Title (if applicable)

Please submit this form and any supporting documentation to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM ST
HARTFORD, CT 06106-5127



westonandsampson.com

WESTON & SAMPSON ENGINEERS, INC.
55 Walkers Brook Drive, Suite 100
Reading, MA 01867
tel: 978.532.1900

REPORT

June 2023

VCP Montville LF LLC (Verogy) Town of Montville, CT

Authorization Application for Disruption of a
Solid Waste Disposal Area & Request for Post-
Closure Use

Town of Montville Landfill, 669 Oakdale Road,
Montville CT



Authorization Application for Disruption of a Solid Waste Disposal Area

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Authorization Application for Disruption of a Solid Waste Disposal Area

EXECUTIVE SUMMARY

Weston & Sampson Engineers, Inc. (Weston & Sampson), on behalf of VCP Montville LF, LLC (Verogy), is hereby submitting this request for Post-Closure Use and Authorization for Disruption of a Solid Waste Disposal Area to use the closed Montville Landfill for a development of a ground-mounted solar photovoltaic (PV) array. This application was prepared pursuant the requirements of the Connecticut Department of Energy & Environmental Protection (CTDEEP) Bureau of Materials Management and Compliance Assurance Regulations of Connecticut State Agencies (RCSA) Sections 22a-209-7(u) and 22a-209-13(d).

The Montville landfill is located at 669 Oakdale Road (CT Route 163) in Montville, Connecticut. The proposed post-closure use includes deploying ground-mounted solar on the existing landfill cap. The total capacity of the proposed solar installation is approximately 770 kilowatts (kW) direct current (DC)/600 kW alternating current (AC) and would consist of approximately 1,440 PV panels.

The solar PV array is to be supported on concrete ballasted foundations and will have a low bearing pressure that is designed to maintain the integrity of the existing engineered landfill cap. Each block will be placed on gravel/crushed stone to level the blocks to meet the foundation manufacturer's requirements. Panel racking will be installed above the ballasted foundations and solar PV modules will be attached to the racking.

The electricity generated by the facility will run through inverters and a transformer which will be located on an equipment pad located at the top of the landfill. Electrical conduit will run from the transformer down the side of the landfill on above-ground concrete support blocks. Once off the extents of the cap, the conduit will run underground, below the existing access road and ultimately connect, via new utility poles, to the existing electrical infrastructure located on Route 163.

Ballasted chain link fence will be used to provide security and separation of any unqualified personnel from any electrical conductors, as required by the National Electric Code. The total area within the fence limits is approximately 2.4 acres. The project is expected to be completed by Spring of 2024. Notice will be provided to CTDEEP prior to start of construction.

The proposed solar development is not considered detrimental to the long-term integrity of the final cover system. Post-closure environmental monitoring will not be affected by the proposed project.

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Authorization Application for Disruption of a Solid Waste Disposal Area

1.0 INTRODUCTION

1.1 Project Description

Weston & Sampson has prepared this Authorization Application for Disruption of a Solid Waste Disposal Area on behalf of Verogy and the Town of Montville, Connecticut to develop a ground mounted solar PV array atop the closed landfill, located at 669 Oakdale Road (CT Route 163), Montville, Connecticut (the project). The Town of Montville selected Verogy to design, permit, construct, own, operate, and maintain a ground-mounted solar photovoltaic (PV) array on the closed landfill. This permit application also serves as a request for post-closure use of the landfill in accordance with Section 22a-209-13(d) of the RCSA. Design drawings for the proposed solar PV facility are included in **Appendix A**.

The landfill will continue to be owned by the Town of Montville, where Verogy, its successors, or assigns, will own, operate, and maintain the solar generating asset. The landfill has been closed and is currently under long-term monitoring and care of the Town of Montville.

Interconnection service will be provided in accordance with agreement and standards established by electrical tariff by Eversource Energy, the local investor-owned utility.

1.2 Background and Site Description

The proposed solar PV array and associated improvements are located on a parcel of Town-owned land with a lot number of 038-056-000 and an acreage of 29.09 acres. The southern portion of the parcel is the existing capped Montville Landfill and the Montville Transfer Station. The northern section of the property is wooded with the Fox Brook and the Oxoboxo Brook both flowing west to east where they discharge to Wheeler Pond. There are existing wetlands within proximity of the Fox Brook and Oxoboxo Brook. The site is bounded by Oakdale Road (CT Route 163) to the south, the Fox Family Cemetery to the west, Fox Brook and Oxoboxo Brook to the north, and Wheeler Pond to the east.

On July 25, 1966, the Town received authorization to operate the site as a solid waste landfill. In July 1994, the Town issued an advertisement for bids for construction work to close the landfill. The bid plans and specifications were provided to CTDEEP on July 26, 1994, who subsequently issued an authorization for landfill closure in a letter dated October 9, 1994. Landfill closure information is detailed on a set of record drawings prepared in 1995 by CLA Engineers, Inc. The final landfill cover system reportedly consists of the following layers from the landfill waste to the ground surface:

- Minimum of 18 inches of compacted impervious soil; and
- Minimum 6 inches of vegetative support soil.

The landfill surface is currently overgrown with high grass, weeds, and brush. The Town is currently using the top of the cap for the storage of sand/gravel stockpiles. The top of the landfill is accessed from a compacted gravel road located along the western side of the landfill. The area directly adjacent to the landfill is operated by the Town as a solid waste transfer station.

Based on a review of the CTDEEP Natural Diversity Data Base (NDDDB) map for the Town of Montville, the site is not located in an area with State or Federal listed species. The site is also not located in a Forestland Habitat area.

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1.3 Ongoing Landfill Monitoring

The landfill is required to be monitored for a period of 30 years following Site closure per the Approval of Closure Plan dated November 19, 1985, which was issued pursuant to the landfill permit (SW-086-2-L). The monitoring plan includes collection of groundwater and surface water samples semi-annually (April and October) and collection of domestic well samples quarterly (January, April, July, October). Groundwater samples are to be collected from seven (7) overburden monitoring wells. Surface water samples are to be collected from three (3) sampling locations including an upgradient surface water location behind the Oakdale Post Office, the confluence of Fox Brook and Wheeler Pond, and an unnamed stream on the southern portion of the site. Domestic water samples are collected from four (4) nearby properties located at 601, 625, 631, and 637 Oakdale Road. Samples are submitted to a laboratory for analysis of parameters required in the permit. Environmental monitoring results are documented in periodical monitoring reports submitted by the Town to CTDEEP.

Groundwater monitoring wells are located along the perimeter of the landfill property outside of the proposed solar array. The installation and operation of the system will have no effect on this monitoring program. Post-closure monitoring does not include monitoring requirements for landfill gas, and there are no gas vents on the landfill.

1.4 Site Lease Agreement

On February 28, 2022, the Town of Montville entered into a Site Lease Agreement with Verogy. The agreement allows Verogy to lease the Montville Landfill for the development of a solar PV system, intended to produce electricity to benefit the Town. A copy of the lease is included as **Appendix B**.

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2.0 PROPOSED PROJECT

2.1 Proposed Solar Project

The proposed post-closure use of the Montville Landfill includes deploying ground-mounted solar and an equipment pad on the top of the landfill. The total capacity of the proposed solar installation is 770 kW DC/600 kW AC and will consist of approximately 1,440 PV panels depending on rating of equipment selected and acquired for the project. The proposed development is shown on the Site design plans in **Appendix A**.

The solar PV array proposed on the landfill cap will be mounted on pre-cast concrete ballasted foundations. The solar modules would be connected using above ground cable trays or conduits that would lead to an equipment pad located on the landfill cap. Electrical conduit will run from the transformer down the side of the landfill on above-ground concrete support blocks. Once off the cap, the conduit will run underground, below the existing access road and ultimately connect, via new utility poles, to the existing electrical infrastructure located on CT Route 163. The general layout of the solar PV array and interconnection route is depicted on Sheet C101 of the attached plans (**Appendix A**).

The concrete ballasts supporting the solar PV array will have a low bearing pressure that are designed to not compromise the integrity of the engineered landfill cap. Each block will be placed on gravel/crushed stone to level the blocks to meet the foundation manufacturer's requirements. The gravel/crushed stone pads will be placed directly on the vegetated layer of the landfill cap. The geotechnical analysis of the solar PV array supports is included in **Section 3.0**.

Ballasted chain link fence will be used to provide security and separation of any unqualified personnel from any electrical conductors, as required by the National Electric Code (NEC). There is an estimated 1,350 linear feet of new fencing that will be installed to surround and enclose the solar array and equipment pad. The total area within the fence limits is approximately 2.4 acres. There are no environmental monitoring systems (e.g., monitoring wells) within the proposed solar array fencing. The landfill does not have any gas vents.

2.2 PV Electrical Generation Equipment

The proposed solar facility will utilize approximately 1,440 PV modules. Solar PV modules will be connected in a series of strings. Groups of strings will be connected to string level inverters that will convert the DC output of the PV modules to AC power. Inverters will be mounted to the racking assemblies throughout the array. Above ground conduit/cable trays will connect the inverters to a single equipment pad, which includes an AC panelboard, monitoring equipment, and transformer. The layout of the PV modules, racks, and other elements are shown on the design drawings in **Appendix A**.

All electrical work will be designed per the most recent version of the Connecticut Electric Code (CEC), which includes and incorporates the requirements of the NEC. Prior to construction, an electrical permit will be obtained from the Town building officials and the project will incorporate any additional electrical requirements stipulated by the building official. Electrical plans will be designed to the above-mentioned codes and signed and sealed by a registered professional electrical engineer, licensed in the State of Connecticut.

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Preliminary specifications are as follows:

Table 1. Typical Generation Equipment Specifications		
Equipment	Specification	Count
Photovoltaic Modules	Sumec PS540M6-24/TH 540W	±1,440
Inverters	Chint Power Systems SCA50KTL-DO/US-480 (55kVA)	TBD
Transformer	Meta Power Solutions Three- Phase Pad-Mount Transformer	1

This equipment is subject to final design and may change based on market availability at the time of construction. An electrical one-line diagram for the project, manufacturer specifications, and cut sheets for the above listed equipment are included in **Appendix C**.

2.3 Racking System

The racking system will be supported by pre-cast concrete ballasts, placed on a gravel base layer that will be placed on top of the existing vegetative support layer. The foundation ballasts must be of adequate size and weight to prevent the assemblies from moving or tipping due to wind, ice, and snow loads. Preliminary calculations are provided in **Appendix D** for the ballast blocks. These calculations, which were prepared by others, are subject to change based on final equipment selection. The racking system will be designed per the most recent version of the Connecticut Building Code and will be signed and sealed by a registered professional engineer licensed in the State of Connecticut.

2.4 Cable Trays and Conduits

Low voltage cable trays will be mounted on the rack assemblies of each solar PV array for routing of DC conductors under each rack. As the conductors run between arrays, they will be installed above grade in cable trays, mounted to the solar PV array ballasts and on concrete and Unistrut®-type supports as applicable. Between rows, low and medium voltage cable trays will be fastened to pre-cast concrete ballasted supports above ground. These ballasted supports will be pre-cast concrete blocks.

From the string inverters, low voltage conductors will be routed to a transformer mounted on a concrete pad located on the landfill cap, within the array fencing. The purpose of the transformer is to step up the voltage to match the voltage of the existing Eversource Energy utility lines and allow interconnection with Eversource Energy's grid. From the transformer pad, the conductors will run down the slope of the landfill in an above-grade conduit. Once off the extents of the landfill cap, the conduit will run underground below the existing access road. The conductors will then connect to a riser pole where they will proceed overhead via additional poles (subject to final utility requirements) to the Eversource Energy point of interconnection on CT Route 163.

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2.5 Array Area

The total area of the solar PV array within the fence limits is approximately 2.4 acres. The racks will be oriented linearly across the landfill in an east/west direction. The north/south distance between each edge of linear set of racks will be approximately 8.5 to 19 feet. The solar PV array layout is subject to final design but will remain within the proposed limits of work.

2.6 Site Security

For security purposes and to comply with the NEC, a ballasted chain link fence will be installed around the solar PV array and equipment pad areas.

2.7 Post-Closure Environmental Monitoring

Modifications to the existing landfill monitoring and maintenance plan are not anticipated based on the proposed addition of the solar modules. Current monitoring and maintenance of the groundwater system and sampling and analysis of groundwater is currently conducted by the Town and will continue to be the responsibility of the Town of Montville. The PV array will not interfere with those activities. Inspections within the PV array area will be conducted at times when vegetative maintenance is conducted or as required by the CT DEEP.

2.8 Project Decommissioning

Decommissioning and site restoration will include dismantling and removal of all panels and supporting equipment, transformers, overhead cables, foundations, and restoration of the roads and module sites to substantially the same physical condition that existed immediately before construction of the facility. To the extent possible, the site will be restored and reclaimed to the topography and topsoil quality that existed prior to the construction of the solar array. Disturbed earth will be graded and reseeded.

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3.0 GEOTECHNICAL ANALYSIS

Weston & Sampson performed a geotechnical engineering analysis of the existing conditions of the landfill cap and provided recommendations for the proposed solar PV project. A summary of the analysis and recommendations is provided below, supporting calculations and information are included in **Appendix E**.

3.1 Test Pit Confirmation for Proposed Below Grade Electrical Conduit

As discussed in Section 2.0, a portion of the electrical conduit between the transformer and riser pole will be installed below grade underneath the existing access road. Weston & Sampson performed a site visit on June 2, 2023 to assess if the proposed trench for the electrical conduit will be outside the limit of the landfill cap. Two test pits were excavated on either side of the existing access road at the location of the proposed electrical conduit trench. Both test pits were excavated to a depth of 2 feet. A test pit location map and test pit logs are included in **Appendix E**. The test pit nearest the landfill cap (TP-1) encountered 2 feet of silty sand. The second test pit (TP-2) encountered 1 foot of silty sand overlying sand and gravel. Landfill capping materials (i.e. impervious cover soils) and landfill waste materials were not encountered in the test pits, indicating the proposed trench will be outside the limit of the landfill cap.

3.2 Stockpile Sampling

On June 2, 2023, Weston & Sampson also collected samples of sand and gravel material currently stockpiled by the Town at the top of the landfill. Two samples were collected as described below:

- Stockpile 1: sand and gravel with debris located on eastern end of cap.
- Stockpile 2: sand and gravel located on western end of cap. This samples represents the majority of the material at the top of the landfill.

The samples were submitted for gradation analysis. Photos of the stockpiles and laboratory test results are included in **Appendix E**.

3.3 Ballast Support System

3.3.1 *Bearing Stress*

Based on the soil cover thicknesses indicated in available closure documentation for the landfill, existing vertical stresses imposed on the capping layers by the existing cover soils are estimated to be approximately 57.5 pounds per square foot (psf) or 0.4 pounds per square inch (psi). This value is based on estimated soil densities of 115 pounds per cubic foot (pcf) for the vegetative support layer soil.

Based on our experience with similar projects, we recommend the vertical stresses imposed on the capping layer (impervious soil layer) not exceed 10 psi to limit the potential for damage. The new leveling fill (where required) and ballast foundations will impose additional vertical stresses on the capping layer. We estimated that the increase in vertical stress on the capping layer by placing up to 1 foot of leveling fill and the precast concrete ballast foundations will be about 4.3 psi.

Based on the foregoing, total vertical stresses imposed on the capping layer by the existing cover soils, up to 1 foot of leveling fill, and ballast foundations are estimated to be approximately 4.3 psi, which is

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below our recommended maximum allowable value of 10.0 psi. We recommend hand exaction of test pits within the development area at the start of construction to confirm the topsoil thickness. We should be contacted to provide revised recommendations if the thickness is less than assumed herein.

3.3.2 *Settlement Analysis*

Stresses imposed on the landfill by the ballast foundations and any leveling fill will induce settlement of the cap soils in the immediate vicinity of the foundations. Based on cap soil conditions provided in available documentation and an assumed maximum ballast foundation stress of 550 psf, we estimate settlement of the cap soils in vicinity of the foundations will be less than 1-inch provided the cap soils are dry at the time of construction.

3.3.3 *Waste Compression*

Long-term compression of the waste, independent of stresses imposed by the PV system and additional leveling fill, is expected due to natural decomposition of the landfill waste materials. Relatively gradual surface deflections from deep-seated waste compression should be expected. The surface deflections are not expected to affect PV array performance other than the need for periodic realignment and adjustment of the racking systems.

We have not conducted field explorations extending into the waste to estimate waste thickness and characteristics. However, the new loading on the landfill surface imposed by the PV system is relatively minor and is not expected to contribute significantly to ongoing compression of the waste mass.

3.3.4 *Landfill Veneer Stability Evaluation*

Within the proposed array area, the landfill crest has a slope up to about 6 horizontal to 1 vertical (6H:1V or about 9.5 degrees).

It is assumed the cohesion between the impervious capping material and the underlying waste to be zero, which means the factor of safety against veneer failure is governed by an infinite slope analysis. The analysis considers the interface friction angle between the topsoil and the capping layer, the weight of the cap soils, water seepage flow parallel to the slope, and the saturated thickness of the cap soils.

For this infinite slope analysis, it is assumed fully saturated soil cap conditions and average unit weights of 115 psf for the topsoil. We do not have site specific information on the interface friction angle value, so we conservatively estimated this value at 32 degrees based upon published data. We can refine our analysis if information on the saturated thickness and interface friction angle become available.

Given our assumed values, our analysis suggests that the FS within the proposed array area is greater than 1.5 which is the generally accepted minimum value against veneer stability failure.

3.4 **Construction Access Roads**

The following recommendations are based upon limiting the rutting ground pressure from construction equipment to not exceed 1 inch on the landfill cap.

LGP Equipment – Low pressure ground (LPG) equipment, such as tracked dozers, skid steers, and excavators typically imparting a ground pressure less than 7 psi should be used where possible for all work required on the landfill surface. Tracked equipment, however, can create ruts in the landfill cover

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soils particularly when the soils are saturated. Ruts will be repaired as needed to restore the landfill cover to pre-construction condition.

Heavy Construction Vehicles – Ground stresses imposed by heavy construction vehicles can exceed 60 psi for fully loaded dump trucks, concrete trucks, or flat-bed trucks carrying pre-cast concrete ballasts and related array equipment. The existing access road will be utilized for heavy equipment vehicles to deliver materials to the array area.

To limit the rutting to 1 inch, a geogrid will be incorporated into the fill to distribute the ground stress from the construction vehicles. An access road constructed of approximately 12-inches of CTDOT M.02.02 granular subbase placed over Tensar NX850 geogrid, or approved equivalent is proposed.

Thickness and grain size distribution requirements of new fill material along access roads and placement and compaction recommendations are discussed below.

3.5 Construction Considerations

The following are minimum recommendations for material and thickness related to the construction of the solar PV array ballast support blocks, gravel turnaround areas, and access road on the landfill cap.

Ballasts Subgrades – The ballast subgrades should be prepared according to the manufacturer recommendations and guidelines but should include at least a minimum 3-inch-thick layer of compacted crushed stone or ballast leveling fill (as discussed below) to increase resistance to ballast sliding.

Ballast Leveling Fill – Leveling fill needed below ballasts should consist of well graded sand and gravel free from debris with a maximum particle size of 4 inches and less than approximately 10 percent fines. Based on the results of the gradation testing included in **Appendix E**, existing on-site material similar to Stockpile 2 is anticipated to be suitable for use as ballast levelling fill. The leveling fill should be free of organic material or debris and should be placed in 6-inch-thick maximum loose lifts with each lift compacted until firm and stable. The fill should extend a minimum of 12-inches beyond all sides of the ballasts and should be sloped at 2H:1V or flatter.

Turn-Around Subgrades – All grass/weeds and vegetative support layers should be cut as short as possible below the vehicle access road turn-around, including at least 5 feet beyond the edges of the road. The subgrade material should be compacted with multiple passes of tracked construction equipment.

Access Road Fill – Fill needed to construct permanent and temporary access roads should consist of CTDOT M.02.02 granular subbase. Access road subgrades should be prepared, and fill placed and compacted as recommended below.

A heavy, woven geotextile fabric (Mirafi FW700 or equal) should be used to separate the Dense Graded Crushed Stone for Subbase from the prepared access road subgrade. Each width/length of geotextile sections should be overlapped in accordance with the manufacturer's recommendations, but not less than 2 feet. Granular Subbase in all areas should be placed in 8-inch maximum loose lifts with each lift compacted to at least 92 percent of the materials maximum dry density as determined by ASTM Specification D1557.

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Slopes created along the shoulders of access roads should be constructed no steeper than 3H:1V. The roads and shoulders should be sufficiently wide such that construction vehicles maintain a lateral distance of at least 2 feet between the wheels and the crests of the slopes.

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4.0 STORMWATER ANALYSIS

Stormwater runoff patterns for the Montville Landfill will not be altered as part of the proposed project. Existing and proposed peak design flows were assessed using the National Resources Conservation Service (NRCS) Technical Release 55 (TR-55) methodology. HydroCAD® version 10.10-3a stormwater modeling software was used to analyze stormwater conditions. It is a comprehensive hydrodynamic modeling program which analyzes and designs site hydrology, surface drainage systems, and storm drains. It can manage a variety of flow situations such as overland flow, drainage swales, ponds, and piping systems.

A summary of the analysis is provided below, the full stormwater model and watershed maps are included in **Appendix F**.

4.1 Existing Stormwater Flow

The Montville Landfill does not have an existing stormwater management system on the cap. Stormwater runoff currently flows off the landfill cap in all directions via overland flow. The limits of the stormwater analysis for this project conservatively include the landfill cap, paved areas south of the landfill cap, portions of the eastern transfer station area, and the northern meadow/woodlands between the landfill cap and Fox Brook.

The National Resources Conservation Service (NRCS) Web Soil Survey database was used to determine the hydrologic soil group (HSG) for soils at the Site. Closure documentation for the landfill indicates the landfill was capped with an 18-inch layer of compacted impervious soil; therefore, the model assumes HSG D for soils within the limits of the landfill cap. There is currently overgrown vegetation on the landfill cap including brush and limited trees. The existing stormwater flow conditions were modeled assuming the landfill cap has been maintained as it was originally designed with grass coverage.

Four watersheds were analyzed. **Figure 2 of Appendix F** displays the limits of each watershed, flow paths, and existing ground covers.

- **Drainage Area A** – Northern portion of the landfill draining northerly towards Fox Brook,
- **Drainage Area B** – Southwest portion of the landfill draining southwesterly offsite,
- **Drainage Area C** – Southern portion of the landfill draining southeasterly offsite,
- **Drainage Area D** – Eastern portion of the landfill draining easterly offsite towards Wheeler Pond

4.2 Proposed Stormwater Flow

The stormwater analysis assumes the proposed concrete ballast blocks, equipment pad, and gravel turnaround areas will be considered disconnected impervious in the post-development stormwater model. This is a conservative modeling assumption since the landfill cover system includes an impervious soil layer which could be considered an existing impervious surface. There is limited proposed tree clearing for the project along the northeast corner of the site for shade management. These proposed upgrades do not change the stormwater flow patterns of the site. **Figure 3 of Appendix F** displays the limits of each watershed, flow paths, and proposed ground covers.

Stormwater flow patterns do not change based on the proposed solar PV layout since there are no proposed grading changes. Based on the increase in disconnected impervious area, the curve numbers marginally increase under post-development conditions.

Authorization Application for Disruption of a Solid Waste Disposal Area

4.3 Peak Discharge Summary

As summarized in Table 2 below, there is no increase to the peak discharge flow rates for post-development conditions compared to pre-development conditions. As stated above, this should be considered a conservative estimate since the landfill cap could be considered an impervious surface.

Table 2. Stormwater Peak Discharge Flow Rate Summary				
Analysis Point	24 Hr Storm	Peak Discharge (cfs)		Difference in Peak Runoff (cfs)
		Pre-	Post-	
POA-A	2yr	7.73	7.73	0.00
	10yr	15.14	15.14	0.00
	25yr	20.05	20.05	0.00
	100yr	27.70	27.70	0.00
POA-B	2yr	0.47	0.47	0.00
	10yr	0.91	0.91	0.00
	25yr	1.20	1.20	0.00
	100yr	1.65	1.65	0.00
POA-C	2yr	2.14	2.14	0.00
	10yr	4.20	4.20	0.00
	25yr	5.57	5.57	0.00
	100yr	7.70	7.70	0.00
POA-D	2yr	6.67	6.67	0.00
	10yr	12.20	12.20	0.00
	25yr	15.78	15.78	0.00
	100yr	21.29	21.29	0.00

Authorization Application for Disruption of a Solid Waste Disposal Area

5.0 CONSTRUCTION ACTIVITIES

5.1 Site Preparation

Overgrown vegetation within the limit of work will be removed from the landfill cap prior to construction of the solar PV array. Vegetation will be cut as close to grade as practicable. Any larger diameter trees will be cut and stumps ground to the existing grade. No stumps or roots will be pulled within the limits of the landfill. All vegetation from clearing activities will be removed and disposed off-site.

5.2 Erosion and Sediment Control Measures

Erosion and sedimentation (E&S) controls will be installed at the site prior to start of construction. Compost sock sediment barriers will be installed along the down gradient sides of the limits of disturbance to collect loose sediments during storm events. Support posts or stakes will be prohibited for use to secure barriers in place due to the existing landfill cap, instead sandbags will be used to secure sediment barriers in place.

The proposed project will have minimal impact within the 50-foot upland review area adjacent to the on-site wetlands, with only two small areas of the proposed project within the outermost edges of the upland review area. Stabilization and maintenance of the existing access road, if necessary, will occur within approximately 386 square feet of the upland review area on the western side of the site. This work may include placement of additional gravel base material to accommodate construction traffic up to the landfill. Subsurface electrical conduit will run from the eastern side of the access road to above-ground utility poles. There is an area of approximately 940 square feet within the upland review area where the proposed trench will pass through. This disturbance will be temporary as, once the conduit is installed, the area will be stabilized and re-vegetated. Silt fencing will be installed downgradient of disturbed areas that are within the 50-foot upland review area and outside the limits of the landfill cap.

A stabilized construction entrance/exit will be installed along the first 50 feet of the site entrance to capture sediments from construction vehicles prior to leaving the site. This construction entrance/exit will be maintained by the contractor throughout construction. Further detail on construction E&S controls is provided on the drawings included in **Appendix A**.

5.3 Excavation and Material Handling

Solar PV system components and construction methodology are designed to protect the integrity of the landfill cap. Excavation for inverter/transformer pads may be required; however, all excavation on the landfill cap shall not exceed a depth of six (6) inches into the vegetative support layer. Existing landfill waste is not anticipated to be encountered or disturbed.

5.4 Access Fence and Site Security

The proposed solar PV facility includes a ballasted, galvanized chain link fence around the perimeter of the system. The fence will include a gate at the top of the landfill to provide access to authorized personnel. Details of the access point fencing are shown in the design drawings.

Authorization Application for Disruption of a Solid Waste Disposal Area

5.5 Temporary and Permanent Access Road

There is an existing gravel access road leading to the top of the landfill. During construction, the contractor may place additional gravel base material along the existing access road for stabilization and maintenance purposes. Temporary access roads on the landfill cap will be installed as needed for construction vehicles and equipment to use. Temporary access roads will be constructed of 12 inches of dense graded crushed stone overlying a woven geotextile, as shown on the design drawings and described in **Section 3.0**.

If necessary, the locations of the temporary access roads on the landfill will be at the discretion of the construction contractor. The temporary road locations will prevent the temporary roads from acting as water bars in the event of heavy rainfall/runoff. Temporary road locations will require approval from the engineer. The contractor will be required to minimize the number of temporary roads installed. Temporary roads will also be constructed in a manner that does not affect the functionality of the existing stormwater drainage system. After completion of the construction, the temporary access roads will be removed within 6 months of the completion of the project and the cap will be re-vegetated in these road locations. Given the location of the system on the landfill, we do not anticipate the need to construct temporary access roads at this time.

Access to the landfill from the temporary gravel access drives during construction will be by low ground pressure construction equipment. The contractor will be required to submit equipment spec sheets showing applied ground pressure prior to bringing equipment on-site. Construction vehicles may include (but are not limited to) delivery trucks, utility vehicles and construction equipment (excavator, skid steer, etc.).

5.6 Nuisance Mitigation

Construction on a landfill has the potential to cause nuisance conditions. These conditions may include excess dust, vectors, and wind-blown litter. Vectors are not expected to be a problem because the construction of the PV array is not to expose any landfilled waste. Wind-blown litter, dust, and vector control are the responsibility of the contractor and shall be performed on an as needed basis. It is expected the contractor will utilize water trucks if dust becomes a problem. The contractor shall clean up any trash generated from PV construction (boxes, etc.) to prevent any wind-blown waste.

5.7 Project Schedule

This schedule is contingent upon CT DEEP permit approval, Town planning approval, Eversource construction schedule, weather, and the availability of all materials including the modules, rack assemblies, ballast blocks, and medium voltage equipment. Pending permitting approvals, construction is anticipated to begin in late-summer or early-fall of 2023 and be completed by the spring of 2024. Notice will be provided to CTDEEP prior to start of construction and documentation of construction completion will be filed following completion.

Authorization Application for Disruption of a Solid Waste Disposal Area

6.0 REFERENCES

- GEI Consultants, Inc. 2020 Water Quality Monitoring Summary Report, Montville Transfer Station, Montville, Connecticut. February 2021.
- State of Connecticut Department of Environmental Protection Montville Solid Waste Disposal Area Approval of Closure Plan. November 19, 1985.
- Department of Environmental Protection, Bureau of Materials Management and Compliance, Assurance Waste Engineering and Enforcement Division. Environmental Program Guidance Document - Guidance for Disruption Activities, Closure Activities, and/or Post-Closure Use at Solid Waste Disposal Areas. Dated 10/01/09.

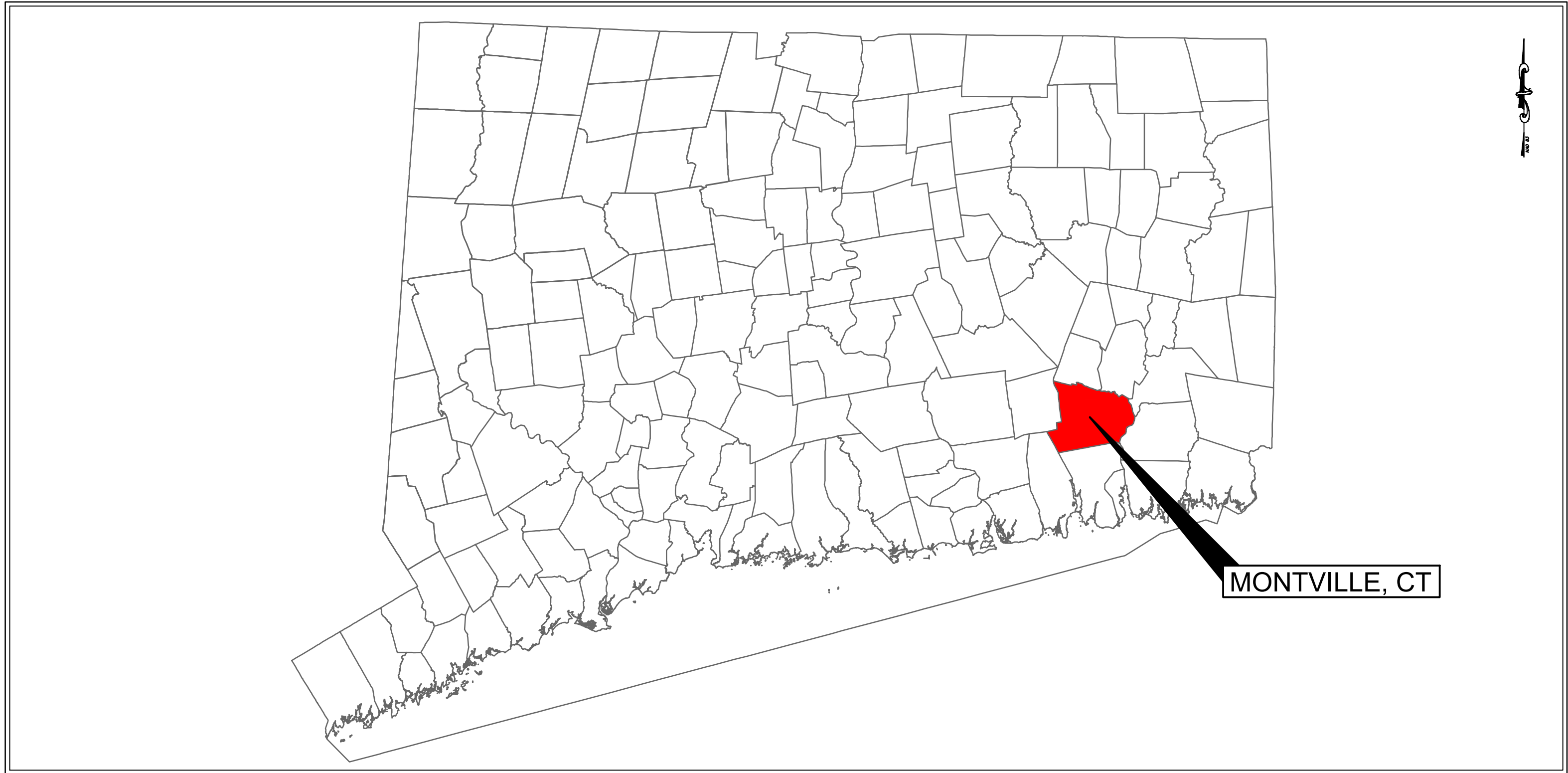
Authorization Application for Disruption of a Solid Waste Disposal Area

APPENDIX A

Project Drawings

TOWN OF MONTVILLE LANDFILL SOLAR PV DEVELOPMENT

669 ROUTE 163, MONTVILLE, CT



CONNECTICUT MUNICIPAL MAP

NOT TO SCALE

DRAWING INDEX	
SHEET NUMBER	SHEET TITLE
GENERAL	
G000	COVER SHEET
SURVEY	
V101	EXISTING CONDITIONS PLAN
CIVIL	
C001	NOTES AND SPECIFICATIONS
C101	PROPOSED SITE PLAN
C501	DETAILS I
C502	DETAILS II

ZONING	
ZONING DISTRICT	GOVERNMENT (G)
SPECIAL PERMITS REQUIRED	NONE
MINIMUM LOT SIZE	NONE
MINIMUM FRONTAGE	NONE
MINIMUM SETBACKS	NONE

LAND OWNER:

Town of Montville
310 Norwich-New London Tpke
Uncasville, CT 06382
Tel: (860) 848-3030

PROJECT DEVELOPER:

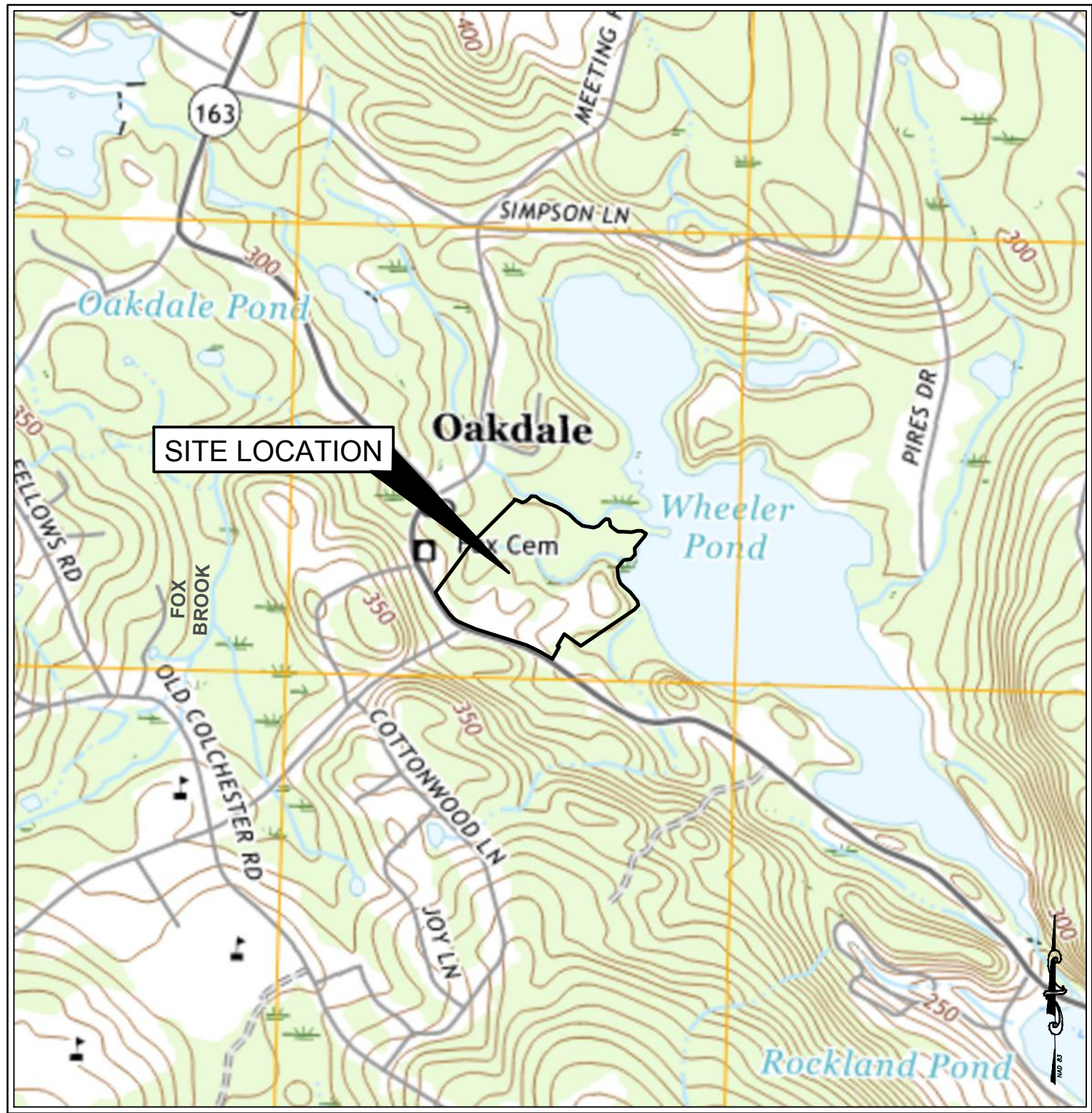
VEROGY

VCP Montville LP, LLC
124 LaSalle Road
2nd Floor
West Hartford, CT 06107
Tel: (860) 288-7215
www.verogy.com

CONSULTANT:

Weston & Sampson

Weston & Sampson Engineers, INC.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com



SITE LOCUS MAP

1" = 1,000'



SITE AERIAL MAP

1" = 500'

REV #	DESCRIPTION	DATE
2	REVISED PER TOWN COMMENTS	06/27/2023
1	ISSUED FOR DEEP PERMITTING	06/21/2023
0	ISSUED FOR PERMITTING	06/06/2023
REV #	DESCRIPTION	DATE

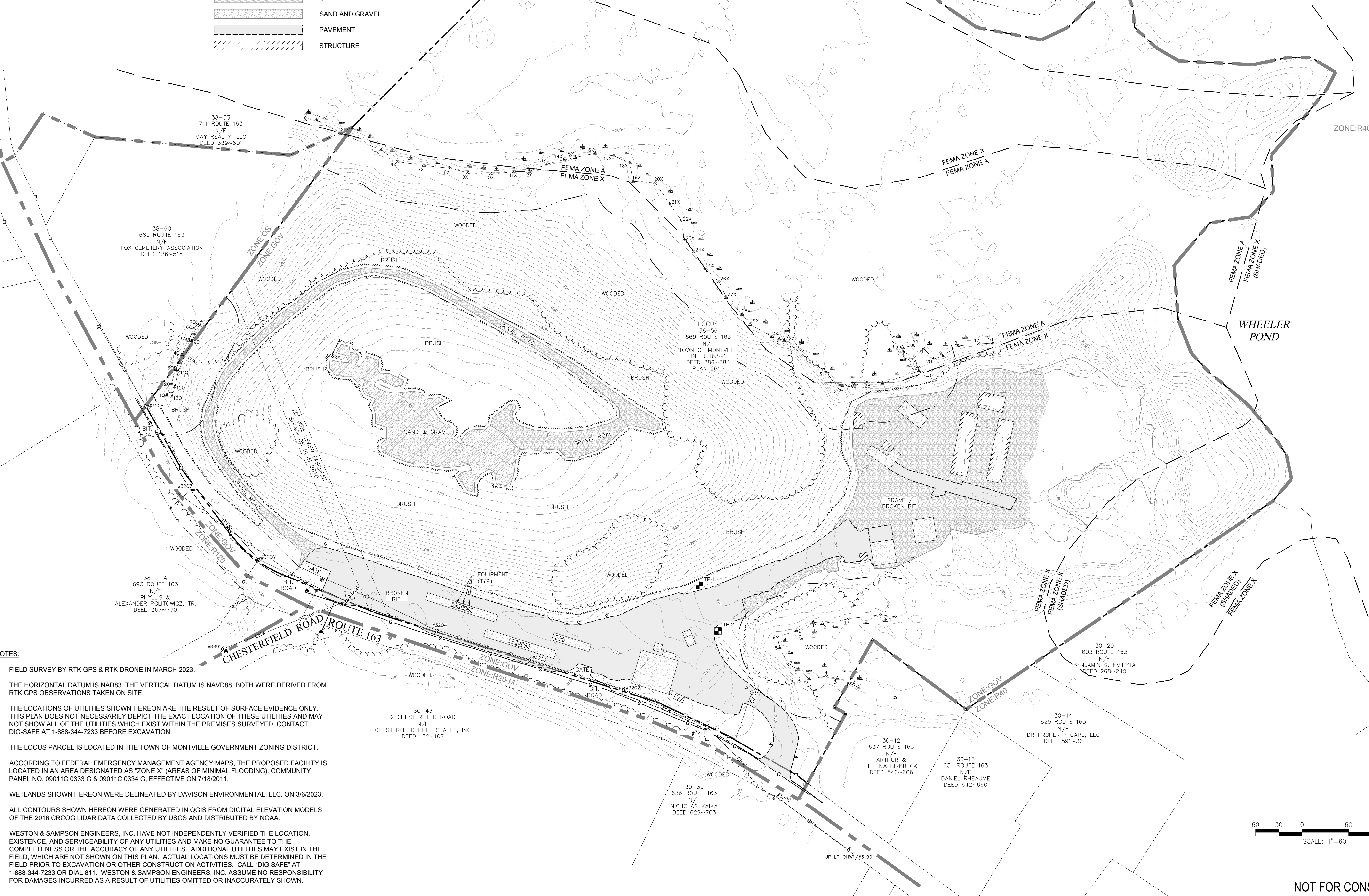


Know what's below.
Call before you dig.

Issued For:	PERMITTING	Drawn By:	DED
Original Issued Date:	06/06/2023	Reviewed By:	MRC
Approved By:	RJB	Job No.:	ENG23-0166
Drawing Title:	COVER SHEET	Sheet Number:	G000

EXISTING LEGEND:

- LOCUS PROPERTY LINE
ABUTTERS PROPERTY LINE
EASEMENT LINE
2' CONTOUR LINE
CHAIN LINK FENCE
WETLAND LINE
50' WETLANDS BUFFER
TREE LINE
TREE LINE
FEMA FLOOD ZONE LINE
ZONING LINE
OVERHEAD WIRES
BURIED GAS LINE
BURIED DRAINAGE LINE
- CONC. BOUND FOUND
CALCULATED POINT
UTILITY POLE
LIGHT POLE
GUY WIRE ANCHOR
CATCH BASIN
MANHOLE
WETLAND FLAG WITH IDENTIFIER
SIGN POST
GAS VALVE
TEST PIT
- CONCRETE PAD
GRAVEL
SAND AND GRAVEL
PAVEMENT
STRUCTURE



NOTES:

1. FIELD SURVEY BY RTK GPS & RTK DRONE IN MARCH 2023.
2. THE HORIZONTAL DATUM IS NAD83. THE VERTICAL DATUM IS NAVD88. BOTH WERE DERIVED FROM RTK GPS OBSERVATIONS TAKEN ON SITE.
3. THE LOCATIONS OF UTILITIES SHOWN HEREON ARE THE RESULT OF SURFACE EVIDENCE ONLY. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION OF THESE UTILITIES AND MAY NOT SHOW ALL OF THE UTILITIES WHICH EXIST WITHIN THE PREMISES SURVEYED. CONTACT DIG-SAFE AT 1-888-344-7233 BEFORE EXCAVATION.
4. THE LOCUS PARCEL IS LOCATED IN THE TOWN OF MONTVILLE GOVERNMENT ZONING DISTRICT.
5. ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, THE PROPOSED FACILITY IS LOCATED IN AN AREA DESIGNATED AS "ZONE X" (AREAS OF MINIMAL FLOODING), COMMUNITY PANEL NO. 09011C 0333 G & 09011C 0334 G, EFFECTIVE ON 7/18/2011.
6. WETLANDS SHOWN HEREON WERE DELINEATED BY DAVISON ENVIRONMENTAL, LLC. ON 3/6/2023.
7. ALL CONTOURS SHOWN HEREON WERE GENERATED IN QGIS FROM DIGITAL ELEVATION MODELS OF THE 2016 CROG LIDAR DATA COLLECTED BY USGS AND DISTRIBUTED BY NOAA.
8. WESTON & SAMPSON ENGINEERS, INC. HAVE NOT INDEPENDENTLY VERIFIED THE LOCATION, EXISTENCE, AND SERVICEABILITY OF ANY UTILITIES AND MAKE NO GUARANTEE TO THE COMPLETENESS OR THE ACCURACY OF ANY UTILITIES. ADDITIONAL UTILITIES MAY EXIST IN THE FIELD, WHICH ARE NOT SHOWN ON THIS PLAN. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD PRIOR TO EXCAVATION OR OTHER CONSTRUCTION ACTIVITIES. CALL "DIG SAFE" AT 1-888-344-7233 OR DIAL 811. WESTON & SAMPSON ENGINEERS, INC. ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.

Project:
TOWN OF MONTVILLE
LANDFILL
SOLAR PV DEVELOPMENT

669 ROUTE 163
MONTVILLE, CT 06353

Weston & Sampson

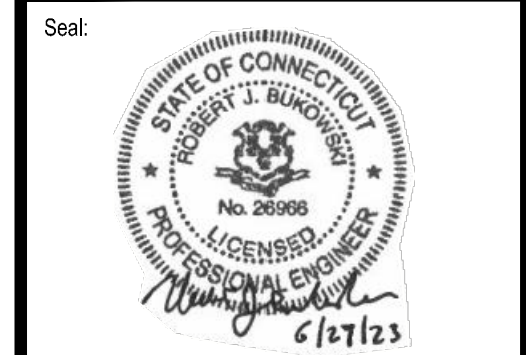
WESTON & SAMPSON ENGINEERS, INC.
712 BROOK STREET, SUITE 103
ROCKY HILL, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

Applicant:

VEROGY

VCP MONTVILLE I.F. LLC
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2ND FLOOR
WEST HARTFORD, CT 06107
TEL: (860) 288-7215
WWW.VEROGY.COM

Revisions:		
2	06/21/2023	REVISED PER TOWN COMMENTS
1	06/21/2023	ISSUED FOR DEEP PERMITTING
0	06/06/2023	ISSUED FOR PERMITTING
No.	Date	Description



Issued For:

PERMITTING

Scale: AS SHOWN

Date Created: 06/06/2023

Drawn By: DED

Reviewed By: MRC

Approved By: RJB

W&S Project No.: ENG23-0165

W&S File No.: Verogy Montville

Drawing Title:

EXISTING
CONDITIONS PLAN

Sheet Number:

V101

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MATERIAL SPECIFICATIONS AND PLACEMENT REQUIREMENTS:

1.1 CRUSHED STONE

DENSE GRADED CRUSHED STONE SHALL BE PLACED DIRECTLY BENEATH THE BALLASTS AS SHOWN ON THE DRAWINGS. THIS MATERIAL SHALL BE PLACED AT A MINIMUM THICKNESS OF 6-INCHES AND SHALL BE IN DIRECT CONTACT WITH THE BALLAST BLOCKS. THIS MATERIAL SHALL CONSIST OF CLEAN HARD, DURABLE CRUSHED ROCK OR CRUSHED GRAVEL STONE, FREE FROM LOAM AND CLAY AND DELETERIOUS MATERIAL. THIS MATERIAL SHALL MEET THE FOLLOWING GRADATION :

SIEVE DESIGNATION	PERCENT PASSING
3.5-INCH	100
1.5-INCH	55-100
1/4-INCH	25-60
NO. 10	15-45
NO. 40	5-25
NO. 100	0-10
NO. 200	0-5

PRIOR TO USE, THE DENSE GRADED CRUSHED STONE SHALL BE TESTED FOR APPROVAL AS DESCRIBED BELOW IN SECTION 2.0 AND SHALL BE PLACED AS DESCRIBED BELOW IN SECTION 3.0.

1.2 GRANULAR BASE MATERIAL

CLEAN GRANULAR BASE MAY BE USED BENEATH THE MINIMUM 6-INCH LAYER OF CRUSHED STONE FOR FILL OR GRADING MATERIAL. GRANULAR FILL SHALL CONSIST OF CTDOT MATERIAL M.02.03, GRANULAR BASE, OR APPROVED EQUAL. THIS MATERIAL SHALL MEET THE FOLLOWING GRADATION FOR CTDOT M.02.06 GRADING "C":

SIEVE DESIGNATION	PERCENT PASSING
1.5-INCH	100
3/4-INCH	45-85
1/4-INCH	25-60
NO. 10	15-45
NO. 40	5-25
NO. 100	0-10
NO. 200	0-5

PRIOR TO USE, THE GRANULAR BASE SHALL BE TESTED FOR APPROVAL AS DESCRIBED IN SECTION 2.0 AND SHALL BE PLACED AS DESCRIBED IN SECTION 3.0.

1.3 TOPSOIL

TOPSOIL SHALL CONSIST OF CTDOT MATERIAL M.13.01, TOPSOIL, OR APPROVED EQUAL. TOPSOIL SHALL NOT CONTAIN LESS THAN 6% NOR MORE THAN 20% ORGANIC MATERIAL AS DETERMINED BY LOSS ON IGNITION OF OVEN-DRIED SAMPLES DRIED AT 221 DEG. F (105 DEG C). TOPSOIL SHALL BE LOOSE AND FRIABLE AND FREE OF FROM REFUSE, STUMPS, ROOTS, BRUSH, WEEDS, ROCKS AND STONES OVER 1-1/4-INCHES IN DIAMETER. TOPSOIL SHALL ALSO BE FREE FROM ANY MATERIAL THAT WILL PRVENT THE FORMATION OF A SUITABLE SEEDBED OR PREVENT SEED GERMINATION AND PLANT GROWTH.

1.4 GEOSYNTHETICS:

- GENERAL:
INSTALLATION OF GEOTEXTILE FABRICS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND SPECIFIC LAYOUT PLANS AND DETAILS REVIEWED BY ENGINEER.
- WOVEN GEOTEXTILE:
THE WOVEN GEOTEXTILE SHALL BE MIRAFI HP 770 FABRIC, BY MIRAFI INC., OR APPROVED EQUIVALENT. THE WOVEN GEOTEXTILE SHALL BE COMPOSED OF POLYPROPYLENE STABILIZED WITH CARBON BLACK TO RESIST ULTRAVIOLET DEGRADATION AND BE RESISTANT TO BIOLOGICAL AND CHEMICAL DEGRADATION DUE TO ALL NATURALLY OCCURRING ORGANISMS OR REAGENTS NORMALLY ENCOUNTERED IN NATURAL SOIL ENVIRONMENTS.
- NON-WOVEN GEOTEXTILE:
THE NON-WOVEN GEOTEXTILE SHALL BE MIRAFI 140N FABRIC, BY MIRAFI INC., OR APPROVED EQUIVALENT. THE NON-WOVEN GEOTEXTILE SHALL BE COMPOSED OF POLYPROPYLENE FIBERS AND SHALL BE INERT TO BIOLOGICAL DEGRADATION AND RESISTANT TO NATURALLY ENCOUNTERED CHEMICALS, ALKALIS, AND ACIDS.
- GEOGRID
THE GEOGRID SHALL BE MIRAFI BXG110, BY MIRAFI INC., OR APPROVED EQUIVALENT.

2.0 BORROW SOURCE TESTING REQUIREMENTS

PRIOR TO USE, BORROW SOURCE TESTING, INCLUDING GEOTECHNICAL CHARACTERIZATION REQUIREMENTS, SHALL BE CONDUCTED ON ALL SOIL MATERIALS PROPOSED FOR CONSTRUCTION AND SUBMITTED TO THE ENGINEER TO ASSESS CONFORMANCE TO MATERIAL SPECIFICATIONS.

3.0 MATERIAL PLACEMENT AND FIELD QUALITY CONTROL REQUIREMENTS

- DO NOT PLACE FILL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST OR ICE.
- SURFACES ON WHICH THE GEOTEXTILE WILL BE PLACED SHALL BE PREPARED TO A RELATIVELY SMOOTH SURFACE CONDITION. SURFACES SHALL BE FREE FROM OBSTRUCTION, DEBRIS, DEPRESSIONS, OR EROSION FEATURES. VEGETATION SHALL BE MOWED AS SHORT AS POSSIBLE PRIOR TO PLACEMENT OF GEOTEXTILE FABRIC. ANY IRREGULARITIES SHALL BE REMOVED SO AS TO ENSURE CONTINUOUS, INTIMATE CONTACT OF THE GEOTEXTILE WITH THE SURFACE. ANY LOOSE MATERIAL, SOFT OR LOW DENSITY POCKETS OF MATERIAL, SHALL BE REMOVED, FILLED WITH SUITABLE SUBGRADE FILL, AND COMPACTED. EROSION FEATURES SUCH AS RILLS AND GULLIES MUST BE GRADED OUT OF THE SURFACE BEFORE GEOTEXTILE PLACEMENT.
- AT THE TIME OF INSTALLATION, FABRIC SHALL BE REJECTED IF IT HAS DEFECTS, RIPS, HOLES, FLAWS, DETERIORATION OR DAMAGE INCURRED DURING MANUFACTURE, TRANSPORTATION OR STORAGE.
- PLACE FABRIC WITH THE LONG DIMENSION PARALLEL TO THE CENTERLINE OF THE BALLASTS AND LAY SMOOTH AND FREE OF TENSION, STRESS, FOLDS, WRINKLES, OR CREASES.
- CRUSHED STONE SHALL BE PLACED IN MAXIMUM 6-INCH LOOSE LIFTS AND COMPACTED WITH 3 PASSES, IN BOTH DIRECTIONS BY A SMOOTH DRUM ROLLER COMPACTOR (ACCESS ROAD AREAS) OR BY A PLATE COMPACTOR (BALLAST BLOCK AND SUPPORT BLOCK GRAVEL BASE AREAS) TO A FIRM AND NON-YIELDING CONDITION.
- THE MAXIMUM ALLOWABLE GROUND PRESSURE ON THE LANDFILL SURFACE IS 7 PSI. ALL MATERIAL AND BALLAST BLOCK PLACEMENT ON THE SURFACE OF THE LANDFILL (BEYOND THE LIMITS OF THE PROPOSED ACCESS ROADS) SHALL BE PERFORMED USING LOW GROUND PRESSURE EQUIPMENT.
- THE MAXIMUM ALLOWABLE CROSS-SLOPE (PERPENDICULAR TO THE BALLAST BLOCKS) IS 5%. AT LIMITED LOCATIONS WHERE EXISTING SLOPE BETWEEN THE 2 BALLAST BLOCKS ON THE SAME RACK IS GREATER THAN 10%, CONTRACTOR SHALL SHIM THE LOWER BLOCK TO MEET THE 10% MAXIMUM SLOPE, USING ADDITIONAL DENSE GRADE CRUSHED STONE MEETING THE MATERIAL SPECIFICATIONS OF SECTION 1.1.

EROSION AND SEDIMENTATION CONTROL PLAN:

THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROPOSED PROJECT.

THIS PLAN IS BASED ON STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

GENERAL EROSION AND SEDIMENTATION CONSTRUCTION DETAIL NOTES:

DURING CONSTRUCTION THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO SCHEDULE EARTHWORK OPERATIONS SUCH THAT THE AREA OF EXPOSED AND DISTURBED SOIL IS MINIMIZED. CONSTRUCTION SHALL BE PHASED TO REDUCE THE AREA OF DISTURBED SOIL AT ANY ONE TIME. UPGRADIENT STORMWATER DIVERSION AND DISPERSION MEASURES SHALL BE INSTALLED WHERE APPROPRIATE. AFTER ACHIEVING ROUGH GRADE OF A PORTION OF THE SITE AND PRIOR TO EXTENDING EARTHWORK OPERATIONS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS BY LAYING DOWN TEMPORARY MULCH UNTIL FINAL GRADE IS REACHED. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION. THE FOLLOWING MEASURES WILL BE UNDERTAKEN TO PROVIDE MAXIMUM PROTECTION TO THE SOIL, WATER, AND ABUTTING LANDS:

- NO EROSION/SEDIMENTATION CONTROL DEVICE SHALL PENETRATE THE EXISTING LANDFILL COVER MATERIALS WITHIN THE LIMITS OF WASTE.
- PRIOR TO GRUBBING OR ANY EARTH MOVING OPERATION, SEDIMENT BARRIERS, OR OTHER APPROPRIATE BEST MANAGEMENT PRACTICE (BMP) SHALL BE INSTALLED ACROSS THE SLOPE ON THE CONTOUR AT THE DOWNHILL LIMIT OF THE WORK AS PROTECTION AGAINST CONSTRUCTION RELATED EROSION. INSTALL ALL NECESSARY STORMWATER DIVERSIONS AND DISPERSION MEASURES.
- PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS AFTER FINAL GRADING HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE OR PRACTICAL TO PERMANENTLY STABILIZE DISTURBED LAND, TEMPORARY EROSION CONTROL MEASURES SHALL BE IMPLEMENTED ON DISTURBED AREAS INCLUDING STOCKPILES WITHIN FOURTEEN (14) CALENDAR DAYS OF EXPOSURE OF SOIL OR FORMATION OF PILES UNLESS THESE AREAS ARE TO BE SUBSEQUENTLY SURFACED. ALL DISTURBED AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF ROUGH GRADING.
- ANY EXPOSED SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITH EROSION CONTROL BLANKET TO PREVENT EROSION DURING CONSTRUCTION AND TO FACILITATE REVEGETATION AFTER TOPSOILING AND SEEDING. SEE DETAIL 4 ON C501.
- EXISTING TOPSOIL SHALL BE SAVED, STOCKPILED, AND REUSED AS MUCH AS POSSIBLE ON SITE. SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASES OF STOCKPILES AT THE DOWNHILL LIMITS TO PROTECT AGAINST EROSION. STOCKPILES SHALL BE STABILIZED BY SEEDING AND MULCHING UPON FORMATION OF THE PILES. UPGRADIENT OF THE STOCKPILES, STABILIZED DITCHES AND/OR BERMS SHALL BE CONSTRUCTED TO DIVERT STORMWATER RUNOFF AWAY FROM THE PILES.
- INTERCEPTED SEDIMENT SHALL BE REMOVED AND SHALL BE DEPOSITED TO AN AREA THAT SHALL NOT CONTRIBUTE TO OFF-SITE SEDIMENTATION, AND SHALL BE PERMANENTLY STABILIZED.
- ADDITIONAL EROSION CONTROL METHODS SHALL BE IMPLEMENTED IF CONSTRUCTION OCCURS AFTER DECEMBER 15TH. ALL DISTURBED AREAS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE. PRIOR TO FREEZING, ADDITIONAL EROSION CONTROL DEVICES SHALL BE INSTALLED AS APPROVED BY THE ENGINEER. INSPECTION OF THESE EROSION CONTROL ITEMS SHALL BE FREQUENT, WITH PARTICULAR ATTENTION PAID TO WEATHER PREDICTIONS TO ENSURE THAT THESE MEASURES ARE PROPERLY IN PLACE TO HANDLE LARGE QUANTITIES OF RUNOFF RESULTING FROM HEAVY RAINS AND/OR EXCESSIVE THAWS.
- GENERAL EROSION AND SEDIMENTATION CONTROL ACTIONS SHALL INCLUDE THE FOLLOWING:
 - MARK SOIL DISTURBANCE LIMITS
 - INSTALL SEDIMENT BARRIERS BEFORE DISTURBING ANY SOILS
 - DIVERT AND DISPERSE STORM WATER RUNOFF TO UNDISTURBED AREAS WHEREVER POSSIBLE
 - MULCH DISTURBED AREAS
 - PROTECT STEEP SLOPES
 - INSPECT AND REPAIR EROSION CONTROLS AND SEDIMENT BARRIERS
 - REMOVE ACCUMULATED SEDIMENT

TYPICAL SEQUENCE OF CONSTRUCTION:

PRIOR TO THE DEVELOPMENT OF THE SITE, EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS. SITE DEVELOPMENT SCHEDULING SHALL TAKE INTO CONSIDERATION THE GROWING SEASON, SUCH THAT BULK OF THE EARTHWORK IS NOT INITIATED DURING A PERIOD WHEN VEGETATIVE STABILIZATION CANNOT BE ACHIEVED WITHIN 14 DAYS OF COMPLETING THE EARTHWORK IN A GIVEN AREA. A TYPICAL SEQUENCE OF CONSTRUCTION IS:

- PRIOR TO STARTING ANY WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, NOTIFY APPROPRIATE OFFICIALS, INCLUDING THE TOWN OF MONTVILLE DEPARTMENT OF PUBLIC WORKS DIRECTOR, OF CONSTRUCTION COMMENCEMENT, AND SUBMIT CONSTRUCTION TIMETABLE.
- ON-SITE CONSTRUCTION SHALL START WITH INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THE PROPOSED SITE PLAN SHEETS. THIS INCLUDES STRAW WATTLES, CONSTRUCTION ENTRANCE/EXIT, AND OTHER MEASURES NOTED ON THE PLAN. NO WORK SHALL TAKE PLACE UNTIL THE ENGINEER HAS INSPECTED AND APPROVED INSTALLED MEASURES. NO EROSION/SEDIMENTATION CONTROL DEVICE SHALL PENETRATE THE EXISTING LANDFILL COVER MATERIALS WITHIN THE LIMITS OF WASTE.
- STOCKPILED TOPSOIL SHALL BE SEEDED AND MULCHED WHEN IT IS TO BE STORED MORE THAN 30 DAYS FROM TIME OF STOCKPILING. STOCKPILES SHALL NOT BE PLACED WITHIN THE LIMITS OF THE LANDFILL OR WITHIN THE 100' WETLAND BUFFER ZONE. SEE SHEET C502 FOR A TYPICAL TEMPORARY STOCKPILE DETAIL.
- CONSTRUCT GRAVEL ACCESS ROADS. INSTALL ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED TO PREVENT EROSION OF GRAVEL SURFACE.
- PROCEED WITH SOLAR PHOTOVOLTAIC (PV) SYSTEM INSTALLATION/CONSTRUCTION WORK.
- REPAIR ALL DISTURBED AREAS, AND REAPPLY LOAM AND SEED WHERE NECESSARY.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL AFTER THE SITE IS STABILIZED AND FINAL ACCEPTANCE IS GIVEN BY THE ENGINEER.

DUST CONTROL:

- CONSTRUCTION ACTIVITIES SHALL BE SCHEDULED SO THAT A MINIMUM AMOUNT OF OF DISTURBED SOIL IS EXPOSED AT ONE TIME.
- DUST SHALL BE CONTROLLED ON CONSTRUCTION ROUTES AND OTHER DISTURBED AREAS SUBJECT TO SURFACE DUST MOVEMENT AND DUST BLOWING.
- MAINTAIN DUST CONTROL MEASURES PROPERLY THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- DUST CONTROL METHODS SHALL INCLUDE VEGETATIVE COVER, MULCH (INCLUDING GRAVEL MULCH), WATER SPRINKLING, STONE, AND BARRIERS.
- VEGETATIVE COVER - FOR DISTURBED AREAS NOT SUBJECT TO TRAFFIC, VEGETATION PROVIDES THE MOST PRACTICAL METHOD OF DUST CONTROL.
- MULCH (INCLUDING GRAVEL MULCH) - WHEN PROPERLY APPLIED, MULCH OFFERS A FAST, EFFECTIVE MEANS OF CONTROLLING DUST.
- SPRINKLING - THE SITE MAY BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. SPRINKLING IS ESPECIALLY EFFECTIVE FOR DUST CONTROL ON HAUL ROADS AND OTHER TRAFFIC ROUTES. THE GROUND SURFACE SHALL NOT BE WATERED EXCESSIVELY, RUNOFF SHALL NOT OCCUR.
- STONE - USED TO STABILIZE CONSTRUCTION ROADS; CAN ALSO BE EFFECTIVE FOR DUST CONTROL.
- BARRIERS - A BOARD FENCE, WIND FENCE, SEDIMENT FENCE, OR SIMILAR BARRIER CAN CONTROL AIR CURRENTS AND BLOWING SOIL. ALL OF THESE FENCES ARE NORMALLY CONSTRUCTED OF WOOD AND THEY PREVENT EROSION BY OBSTRUCTING THE WIND NEAR THE GROUND AND PREVENTING THE SOIL FROM BLOWING OFFSITE.

MONITORING PROGRAM:

- EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.25 INCHES OR GREATER. ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED IMMEDIATELY. ALL DAMAGED STRUCTURES SHALL BE REPAIRED AND/OR ADDITIONAL EROSION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO CONTINUING THE CONSTRUCTION. TRAPPED SEDIMENT SHALL BE REMOVED BEFORE IT HAS ACCUMULATED TO ONE-HALF FOOT DEEP AT THE INSTALLED SEDIMENT BARRIER. DEVICES NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION SHALL ALSO BE REPAIRED AND/OR REPLACED AS REQUIRED. RUTTING OR EXPOSED SOIL SHALL BE REPAIRED TO PREVENT EROSION AND OTHERWISE MITIGATED AS NECESSARY TO MINIMIZE FUTURE EROSION.
- FOLLOWING THE FINAL SEEDING, THE SITE SHALL BE INSPECTED TO ENSURE THAT THE VEGETATION HAS BEEN ESTABLISHED (70% COVER ACHIEVED), IN THE EVENT OF ANY UNSATISFACTORY GROWTH, RESEEDING WILL BE CARRIED OUT, WITH FOLLOW-UP INSPECTION.
- AFTER THE CONSTRUCTION INSPECTOR HAS DETERMINED THAT THE PROJECT AREA HAS BEEN STABILIZED, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT BARRIERS, TEMPORARY SEDIMENTATION CONTROL RISERS, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES.

SEEDING AND REVEGETATION PLAN:

UPON COMPLETION OF SITE CONSTRUCTION, ALL AREAS PREVIOUSLY DISTURBED SHALL BE TREATED AS STATED BELOW. THESE AREAS WILL BE CLOSELY MONITORED BY THE CONTRACTOR UNTIL SUCH TIME AS A SATISFACTORY GROWTH OF VEGETATION IS ESTABLISHED. SATISFACTORY GROWTH SHALL MEAN A MINIMUM OF 70% OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH.

- TOPSOIL WILL BE SPREAD OVER ALL DISTURBED AREAS TO BE REVEGETATED AND SHALL BE GRADED TO A DEPTH OF FOUR (4) TO SIX (6) INCHES.
- FERTILIZER AT A 10-10-10 PROPORTION SHALL BE MIXED WITH HYDROSEED (AND LIME, IF REQUIRED) AT A RATE OF 300 LBS. PER ACRE.
- WOOD FIBER MULCH SHALL BE APPLIED AT A RATE OF 2,000 LBS. PER ACRE FOR MAXIMUM MOISTURE RETENTION RESULTS.
- DISTURBED AREAS SHALL BE SEEDED USING ONE OF THE FOLLOWING MIXES AS DIRECTED BY THE OWNER AND ENGINEER DEPENDING ON THE TIME OF YEAR AND AMOUNT OF SEEDING REQUIRED:
 - CT PERMANENT SEED MIX: AT THE RATE OF 1 LB. PER 1,000 SQ. FT. OF THE FOLLOWING MIXTURE: 45% KENTUCKY BLUEGRASS, 45% CREEPING RED FESCUE, AND 10% PERENNIAL RYEGRASS (CTDEEP PERMANENT SEED MIX, NO. 1). SEEDING SHOULD BE PLANTED TO A DEPTH OF 1/4 TO 1/2 INCHES. SEEDING METHODS MAY BE DRILL SEEDINGS, BROADCASTS AND ROLLED, CULTIPACKED, OR TRACKED WITH A SMALL TRACK PIECE OF CONSTRUCTION EQUIPMENT, OR HYDROSEEDING, WITH SUBSEQUENT TRACKING. TACKIFIER SHALL BE USED IN HYDROSEED TO HELP IT ADHERE TO THE SOIL AND ANY SLOPES PROPERLY.
- SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF APRIL 1 THROUGH JUNE 15 AND AUGUST 15 THROUGH OCTOBER 1. WATERING MAY BE REQUIRED DURING DRY PERIODS.
- STEEP SLOPES (3:1 AND STEEPER), IF ENCOUNTERED, SHALL BE STABILIZED BY INSTALLING EROSION CONTROL BLANKET (E.G., NORTH AMERICAN GREEN OR EXCELSIOR). SEE DETAIL 4 ON C501.
- IF FINAL SEEDING OF THE DISTURBED AREA IS NOT COMPLETED BY OCTOBER 1ST OF THE YEAR OF CONSTRUCTION THEN, WITHIN THE NEXT 10 CALENDAR DAYS, THESE AREAS SHALL BE GRADED AND SMOOTHED, THEN SEEDED TO A WINTER COVER CROP OF WINTER RYE AT A RATE OF 3 LBS. PER 1,000 SQ. FT. THE FOLLOWING SHALL BE INCORPORATED INTO THE SOIL PRIOR TO WINTER RYE SEEDING: GROUND LIMESTONE AT A RATE OF 100 LBS. PER 1,000 SQ. FT., FOLLOWED BY A 10-10-10 FERTILIZER AT A RATE OF 14 LBS. PER 1,000 SQ. FT. HAY MULCH SHALL BE APPLIED AT A RATE OF 100 LBS. PER 1,000 SQ. FT. FOLLOWING SEEDING, IF THE WINTER RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1, OR DOES NOT MAKE ADEQUATE GROWTH BY NOVEMBER 1, THEN ON THAT DATE, HAY MULCH SHALL BE APPLIED AT THE RATE OF 100 LBS. PER 1,000 SQ. FT. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON HAY MULCH FOR WIND CONTROL. EROSION CONTROL BLANKET WILL BE INSTALLED ON STEEP SLOPES (3:1 AND STEEPER) AND ON AREAS OF CONCENTRATED FLOWS.
- INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEED IMMEDIATELY. CONDUCT A FOLLOW-UP SURVEY AFTER ONE YEAR AND RESEED WHERE NECESSARY.
- IF THERE ARE AREAS WITH LESS THAN 40% COVER, REEVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. IF THE SEASON PREVENTS RESOWING, MULCH OR JUTE NETTING IS AN EFFECTIVE TEMPORARY COVER.
- SEEDED AREAS SHOULD BE FERTILIZED DURING THE SECOND GROWING SEASON.
- LIME AND FERTILIZE THEREAFTER AT PERIODIC INTERVALS, AS NEEDED.
- ALL SEDIMENT CONTROL STRUCTURES WILL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 70%, OF THE AREA IS VEGETATED WITH VIGOROUS GROWTH AS DETERMINED BY THE ENGINEER.

Project:

TOWN OF MONTVILLE
LANDFILL
SOLAR PV DEVELOPMENT

669 ROUTE 163
MONTVILLE, CT 06353

Weston & Sampson
WESTON & SAMPSON ENGINEERS, INC.
712 BROOK STREET, SUITE 103
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860.513.1473 800.SAMPSON
www.westonandsampson.com

Applicant:

VEROGY
VCP MONTVILLE, LLC
124 LASALLE ROAD
2ND FLOOR
WEST HARTFORD, CT 06107
TEL: (860) 288-7215
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Seal:

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Drawn By: DED

Reviewed By: MRC

Approved By: RJB

W&S Project No.: ENG23-0165
W&S File No.: Verogy Montville

Drawing Title:

NOTES AND SPECIFICATIONS

Sheet Number:

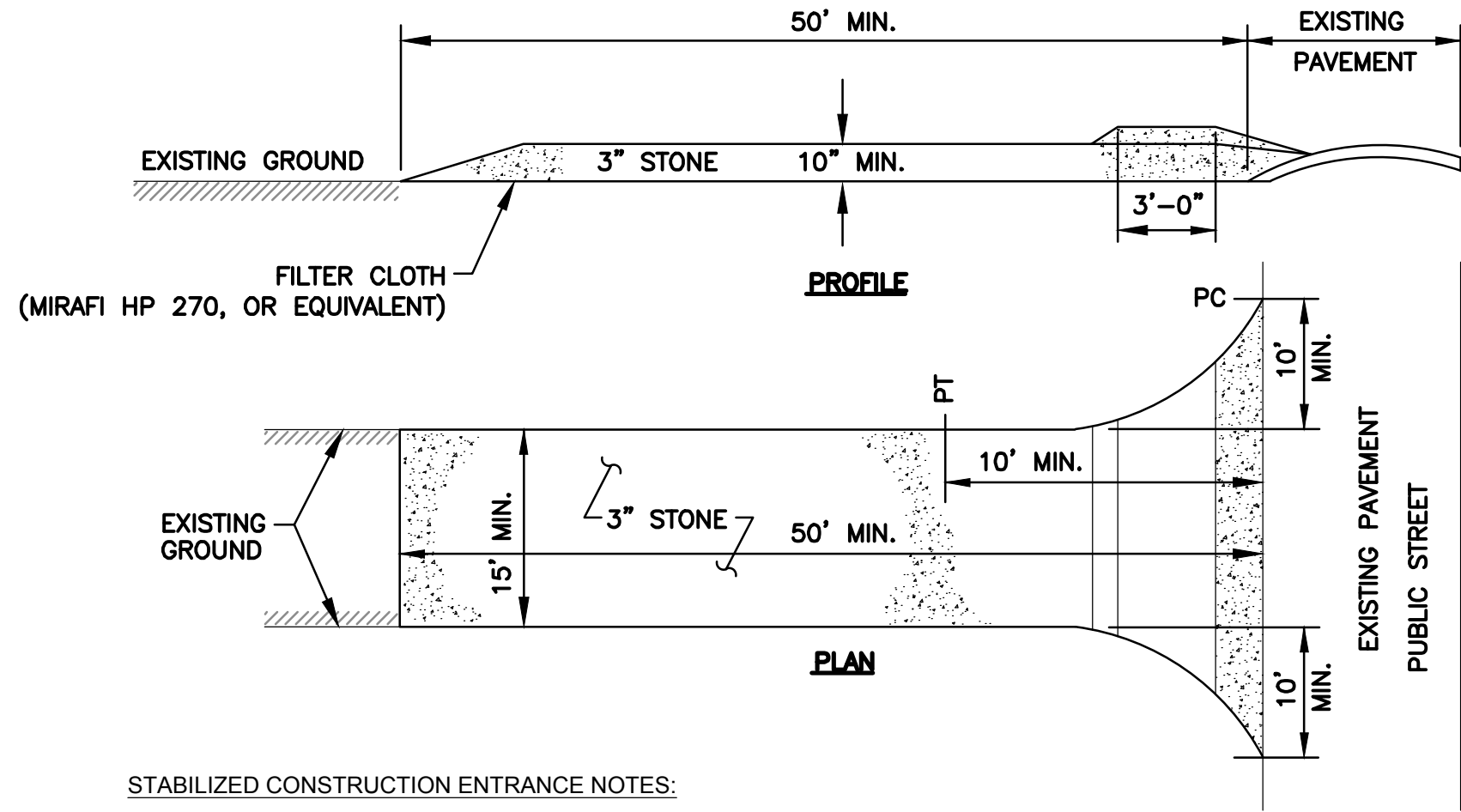
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NOT FOR CONSTRUCTION



C101

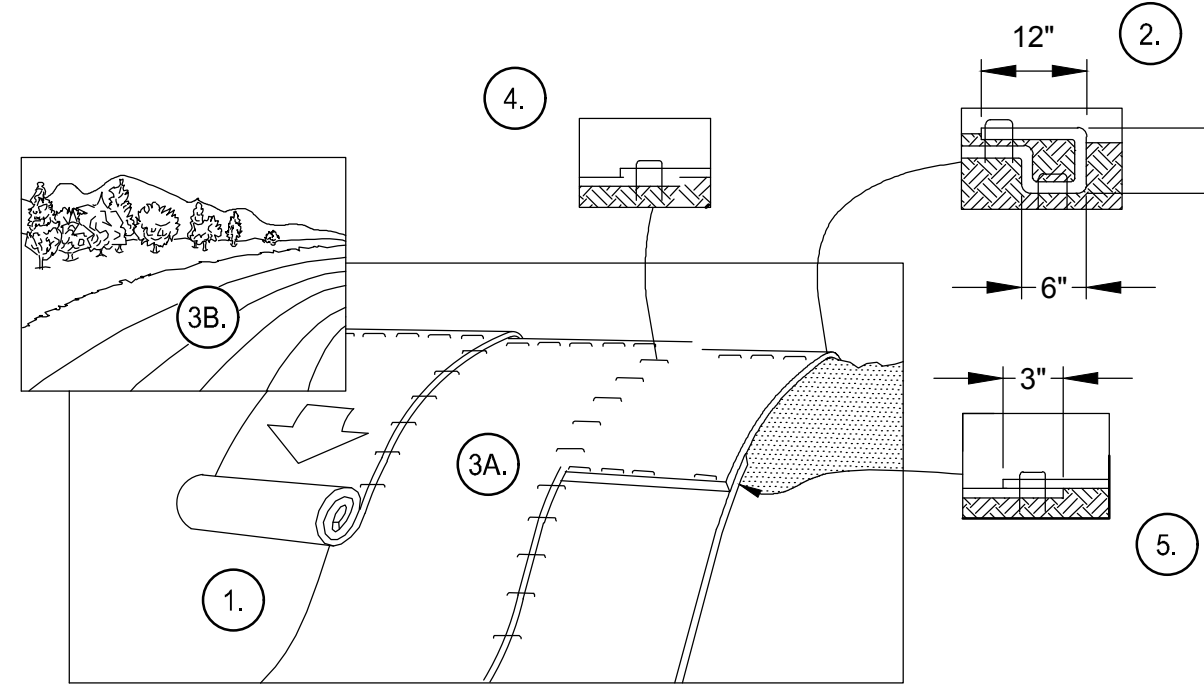
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STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA FOLLOWING GRADING (AS NEEDED) TO LEVEL PAD PRIOR TO PLACING OF STONE.
2. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED BY THE CONTRACTOR IMMEDIATELY.
4. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
6. AT THE CONCLUSION OF PROJECT, ANY ACCUMULATED SEDIMENT SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. REMOVAL OF ANTI-TRACKING PAD SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
7. P.C. = POINT OF CURVATURE
8. P.T. = POINT OF TANGENCY

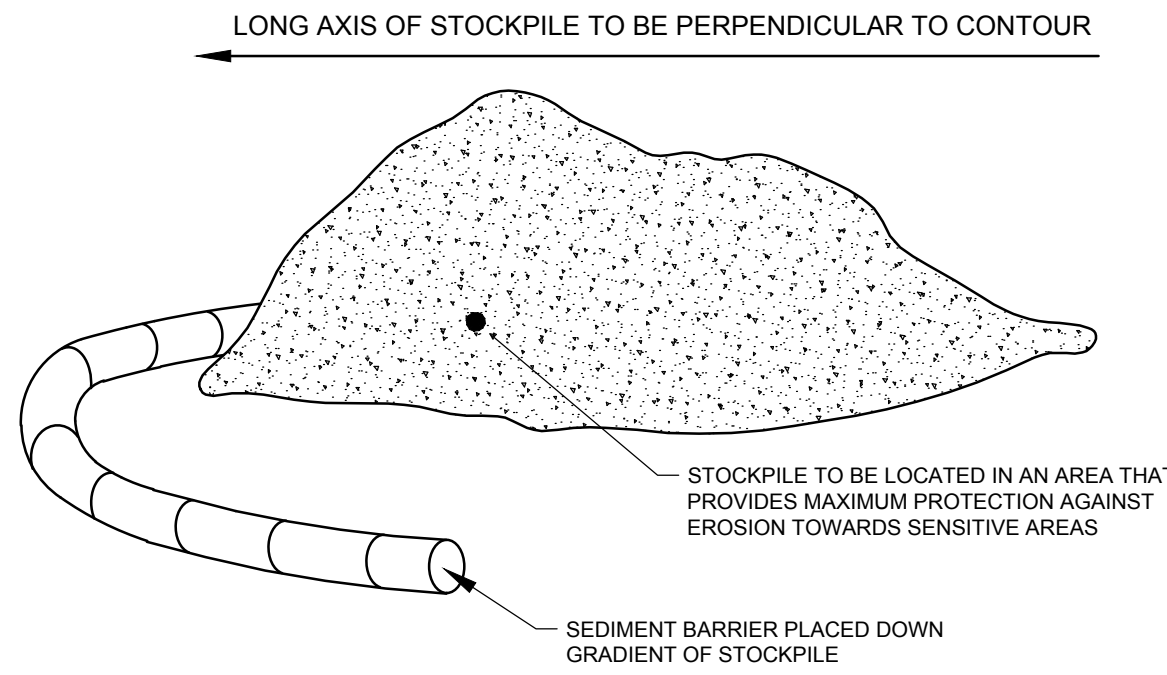
1 CONSTRUCTION ENTRANCE
SCALE: N.T.S.



NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. ALL 3H:1V SLOPES SHALL BE STABILIZED WITH EROSION CONTROL BLANKETING. BLANKETING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
7. ALL SLOPES STEEPER THAN 3H:1V SHALL BE STABILIZED WITH PERMANENT TURF REINFORCEMENT MATTING OR RIPRAP.

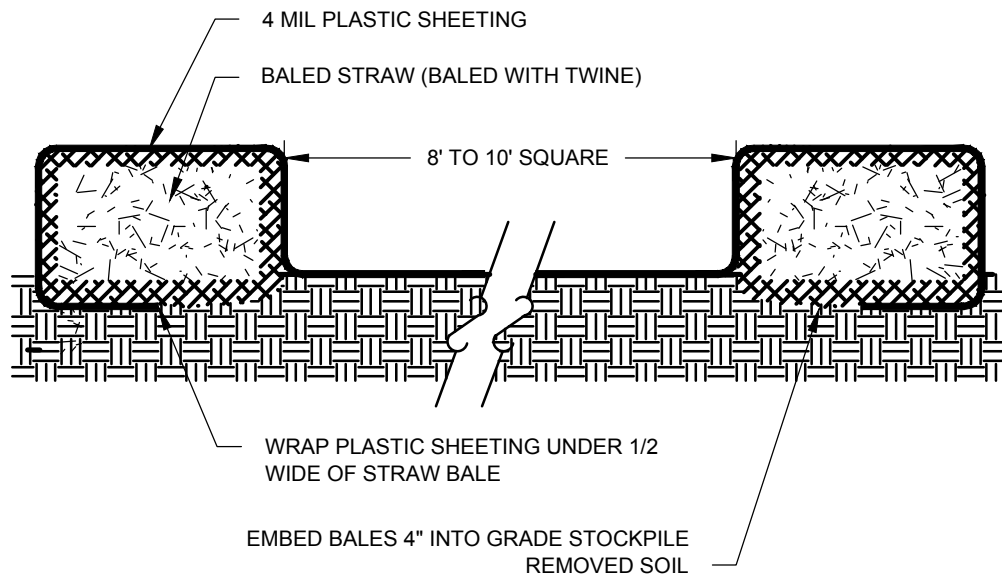
4 TEMPORARY EROSION CONTROL BLANKET
SCALE: N.T.S.



NOTES:

1. STOCKPILE AREAS SHALL BE LOCATED OUTSIDE OF WETLANDS AND 50FT UPLAND REVIEW AREA.

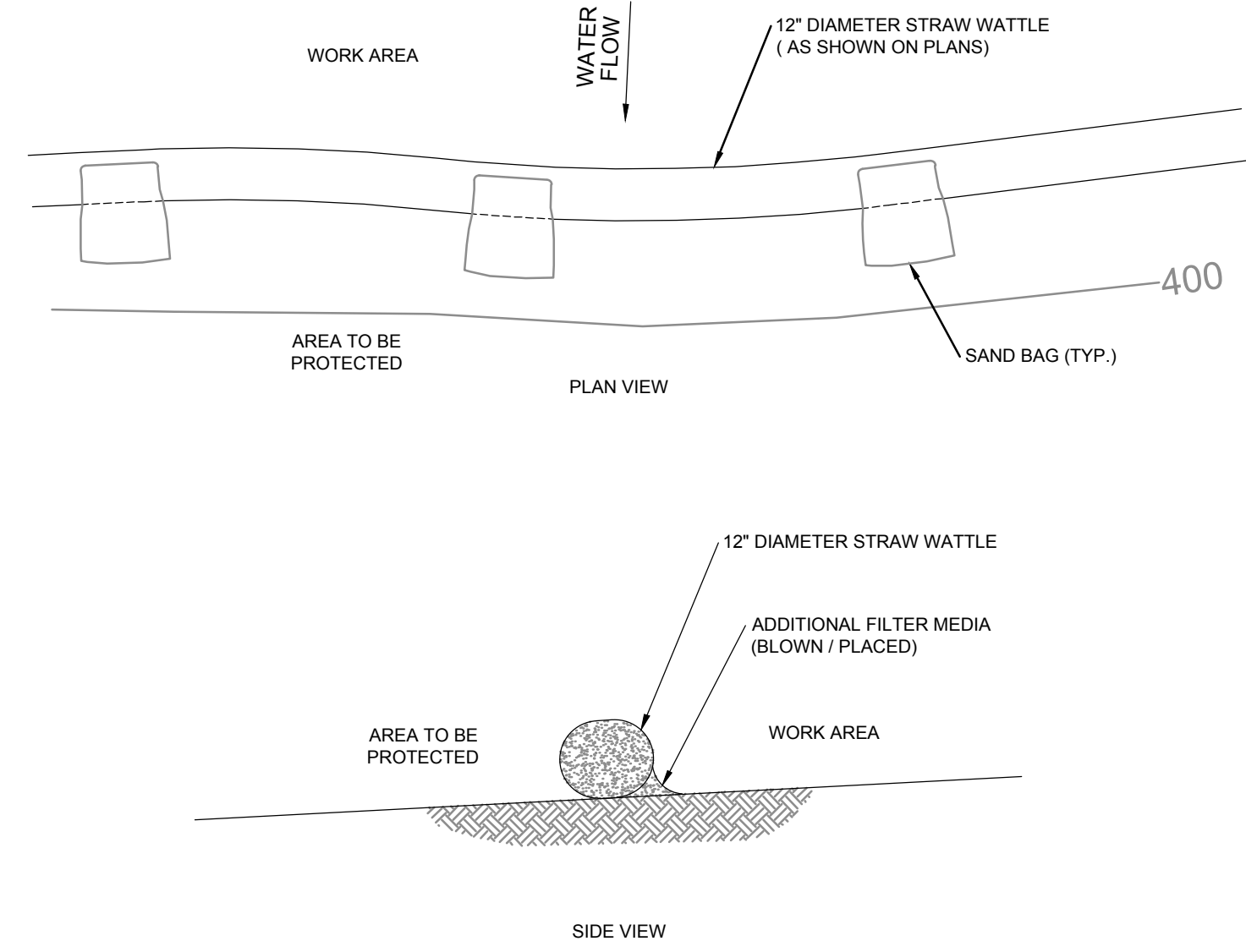
2 TEMPORARY STOCKPILE
SCALE: N.T.S.



NOTES:

1. PLASTIC SHEETING SHALL BE FREE OF TEARS OR HOLES. AFTER BASIN IS USED, WASHWATER FROM WASHOUT BASIN SHALL EVAPORATE OR BE VACUUMED OUT. REMOVE REMAINING HARDENED SOLIDS. REPLACE PLASTIC SHEETING AND STRAWBALES AS REQUIRED.

5 CONCRETE WASHOUT BASIN
SCALE: N.T.S.



NOTES:

1. SUPPORT POSTS OR STAKES ARE PROHIBITED FOR USE TO SECURE SEDIMENT BARRIER OVER THE EXISTING LANDFILL CAP. NO EROSION/SEDIMENTATION CONTROL DEVICE SHALL PENETRATE THE EXISTING LANDFILL CAP MATERIAL.
2. SAND BAGS TO BE SPACED EQUALLY TO SECURE COMPOST SOCKS IN PLACE, IF REQUIRED.
3. UPON COMPLETION, COMPOST MATERIAL TO BE DISPERSED ON SITE AS DETERMINED BY ENGINEER.

3 COMPOST SOCK SEDIMENT CONTROL BARRIER
SCALE: N.T.S.

Project:
TOWN OF MONTVILLE
LANDFILL
SOLAR PV DEVELOPMENT

669 ROUTE 163
MONTVILLE, CT 06353

Weston & Sampson

WESTON & SAMPSON ENGINEERS, INC.
712 BROOK STREET, SUITE 103
ROCKY HILL, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

Applicant:

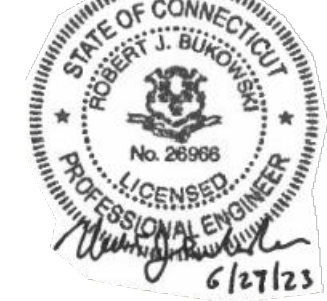
VEROGY

VCP MONTVILLE L.F. LLC
124 LASALLE ROAD
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TEL: (860) 288-7215
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Revisions:

No.	Date	Description
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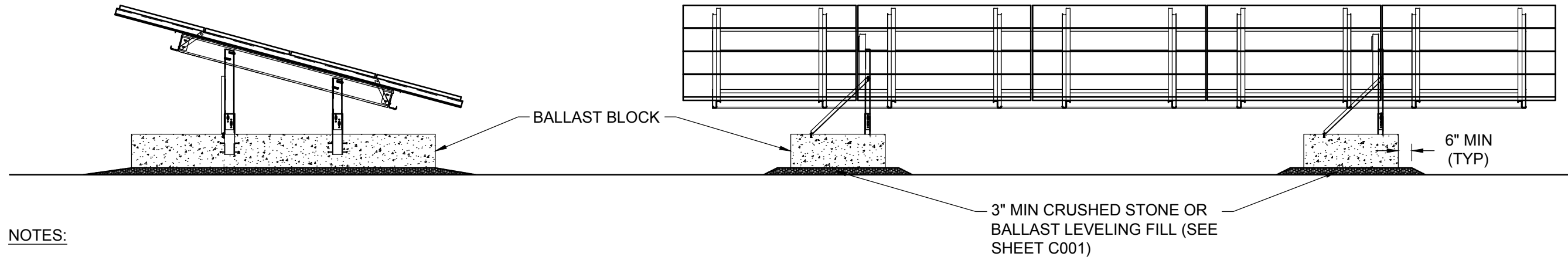
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DETAILS I

Sheet Number:

C501

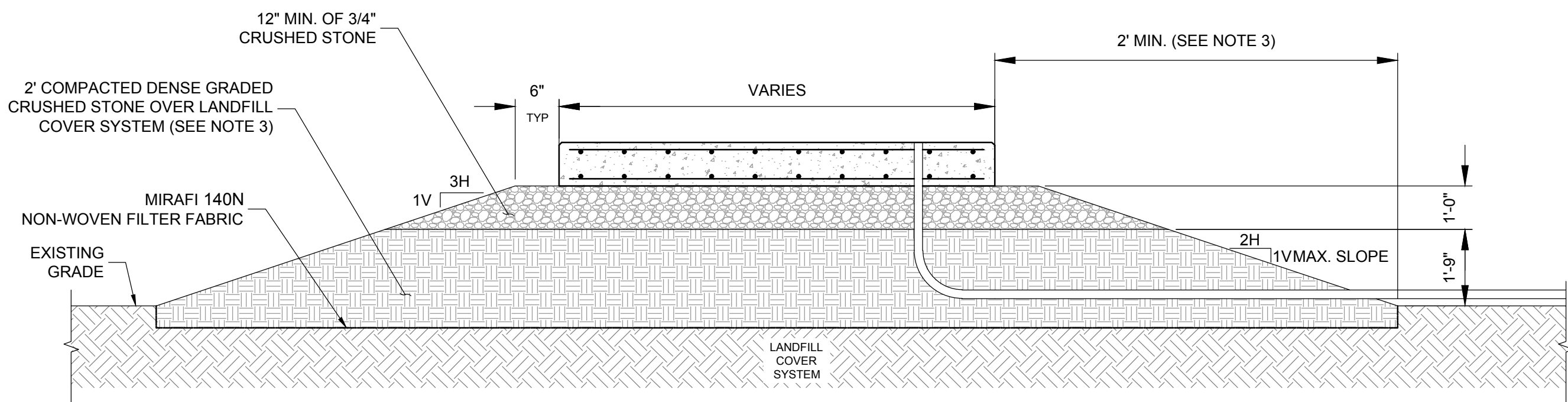
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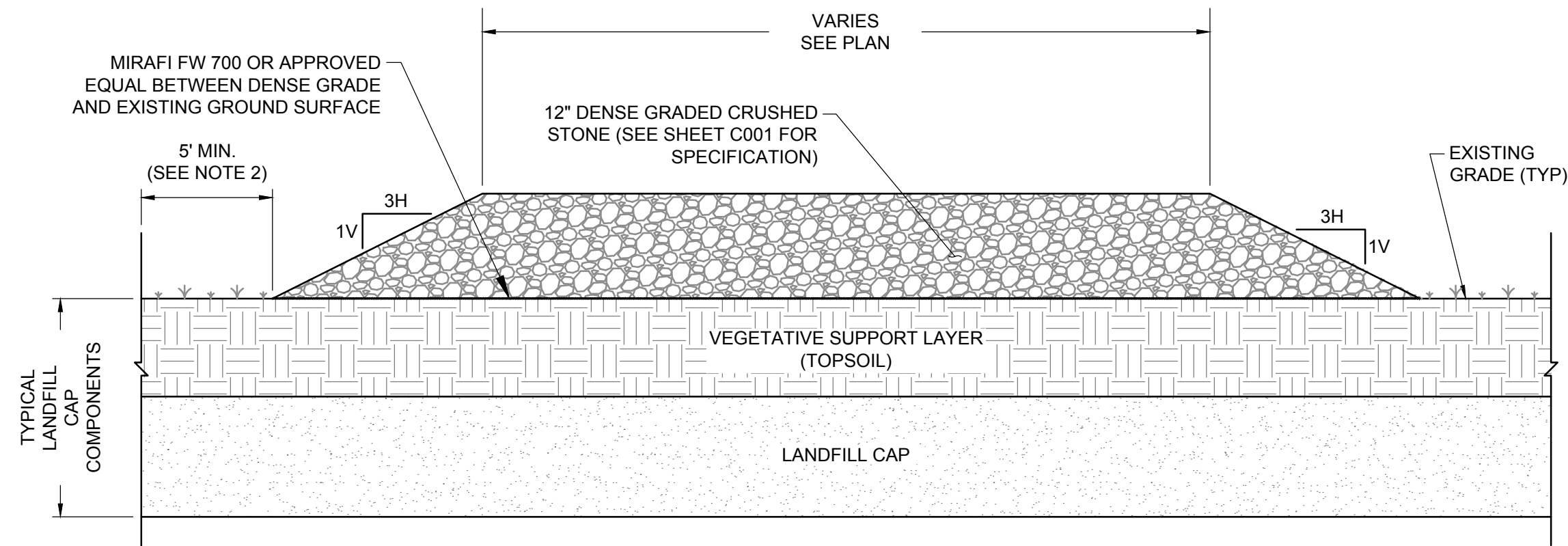
- NOTES:
- DESIGN FOR FOUNDATIONS, RACKING, AND MODULES BY OTHERS. DETAILS SHOWN FOR ILLUSTRATION PURPOSES ONLY.

1 CONTRACTOR INFORMATION SIGN
SCALE: N.T.S.

2 BALLAST MOUNTED SOLAR PV ARRAY
SCALE: N.T.S.



- NOTES:
- SLAB DIMENSIONS, DESIGN, AGGREGATE MATERIAL BELOW THE PAD IS SUBJECT TO CHANGE BASED ON FINAL STRUCTURAL ENGINEERED DESIGN.
 - DETAIL IS SHOWN FOR REPRESENTATIVE PURPOSES ONLY.
 - THE VEGETATIVE SUPPORT LAYER SHALL BE REMOVED BELOW AND A MINIMUM OF 2' AROUND THE LIMITS OF THE PAD LOCATIONS.
 - COMPACT UNTIL A FIRM AND STABLE CONDITIONS IS ACHIEVED, AS APPROVED BY THE ENGINEER.

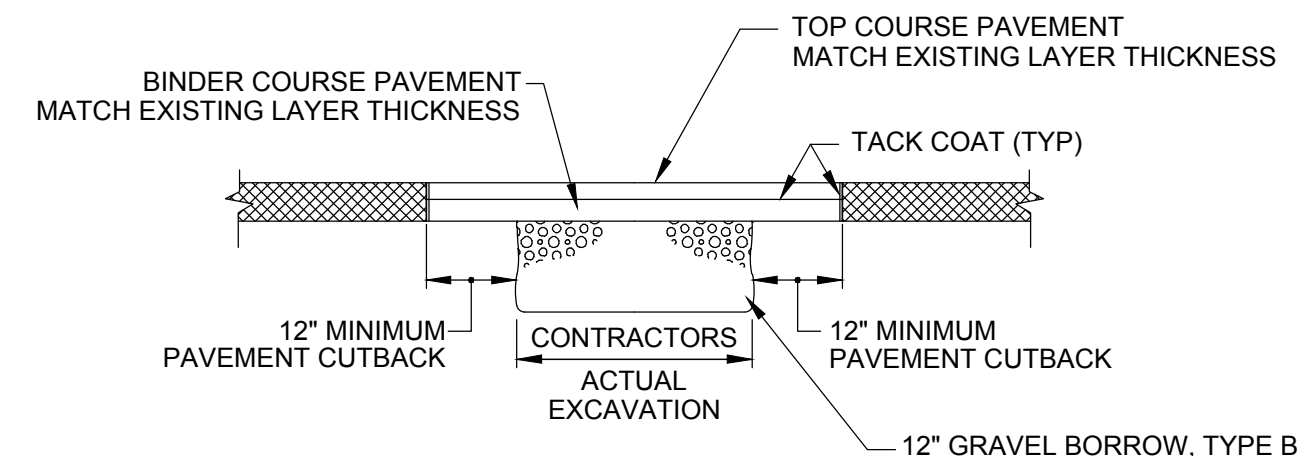
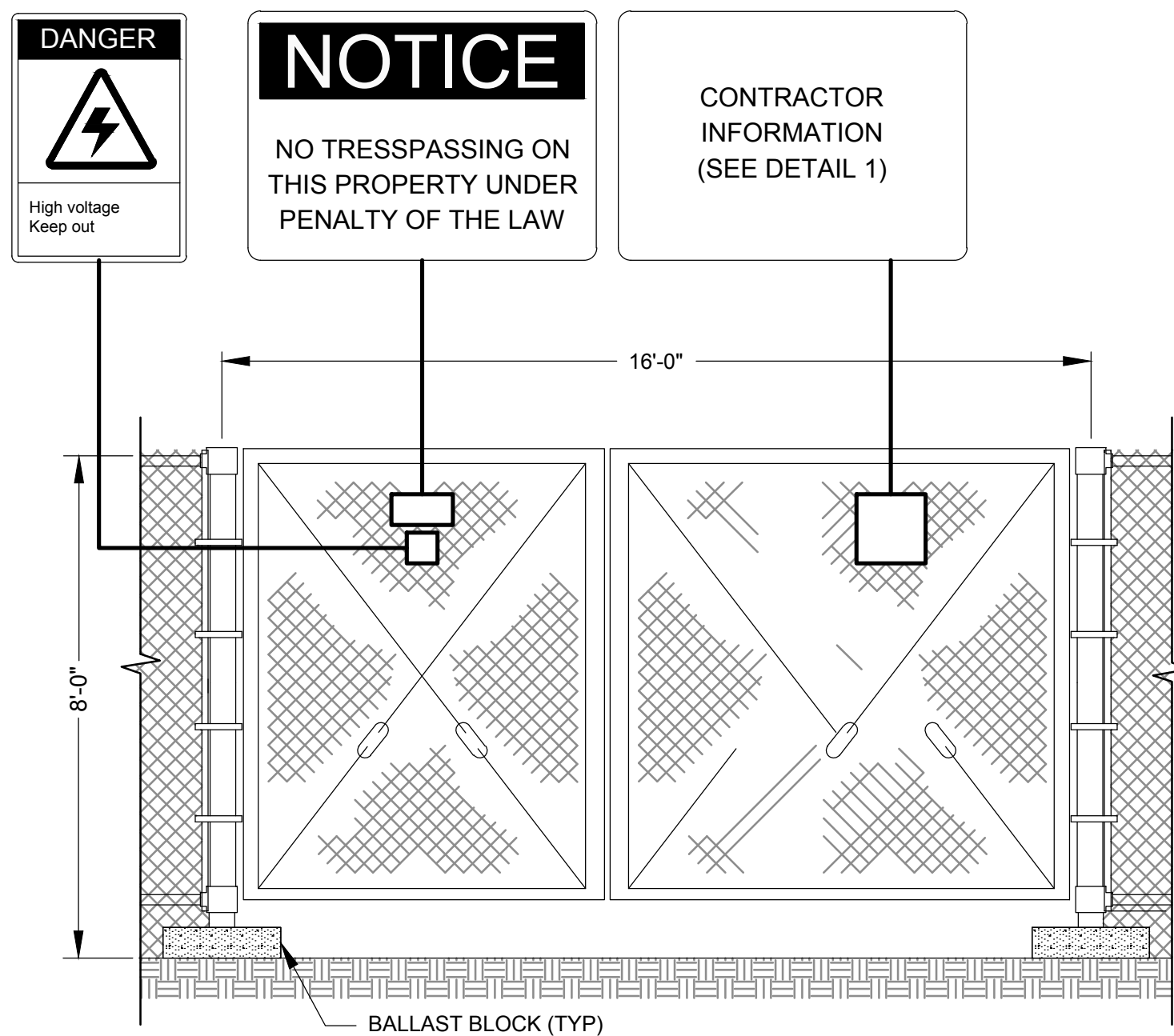
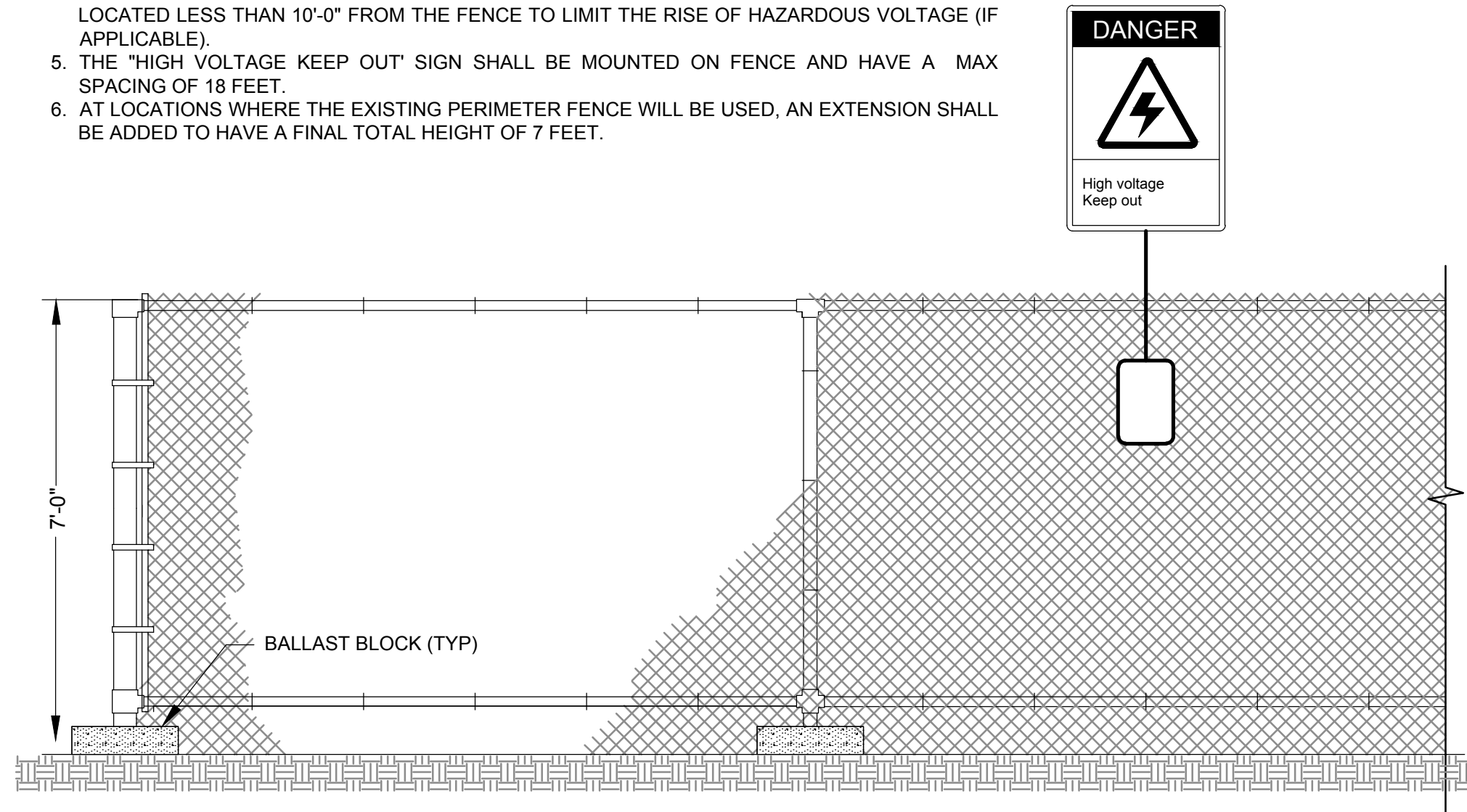


- NOTES:
- SEE DRAWING C001 FOR ACCESS ROAD AND FABRIC MATERIAL REQUIREMENTS.
 - ALL VEGETATION SHALL BE CUT AS SHORT AS POSSIBLE BELOW THE ACCESS ROAD INCLUDING AT LEAST 5 FEET BEYOND THE EDGES OF ROAD.

3 TYPICAL CONCRETE EQUIPMENT PAD
SCALE: N.T.S.

4 TYPICAL ACCESS ROAD DETAIL
SCALE: N.T.S.

- NOTES:
- FENCE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. FINAL POST AND BALLAST BLOCK DESIGN TO BE PROVIDED PRIOR TO CONSTRUCTION.
 - THE DISTANCE BETWEEN THE FINISHED GRADE AND BOTTOM OF FENCE SHALL BE FLUSH WITH THE GROUND SURFACE FOR THE FENCE SURROUNDING THE LANDFILL ARRAYS.
 - SECURITY FENCE AROUND THE SITE SHALL BE CONTINUOUS AND 7'-0" (MINIMUM) PER THE NEC 110.31.
 - THE SECURITY FENCE SHALL BE GROUNDED IN ALL AREAS WHERE THE PV MODULES ARE LOCATED LESS THAN 10'-0" FROM THE FENCE TO LIMIT THE RISE OF HAZARDOUS VOLTAGE (IF APPLICABLE).
 - THE 'HIGH VOLTAGE KEEP OUT' SIGN SHALL BE MOUNTED ON FENCE AND HAVE A MAX SPACING OF 18 FEET.
 - AT LOCATIONS WHERE THE EXISTING PERIMETER FENCE WILL BE USED, AN EXTENSION SHALL BE ADDED TO HAVE A FINAL TOTAL HEIGHT OF 7 FEET.



- NOTE:
- ASPHALT REPAIR SHALL MATCH EXISTING PAVEMENT LAYERS.

5 BALLAST CHAIN LINK FENCE AND GATE
SCALE: N.T.S.

6 PAVEMENT REPAIR
SCALE: N.T.S.

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MONTVILLE, CT 06353

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Seal:

STATE OF CONNECTICUT
ROBERT J. BUNCH, III
No. 26995
LICENSED PROFESSIONAL ENGINEER
6/12/23

Issued For:	
PERMITTING	
Scale:	AS SHOWN
Date Created:	06/06/2023
Drawn By:	DED
Reviewed By:	MRC
Approved By:	RJB
W&S Project No.:	ENG23-0165
W&S File No.:	Verogy Montville

Drawing Title:
DETAILS II
Sheet Number:

C502

NOT FOR CONSTRUCTION

Authorization Application for Disruption of a Solid Waste Disposal Area

APPENDIX B

Site Lease Agreement

LEASE AGREEMENT

BY AND BETWEEN

**Town of Montville
(LANDLORD)**

AND

**VCP Realty, LLC
(TENANT)**

LEASE AGREEMENT

THIS LEASE AGREEMENT (the "Agreement" or "Lease") is entered into by the Landlord and Tenant listed below (each individually a "Party" and collectively the "Parties") as of the 28th day of February, 2022 (the "Effective Date").

Landlord	Town of Montville, a Connecticut municipality
Landlord's Notice Information	Town of Montville 310 Norwich-New London Tpke Uncasville, CT 06382 Attn: Office of the Mayor
Tenant	VCP Realty, LLC, a Connecticut limited liability company
Tenant's Notice Information	VCP Realty, LLC c/o Verogy 150 Trumbull Street, 4th Floor Hartford, CT 06103 Attn: Legal Department
Site Address	669 CT-163, Montville, CT 06353 (Parcel ID: 038-056-000)
Project State	Connecticut

This Agreement sets forth the terms and conditions of the lease of property owned by the Landlord located at the Premises (as defined hereinafter). Subject to the terms and conditions set forth herein, Landlord desires to lease to Tenant, and Tenant desires to lease from Landlord, the Premises as detailed in this Agreement.

The exhibits listed below are incorporated by reference and made part of this Agreement.

<u>Exhibit A</u>	Basic Terms and Conditions
<u>Exhibit B</u>	Solar Array Description
<u>Exhibit C</u>	General Terms and Conditions
<u>Exhibit D</u>	Leased Premises
<u>Exhibit E</u>	Memorandum of Commencement Date and Lease Term
<u>Exhibit F</u>	List of Due Diligence Materials
<u>Exhibit G</u>	Title Encumbrances
<u>Exhibit H</u>	Form of Subordination, Non-Disturbance and Attornment Agreement

IN WITNESS WHEREOF, the Parties hereto have caused this Lease Agreement to be executed as of the Effective Date.

Landlord: Town of Montville

Tenant: VCP Realty, LLC

Signature: 

Signature: 

Printed Name: Ronald McDaniel

Printed Name: Brian Smith

Title: Mayor

Title: Authorized Person

Date: 2/17/22

Date: February 28, 2022

STATE OF CONNECTICUT)
) ss.
COUNTY OF New London)

The foregoing instrument was acknowledged before me this 17 day of February, 2022 by Ronald McDaniel, Mayor of the Town of Montville, a Connecticut municipality, on behalf of the municipality.

Theresa Hart
Commissioner of the Superior Court
Notary Public
My Commission Expires on: 8/31/2023

STATE OF CONNECTICUT)
)
) ss.:
COUNTY OF HARTFORD)

The foregoing instrument was acknowledged before me this 28th day of February, 2022 by Brian Smith, an Authorized Person of VCP Realty, LLC, a Connecticut limited liability company, on behalf of the limited liability company.


Commissioner of the Superior Court
Notary Public
My Commission Expires on: **JENNA BEHAN**
NOTARY PUBLIC - CT 180881
My Commission Expires Mar. 31, 2026

EXHIBIT A
BASIC TERMS AND CONDITIONS

1. **Initial Term:** Twenty (20) years
2. **Extension Periods:** Three (3) extension periods of five (5) years each
3. **Basic Rent:**

LEASE YEARS	ANNUAL BASIC RENT (\$/MW/Year)	MONTHLY INSTALLMENT (\$/MW/Month)	ESTIMATED TOTAL ANNUAL PAYMENT	ESTIMATED MONTHLY PAYMENT
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- #### 4. Installation Type: Ground-Mount

EXHIBIT B
SOLAR ARRAY DESCRIPTION

Estimated System Size: 768.96 kW DC (600 kW AC)
Module Power (W): 540 Watts
Module Quantity: 1,424
Array Tilt: 25°
Array Azimuth: 25°

** All technical specifications and the final system size are subject to final system engineering and design and applicable governmental and utility approvals.*

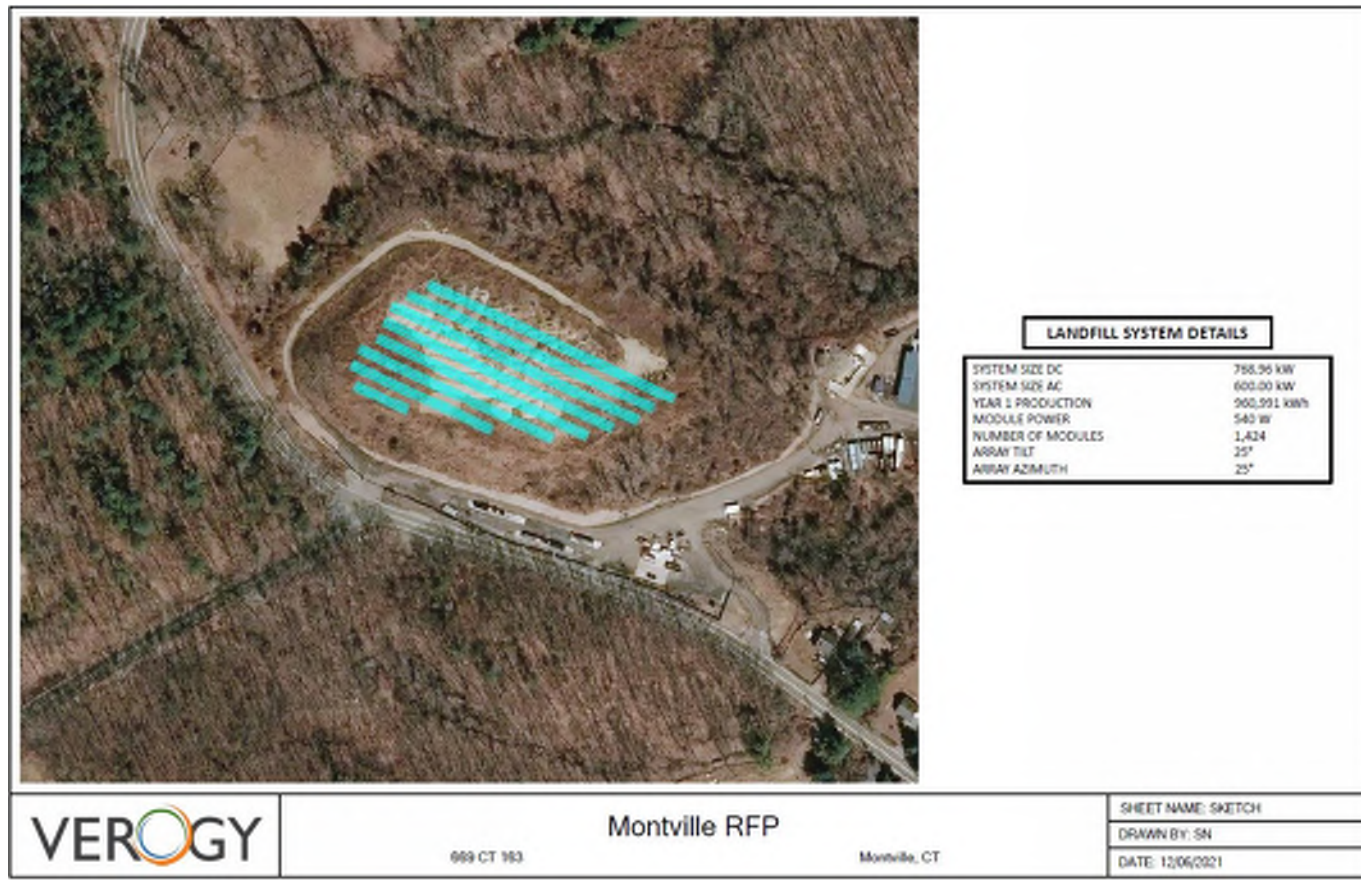


EXHIBIT C
GENERAL TERMS AND CONDITIONS

ARTICLE I.
Description of Leased Premises

Section 1.1 - Leased Premises. The Landlord hereby leases to the Tenant that certain portion of that certain parcel of land located at the Site Address indicated on the first page of this Agreement and containing approximately three and one-half (3.5) acres of land, together with any and all improvements, appurtenances, rights, privileges and easements benefiting, belonging or pertaining thereto and any right, title and interest of the Landlord in and to any land lying in the bed of any street, road or highway to the center line thereof in front of or adjoining said parcel of land, which is more particularly described in **Exhibit D**, attached hereto and made a part hereof (collectively the “Leased Premises” or “Premises”). In connection with the Leased Premises, Landlord also hereby grants to Tenant a royalty-free, irrevocable license coterminous with the Lease Term (as defined hereinafter), and for so long as needed after expiration or termination, to other portions of the property that are necessary and appropriate for (i) Tenant’s access to the Leased Premises, including ingress and egress rights to the property; (ii) the delivery, temporary storage and staging of materials, equipment and the components of the Solar Array (as defined hereinafter); (iii) the interconnection of the Solar Array to the electrical infrastructure of the local electric utility; and (iv) other related and ancillary uses that from time to time may be useful or necessary in connection with the siting, erection, construction, reconstruction, installation, replacement, relocation, removal, operation, repair and maintenance of the Solar Array on the Premises (collectively in the case of (i), (ii), (iii) and (iv), the “Licensed Area”).

Section 1.2 - Initial Term. The initial term of this Lease shall commence on the Commencement Date (as hereinafter defined), and shall end on the date which is the number of years indicated on **Exhibit A** as the “Initial Term” from the end of the calendar month in which the Commercial Operation Date (as defined hereinafter) occurs, which time period is referred to herein as the “Initial Term”.

When such dates have been determined, Landlord and Tenant agree to execute a memorandum in recordable form setting forth the Commencement Date and Lease Term in the form attached hereto as **Exhibit E**.

Section 1.3 - Options to Extend. In addition, provided that Tenant is not materially in default in the performance of any of its obligations under this Lease beyond applicable notice and cure periods, Tenant shall have the option to extend the term of this Lease for three (3) extension periods of five (5) years each (each an “Extension Period”). If Tenant elects to exercise any such Extension Period, it shall do so by giving notice of such election to Landlord at any time during the term of this Lease on or before the date which is ninety (90) days prior to the commencement of the Extension Period for which such election is exercised. Such Extension Periods shall be upon the same terms and conditions of this Lease, except as otherwise provided herein. If Tenant fails to send notice of its exercise of any Extension Period in a timely manner, Landlord shall send Tenant a reminder notice and Tenant shall have an additional thirty (30) day period after receipt of Landlord’s notice in order to exercise any such Extension Period. The Initial Term and all Extension Periods, as exercised, are referred to hereafter as the “Lease Term.” In the event that Tenant does not respond in writing within thirty (30) days after the receipt of Landlord’s reminder notice, then Tenant shall be deemed not to have exercised the applicable Extension Period and the Tenant agrees that any right to exercise any future Extension Period has lapsed.

ARTICLE II.
Development of Project

Section 2.1 - Development Period. The PPA Acquisition Period (as defined herein), the Due Diligence Period (as defined herein) and any and all Contingency Periods (as defined herein) shall constitute the "Development Period" for purposes of this Agreement. Starting on the Effective Date and ending on the date which is one (1) year from the end of the calendar month in which the Effective Date occurs, which time period is referred to herein as the "Initial PPA Acquisition Period", Tenant shall endeavor to execute a contract for the sale of electricity and/or environmental attributes produced by the renewable energy development at the Premises (a "PPA"). If Tenant successfully executes a PPA within the Initial PPA Acquisition Period, then the Due Diligence Period shall commence on the commensurate execution date of such PPA (the "Qualified PPA Execution Date"). If Tenant does not execute a PPA within the Initial PPA Acquisition Period, but Tenant is continuing to diligently pursue the acquisition of a PPA, then Tenant shall be afforded an additional six (6) months within which to execute a PPA (the "Extended PPA Acquisition Period", and together with the Initial PPA Acquisition Period, the "PPA Acquisition Period"). If Tenant successfully executes a PPA within the Extended PPA Acquisition Period, then the Due Diligence Period shall commence on the Qualified PPA Execution Date. If Tenant does not execute a PPA within the Extended PPA Acquisition Period, Landlord shall have the right to terminate this Lease via notice to Tenant, such notice to be provided to Tenant within thirty (30) days of the last day of the Extended PPA Acquisition Period ("Landlord PPA Acquisition Termination Notice"). Upon receipt of the Landlord PPA Acquisition Termination Notice, Tenant shall have the right to provide Landlord with evidence that a PPA has been executed within the PPA Acquisition Period. If such evidence is provided by Tenant to Landlord within thirty (30) days of receipt of the Landlord PPA Acquisition Termination Notice, and such evidence is not subject to reasonable dispute by Landlord, this Lease shall be deemed not terminated, and in full force and effect. In the event there is no evidence provided by Tenant to Landlord that a PPA has been executed within the PPA Acquisition Period, then thirty-one (31) days after the receipt by Tenant of the Landlord PPA Acquisition Termination Notice, this Lease shall terminate and shall be null and void, and Landlord and Tenant shall have no further obligations to one another hereunder, except for obligations which specifically survive the termination of this Lease. Notwithstanding the foregoing or anything contained herein to the contrary, Tenant and Landlord may, upon written agreement duly executed by both Tenant and Landlord, agree to extend the length of the PPA Acquisition Period as they deem necessary.

Prior to the Initial Term, and for a period of time described in this Section 2.1, Tenant shall be permitted to perform all investigations deemed by the Tenant to be necessary or appropriate to determine, in the Tenant's sole discretion, whether the operation of the Leased Premises for Tenant's intended purposes is economically and operationally feasible, including without limitation, review of the status of title and survey matters, the environmental and physical condition of the Leased Premises, and its suitability for development for Tenant's intended use (the "Project"). In the event any such investigation or examination has not been completed by the Tenant during the PPA Acquisition Period, Tenant shall have a period commencing on the Qualified PPA Execution Date and ending at 12:00 midnight on the date which is one-hundred twenty (120) days after the Qualified PPA Execution Date (the "Due Diligence Period") within which to inspect, examine, and/or investigate the Leased Premises, and all physical, environmental, geotechnical, financial, title and legal aspects thereof, and the obligations of Landlord hereunder shall be conditioned upon Tenant being fully satisfied, in its sole discretion, as to all such inspections, investigations, and/or examinations.

Landlord shall fully cooperate with Tenant in its inspections, examinations, and investigations and shall use its best efforts to deliver or make available to Tenant no later than thirty (30) days from the Effective Date those documents set forth on **Exhibit F**, attached hereto and incorporated herein, which are in the control or possession of Landlord, its agents or representatives. Throughout the Due Diligence Period, Tenant shall have access to the Leased Premises to accomplish the foregoing, including, without limitation,

the conduct of surface and subsurface tests and physical and environmental appraisals and studies and as provided in Section 2.2 of this Agreement.

In the event that Tenant is not satisfied, in its sole discretion, for any reason or for no reason whatsoever, Tenant shall have the right, by Tenant or Tenant's attorney giving Landlord or Landlord's attorney a written termination notice (the "Termination Notice") to terminate this Agreement. If the Termination Notice is given, this Lease shall terminate and shall be null and void, and Landlord and Tenant shall have no further obligations to one another hereunder, except for obligations which specifically survive the termination of this Lease. Tenant may terminate this Lease upon notice to Landlord at any time prior to the Commencement Date if Tenant, in its sole discretion, determines that the Leased Premises is unsuitable for its intended use.

Tenant's obligations under this Agreement shall be subject to Tenant's receipt of all final, non-appealable, local, state and federal permits and approvals necessary or appropriate for Tenant's proposed development of the Leased Premises and the construction of the Project, and receipt of necessary or appropriate utility company interconnection approvals for the Project, all on terms and conditions acceptable to Tenant in its sole discretion (individually, each an "Approval" and collectively, the "Approvals") prior to the date which is six (6) months following the first day of the month after the expiration of the Due Diligence Period (the "Initial Contingency Period"). Tenant shall be permitted to extend the Initial Contingency Period by written notice to Landlord at any time prior to the expiration of the Initial Contingency Period for an additional period of six (6) months (the "First Extended Contingency Period"), provided that Tenant is pursuing its Approvals or Tenant has received its Approvals but one or more judicial appeals are then pending with respect to the Approvals. Tenant shall further be permitted to extend the First Extended Contingency Period by written notice to Landlord at any time prior to the expiration of the First Extended Contingency Period for an additional period of six (6) months (the "Second Extended Contingency Period"), provided that Tenant is pursuing its Approvals or Tenant has received its Approvals but one or more judicial appeals are then pending with respect to the Approvals.

The Initial Contingency Period, as the same may be extended by the First Extended Contingency Period and the Second Extended Contingency Period, are collectively and each, individually, is the "Contingency Period". The Parties may agree to extend any portion of the Development Period upon mutual written agreement.

If Tenant has received all of its Approvals to its satisfaction, Tenant may elect to waive the balance of the Development Period and proceed to the commencement of the lease.

Landlord agrees to fully cooperate with Tenant in Tenant's efforts to obtain all Approvals, including, without limitation, executing and delivery of any applications or consents which require the signature of the Landlord and publicly supporting such Approvals by attending any hearings or meetings, as and when reasonably requested by Tenant. Landlord appoints Tenant as its lawful attorney-in-fact coupled with an interest to execute any such requested application in the name of and on behalf of Landlord if Landlord fails to do so within fifteen (15) days following receipt of Tenant's written notice requesting Landlord's execution of the subject application.

If Tenant determines, in its sole discretion, that it has not or is unlikely to obtain all necessary or appropriate Approvals before the end of the Contingency Period, or that any such Approvals contain, or are likely to contain, unsatisfactory terms or conditions, then Tenant shall have the right, by Tenant or Tenant's attorney giving Landlord or Landlord's attorney a written termination notice (the "Termination Notice"), to terminate this Agreement. If the Termination Notice is given, this Lease shall terminate and shall be null and void, and Landlord and Tenant shall have no further obligations to one another hereunder, except for obligations which specifically survive the termination of this Lease.

Section 2.2 - Access to Leased Premises. During the Development Period, Landlord may retain possession and use of the Leased Premises. Tenant, its counsel, surveyors, engineers, lenders, development partners, agents and other representatives shall have full and continuing access to the Premises and all parts thereof, as well as to all relevant documents and records of the Landlord as they relate to the title, physical condition, and development of the Premises, upon 48 hours prior notice to Landlord (which notice may be given by telephone). Tenant shall use commercially reasonable efforts not to unduly interfere with any business operations of Landlord. Said right of access shall be for the purpose of performing surveying, engineering, and environmental tests and studies, test borings, hazardous waste testing, wetland impacts, physical inspection of the Premises, structural reviews, and such other similar investigatory work as the Tenant shall consider appropriate. Tenant shall make no permanent alterations to the Leased Premises as part of its investigations and shall repair or restore any disturbed areas to substantially the same condition as existing prior to the testing. Prior to accessing the Premises, Tenant shall provide Landlord with a Certificate of Liability Insurance in the amount of [REDACTED] naming Landlord as an additional insured.

Section 2.3 - Lease Commencement. At any time during the Development Period, Tenant may give notice to Landlord calling for the delivery of the Leased Premises to Tenant and the commencement of this Lease. Upon receipt of such notice, Landlord shall select a delivery date that is within forty-five (45) days of the date Landlord received Tenant's notice (the "Commencement Date") and so notify Tenant.

On the Commencement Date, Landlord shall deliver possession of the Leased Premises to Tenant in substantially the same condition as existing as of the Effective Date of this Lease, free and clear of all rights of any tenants or parties in possession and subject to only those encumbrances affecting title to the Leased Premises as set forth on Exhibit G attached hereto and made a part hereof.

ARTICLE III. Rent

Section 3.1 - Definition of Lease Year. "Lease Year" shall mean, in the case of the first Lease Year, the number of full and partial calendar months following the Commencement Date of this Lease through the end of the twelve (12) calendar months following the Rent Commencement Date (as hereinafter defined). Thereafter, "Lease Year" shall mean each successive twelve (12) calendar month period following the expiration of the first Lease Year, except that in the event of the termination of this Lease on any day other than the last day of a Lease Year, then the last Lease Year shall be the period from the end of the preceding Lease Year to such date of termination.

Section 3.2- Basic Rent. Commencing on the Rent Commencement Date, and continuing for the remainder of the Lease Term, Tenant shall pay Landlord monthly Basic Rent on the first day of each month, in advance, in accordance with the schedule set forth on Exhibit A of this Agreement.

For the avoidance of doubt, the solar photovoltaic project to be sited on the Leased Premises, as more particularly described in Exhibit B, attached hereto and made a part hereof (the "Solar Array") size in megawatts ("MWs") direct current ("DC") for purposes of the above rent calculation shall be that which is listed on the final as-built drawings completed by the engineer of record at the time of the Rent Commencement Date. In the event the final as-built drawings issued by the engineer of record after the Solar Array has reached the Commercial Operation Date are not available as of the Rent Commencement Date, the Solar Array size in MW DC listed on the issued for construction drawings shall be used for purposes of the above rent calculation; provided that, upon the issuance of the final as-built drawings, if the final as-built drawings detail a different project size in MW DC, the calculation for Basic Rent shall be adjusted to reflect the as-built Solar Array system size and monthly payments for Basic Rent shall be adjusted accordingly on a going forward basis. For purposes of this Lease, "Commercial Operation Date" shall mean the Solar Array has been approved for interconnected operation by the interconnecting utility

company, Tenant has completed commissioning tests of the Solar Array, and the Solar Array has commenced regular operations.

The “Rent Commencement Date” shall be the date that is the first (1st) day of the third (3rd) full month following the Commercial Operation Date. Payments for any partial month shall be prorated.

Section 3.3 - Place of Payment. Payment of Basic Rent shall be made to the Landlord at the address appearing at the end of this Lease, or to such other person, legal entity or address as the Landlord shall designate by written notice to the Tenant.

ARTICLE IV.

Use

Section 4.1 - Use of Premises. The Leased Premises may be used for placement of a Solar Array and any lawful purpose, or for no use, during the Lease Term, subject to applicable zoning regulations.

Tenant shall have the unrestricted right throughout the Lease Term to construct one or more Solar Arrays and other improvements on the Leased Premises and to modify or demolish such Solar Arrays and improvements from time to time, with or without constructing replacement improvements thereon, all subject to all applicable laws and regulations, but without prior notice or consent by Landlord. Title to all Solar Arrays and other improvements constructed on the Leased Premises by Tenant shall remain in Tenant’s name throughout the Lease Term.

Section 4.2 - Compliance With Laws and Regulations. Throughout the Lease Term, the Tenant, at its sole cost and expense, will promptly comply in all material respects with all present and future laws, ordinances, orders, rules, regulations and requirements of all Federal, State and municipal governments, departments, commissions, boards and officers with respect to its use of the Leased Premises.

Section 4.3 - Liens. The Tenant shall indemnify and save the Landlord harmless from any claims for material or labor, or worker’s compensation claims in connection with any repairs or improvements made by the Tenant, and should any such lien be placed, the Tenant shall have the same removed within sixty (60) days by bonding or otherwise; and upon failure to do so, Landlord shall have the right to pursue remedies available pursuant to Article XI of this Lease, or the Landlord shall have the right (but not the obligation) to take whatever steps are reasonably necessary to have the same removed and the cost thereof, plus any court costs and reasonable attorneys’ fees, shall be paid by the Tenant to the Landlord.

Section 4.4 - Environmental Indemnification. Tenant represents and warrants that no Hazardous Substances (as defined below) will be used, stored, treated, disposed of or generated at or on the Leased Premises by Tenant. Tenant shall promptly take any and all necessary or appropriate remedial action in response to any use, storage, treatment, generation or disposal of any Hazardous Substances brought by the Tenant to the Leased Premises. Tenant, its successors and assigns shall indemnify, defend, and hold harmless Landlord, its employees, agents, officers, directors, members, successors and assigns from any claims, actions, liabilities or for any violations of Environmental Laws, orders or enforcement actions relating to or affecting the Leased Premises or for any environmental remediation caused by Tenant’s delivery of Hazardous Substances to the Leased Premises during the Lease Term.

Landlord, its successors and assigns shall indemnify, defend, and hold harmless Tenant, its employees, agents, officers, directors, members, successors and assigns from and against any claims, actions, liabilities, costs or expenses incurred by Tenant with respect to the cleanup, removal, remediation and disposal in accordance with applicable law of any Hazardous Substances existing on the Premises or otherwise generated, created, used or introduced by Landlord or its agents or contractors; provided, however, that Tenant shall have no obligation to cleanup, remove, remediate or dispose of such Hazardous

Substances. Landlord shall notify Tenant in the event that any such Hazardous Substances are present, near or pose a material risk to personnel of Tenant or the Solar Array.

As used herein the term "Hazardous Substances" shall mean any hazardous or toxic chemical, waste, byproduct, pollutant, contaminant, compound, product or substance, including without limitation, asbestos, polychlorinated biphenyls, petroleum (including crude oil or any fraction thereof), and any other chemical substance or material the exposure to, or manufacture, possession, presence, use, generation, storage, transportation, treatment, release, disposal, abatement, cleanup, removal, remediation or handling of which is prohibited, controlled or regulated by any of the Environmental Laws. The term "Environmental Laws" shall mean all applicable federal, state, county and local statutes, laws, regulations, rules, ordinances, codes, standards, guidelines, orders, licenses and permits of any governmental authorities relating to environmental, health or safety matters, including by way of illustration and not by way of limitation, the Clean Air Act, the Federal Water Pollution Control Act of 1972, the Solid Waste Disposal Act of 1970, the Resource Conservation and Recovery Act of 1976, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, and the Toxic Substances Control Act (including any amendments or extensions to any of the foregoing and any rules, regulations, standards or guidelines issued pursuant to any of such laws).

Tenant acknowledges that the Leased Premises are over a capped landfill and has the requisite environmental concerns and no indemnification is intended for the current condition of the property.

Section 4.5 – Premises Work. During the Lease Term, Landlord may potentially need to perform maintenance or repair work on the Premises that could have adverse impacts to the Solar Array and/or its expected solar energy output (including but not limited to a potential need to temporarily shut down the Solar Array) (any such work, the "Landlord Premises Work"). Landlord shall not perform any such Landlord Premises Work which would likely adversely affect the Solar Array or its access to solar insolation without Tenant's prior written consent, and Landlord shall use its best efforts to minimize any such requests. In the event any such Landlord Premises Work is necessary and consented to by Tenant, Landlord shall reasonably accommodate Tenant to minimize any Solar Array disruption or outage.

If Landlord wishes to perform Landlord Premises Work, Landlord shall give prior written notice to Tenant, setting forth the work to be undertaken (except for emergency repairs, for which notice may be given by telephone if practicable), and give Tenant the opportunity to advise Landlord in performing the Landlord Premises Work in a manner that avoids damage to the Solar Array, but, notwithstanding any such advice, Landlord shall be responsible for all damage (including any adverse impact on the performance of the Solar Array or its access to solar insolation) to the Solar Array caused by such work, except for those due to the failure or negligence of Tenant. Any and all of Landlord's maintenance or repair work will be done in a good and workmanlike manner and in compliance with all applicable laws, codes and permits. If the Landlord Premises Work requires the disassembly or removal of portions of the Solar Array, Tenant shall be responsible to perform any such disassembly, removal and reinstallation of the Solar Array, but Landlord shall be responsible for all costs and expenses associated with the disassembly, removal and reinstallation, including any applicable storage costs for the Solar Array and related equipment. Except as expressly permitted under this Agreement, Landlord shall not modify the Solar Array or affix or remove any accessory to the Solar Array.

If Tenant provides prior written consent to Landlord to perform any such Landlord Premises Work pursuant to this Section 4.5, and the delivery of solar energy from the Solar Array is reduced for any period of time during the performance of such maintenance or repair work or there is adverse impact on the performance of the Solar Array or its access to solar insolation, Landlord shall pay Tenant: (1) the applicable kWh rate for the pro-rata expected generation that would have been produced during such period; (2) the fair market value of any Environmental Attributes (as defined below) related to such pro-rata expected generation, as reasonably determined by Tenant; (3) the value of any reduced, lost or forfeited tax attributes,

incentives or benefits associated with the ownership or operation of the Solar Array, including but not limited to any local, state or federal investment or production tax credits or subsidies, depreciation deductions, and installation or production-based incentives; and (4) any other lost revenue or benefit associated with the ownership or operation of the Solar Array or any reduced deliveries of solar energy from the Solar Array during the period of disruption, all as reasonably determined by Tenant. Tenant shall be permitted to offset any such lost revenues as described above from future payments of Basic Rent or send Landlord an invoice for such lost revenues, at Tenant's discretion. In the event Tenant elects to send Landlord an invoice for such lost revenues, Landlord shall pay such amount within twenty (20) days of its receipt of the invoice. For purposes of this Agreement, "Environmental Attributes" shall mean, without limitation, any and all environmental credits, benefits, emissions reductions, offsets and allowances, howsoever entitled, including but not limited to carbon trading credits, portfolio credits, renewable energy credits or certificates, emissions reduction credits, emissions allowances, green tags, tradable renewable credits, or Green-e® products.

Tenant is responsible for removal of all vegetation on the Premises for the duration of the Lease.

ARTICLE V. Quiet Enjoyment

Landlord represents and warrants that it is the owner of the Leased Premises in fee simple, free and clear of all liens and encumbrances, except as shown on Exhibit G, and has the right and lawful authority to enter into this Lease, without approval of any other party. The Tenant shall, upon paying the rent reserved hereunder and observing and performing all of the terms, covenants and conditions on the Tenant's part to be observed and performed, peaceably and quietly, have and hold the Leased Premises, without hindrance or molestation by any person or persons claiming by, through or under the Landlord, subject, however, to the terms of this Lease.

ARTICLE VI. Utilities; Taxes

As of the date on which possession of the Leased Premises is delivered to Tenant, Tenant shall pay all charges for utilities associated with the construction and operation of the Solar Array, including but not limited to gas, heat, water, electricity, power and telephone or other communications service used, rented or supplied, and Tenant shall indemnify the Landlord against said liability or damages for such accounts. In addition, effective as of the Commencement Date and continuing for the Lease Term, Tenant shall pay for all additional expenses associated with the maintenance, operation and/or use of the Leased Premises by Tenant, including personal property taxes, property insurance and operating expenses. The Parties acknowledge and agree that Personal Property taxes are part of the Basic Rent payments and will not be separately billed.

Each Party shall be responsible for all income, gross receipts, ad valorem, personal property or real property or other similar taxes and any and all franchise fees or similar fees assessed against it due to its ownership of its property (i.e., in the case of Landlord, the Premises; in the case of Tenant, the Solar Array). The Parties shall administer and implement this Agreement with the intent to minimize taxes.

ARTICLE VII. Insurance

Section 7.1 - Coverage. Tenant shall keep the Leased Premises insured against damage or destruction by fire, and such other perils as are, from time to time, included in standard fire insurance policy, for the full insurable value thereof, which for the purposes hereof shall mean the actual replacement cost without deduction for depreciation, but shall not include "uninsurables" (i.e., footings, underground piping,

etc.). All of said insurance shall be maintained for the protection of Landlord, Landlord's lender, Tenant and Tenant's lender, and each shall be listed as an additional insured as their interest may appear in all policies of insurance. The proceeds of such insurance in case of loss or damage shall be applied on account of the obligation of Tenant to repair and/or rebuild the Leased Premises pursuant to Article VIII to the extent that such proceeds are required for such purpose.

Section 7.2 - General Liability Insurance. During the Lease Term, the Tenant agrees to maintain in force and effect a commercial general liability insurance policy, with limits of [REDACTED], in a financially responsible insurance company or companies qualified to do business in the state in which the Leased Premises are located. Said insurance shall be maintained for the protection of both Landlord, Landlord's lender, Tenant, and Tenant's lender and each shall be named insured as their interest may appear in all policies of insurance. Said insurance shall be primary and noncontributory; provide for severability of interest; provide that an act or omission of one of the insureds that would void or otherwise reduce coverage will not reduce or avoid the coverage as to other insureds. Such policy shall contain a provision that it cannot be canceled without thirty (30) days prior written notice.

Section 7.3 - Release of Subrogation.

(a) Each party covenants and agrees to obtain from its insurance carrier a waiver of subrogation rights against the other, if the same is available, with the provision that if there is any extra cost for the same, the party benefited by such waiver shall be afforded an opportunity to pay the extra cost and receive the benefit of the waiver; and

(b) In case of damage to the Leased Premises or to any other property of the Landlord or the Tenant by any cause within the scope of such insurance, whether such damage be caused by the negligence of either party to this Lease or by any party for whom either party to this Lease may be responsible, neither party to this Lease will look to the other, its agents, employees, invitees, assignees or subtenants for reimbursement to its insurer or to any third party against whom it may have a claim therefor. This subsection shall be effective as to the risks insured against under any particular insurance policy only during such time as such policy shall permit an executory waiver of subrogation without additional premium therefor or if the party benefited by such waiver pays any additional premium.

Section 7.4 - Certificates of Insurance. On or before the date upon which possession of the Leased Premises is delivered to Tenant, Tenant shall provide Landlord with certificates of insurance certifying that all insurance required to be carried by Tenant under the terms of this Lease is in full force and effect. Prior to the expiration of any such insurance policy, Tenant shall furnish Landlord with a new certificate of insurance certifying that such policy has been renewed or replaced. All insurance policies carried under this Article, and the certificates for such policies, shall provide for ten (10) days written notice to Landlord of any cancellation for non-payment and (30) days written notice to Landlord of any cancellation or non-renewal of such policy.

Section 7.5 - Qualification of Insurers. All insurance provided for in this Lease shall be effected under enforceable policies issued by insurers of recognized responsibility, licensed to do business in the Project State identified on the first page of this Agreement.

Section 7.6 - Indemnification. The Tenant shall defend, indemnify and save harmless the Landlord and its agents and employees against and from all liabilities, suits, actions, damages, liability and expense, penalties, claims and costs which may be imposed upon or incurred by or asserted against the Landlord or its agents or employees by reason of, or in any way arising out of, the Tenant's use or occupancy of the Leased Premises in accordance with the terms of this Lease after the execution of this Lease to the extent occasioned wholly or in part by any act or omission of the Tenant, its agents, employees, contractors or

invitees; excluding however, any matters arising out of the negligence or willful conduct of Landlord, its agents, employees, contractors or invitees.

The Landlord shall defend, indemnify and save harmless the Tenant and its agents and employees against and from all liabilities, suits, actions, damages, liability and expense, penalties, claims and costs which may be imposed upon or incurred by or asserted against the Tenant or its agents or employees by reason of, or in any way arising out of, the Landlord's use or occupancy of the Leased Premises to the extent occasioned wholly or in part by any act or omission of the Landlord, its agents, employees, contractors or invitees, excluding however, any matters arising out of the negligence or willful conduct of Tenant, its agents, employees, contractors or invitees.

ARTICLE VIII.

Condemnation

Section 8.1 - Condemnation - Taking of All. If title to the whole of the Leased Premises shall be taken or condemned by any competent authority or conveyed in lieu of condemnation for any public or quasi-public use, all rental and other charges paid or payable by Tenant hereunder shall be prorated, as of the date of vesting of title in such condemning authority, and the total award made with respect to the Leased Premises, less all expenses incurred in connection with the condemnation proceedings, shall be apportioned between Landlord and Tenant.

Section 8.2 - Condemnation - Taking of Substantially All. If title to any substantial part of the Leased Premises shall be taken or condemned by any competent authority or conveyed in lieu of condemnation for any public or quasi-public use, Tenant shall have the option to surrender and terminate this Lease by giving written notice of such election to Landlord at any time after Tenant has been notified of any pending condemnation action. In the event that Tenant exercises its option to surrender and terminate this Lease, all of the rental and other charges paid or payable by Tenant hereunder shall be prorated as of the date Tenant vacates the Leased Premises, and the total award made with respect to the Leased Premises, less all expenses incurred in connection with the condemnation proceedings, shall be apportioned between Landlord and Tenant.

Section 8.3 - Condemnation - Taking of Less Than All. If title to part of the Leased Premises shall be taken or condemned by any competent authority or conveyed in lieu of condemnation for any public or quasi-public use, and this Lease is not or cannot be terminated by Tenant, then this Lease shall continue in force and effect, and Tenant shall, at its expense, repair any damage to the Solar Array or improvements on the Leased Premises and the Basic Rent thereafter payable for the remainder of the Lease Term shall be reduced in the proportion that the area of the Leased Premises taken or conveyed to the condemning authority bears to the area of the entire Leased Premises prior to the taking or conveyance and the total award made with respect to the Leased Premises, less all expenses incurred in connection with the condemnation proceedings, shall be apportioned between Landlord and Tenant, in accordance with the following provisions.

Whether such condemnation or sale in lieu thereof shall be for all or part of the Leased Premises and the Solar Arrays and improvements thereon, subject to the immediately succeeding paragraph, Landlord and Tenant shall each have the right to prosecute for and to receive such separate awards and portions of lump sum awards as may be allocated to their respective interests in the Leased Premises, it being the intent of the parties that Landlord shall be entitled to that portion of the award applicable to the land as unimproved exclusive of the Solar Arrays and improvements thereon, but encumbered by this Lease, and Tenant shall be entitled to the balance of the award which shall include the value of Tenant's leasehold estate and the Solar Arrays and improvements on the Leased Premises. If the condemning authority does not make separate awards and allocations as above provided, then the allocations based on the principles set forth in this Section shall be determined by arbitration.

ARTICLE IX.
Mortgages

Section 9.1 - Landlord's Right to Mortgage. Landlord reserves the right to mortgage its fee interest in the Leased Premises from time to time throughout the Lease Term (as applicable "Fee Mortgage"). All Fee Mortgages shall be subject to this Lease and the Tenant's rights hereunder. Landlord agrees to cause all Fee Mortgage mortgagees to execute agreements in favor of Tenant and any leasehold mortgagees in form and substance acceptable by Tenant or any leasehold mortgagee, as the case may be, confirming that in the event of a foreclosure of the Fee Mortgage such fee mortgagee shall recognize the rights of Tenant and any leasehold mortgagees under this Lease and not disturb Tenant's tenancy hereunder except in accordance with the terms hereof. Landlord agrees to deliver an agreement in the form attached hereto as **Exhibit H**, or otherwise in form and substance acceptable to Tenant or any leasehold mortgagee, as the case may be, from the holder of any Fee Mortgage currently encumbering the Leased Premises consenting to this Lease and any amendments thereto, providing the non-disturbance protection required hereunder and agreeing that any casualty and condemnation proceeds shall be applied in accordance with the provisions of this Lease within thirty (30) days after the date of execution of this Lease.

Section 9.2 - Tenant's Right to Mortgage. Tenant shall have the right to mortgage its leasehold interest in the Leased Premises pursuant to this Lease from time to time throughout the Lease Term (as applicable, "Leasehold Mortgage").

Section 9.3 - Assignment by Mortgagee as Successor to Tenant. If any leasehold mortgagee shall acquire title to Tenant's interest in this Lease, by foreclosure of a mortgage thereon or by assignment in lieu of foreclosure or by an assignment from a nominee or wholly owned subsidiary corporation of such mortgagee, or under a new lease pursuant to this Article IX, such mortgagee may assign such Lease, and notwithstanding anything contained in Article X hereof shall thereupon be released from all liability for the performance or observance of the covenants and conditions in such Lease contained on Tenant's part to be performed and observed from and after the date of such assignment, provided that the assignee from such mortgagee shall have assumed such lease in accordance with Article X hereof.

Section 9.4 - Estoppel Certificate. Landlord and Tenant shall, from time to time upon written request by the other, execute and deliver to the other party and their mortgage lenders or potential lenders, if requested, within ten (10) days of such written request, a written declaration in recordable form: (1) ratifying this Lease; (2) expressing the commencement and termination dates thereof and any renewal terms; (3) certifying that this Lease is in full force and effect and has not been assigned, modified, supplemented or amended (except by such writings as shall be stated); (4) stating that all conditions under this Lease to be performed by the other party have been satisfied, or stating those alleged to remain unsatisfied; (5) stating that there are no defenses or offsets against the enforcement of this Lease by such party, or stating those claimed by such party; (6) stating the amount of advance rent, if any, paid by Tenant; (7) stating the date to which rent has been paid; and (8) stating such other matters as are reasonably requested by any permitted leasehold mortgagee.

Section 9.5 - No Joint Venture. Notwithstanding any obligation from one party to the other herein, the parties hereto state that they have not created and do not intend to create by this Lease a joint venture or partnership relation between them; it being their sole purpose and intent to create only a landlord-tenant relationship.

ARTICLE X.
Assignment

Tenant shall have the right to assign Tenant's interest in this Lease from time to time throughout the Lease Term provided each such assignee assumes all of Tenant's obligations under the Lease, which

such assignment shall require the written consent of Landlord, which shall not be unreasonably withheld. After the completion of the Project on the Leased Premises, Landlord agrees that Tenant shall be released from any further obligations under this Lease if Landlord is provided with a fully executed original assignment. In all instances, Tenant shall be permitted to (i) make an assignment to an affiliate of Tenant or a direct or indirect subsidiary of Tenant to whom Tenant also transfers the Solar Array, (ii) make an assignment through merger, consolidation or sale of all or substantially all of Tenant's stock or assets including the Solar Array, or (iii) sell, transfer, assign or pledge its interest in this Lease to Tenant's lender or financing party in connection with the financing of the construction, installation and operation of the Solar Array.

ARTICLE XI.

Default

Section 11.1 - Default by Tenant. Each of the following events shall be defaults under this Agreement with respect to Tenant (each, a "Tenant Event of Default"):

(a) If default shall be made in the due and punctual payment of any Basic Rent payable under this Lease or any part thereof, when and as the same shall become due and payable, and such default shall continue for a period of fifteen (15) days after written notice from Landlord to Tenant specifying the items in default; provided that before any termination of this Lease, Tenant shall be afforded an additional fifteen (15) day written notice and opportunity to cure; or

(b) Neglect or failure by the Tenant to perform or comply with any of the agreements, terms, covenants or conditions of this Lease, other than those referred to in subsection (a) above, for a period of sixty (60) days after written notice from the Landlord to the Tenant specifying the items in default, or in the case of a default which cannot with due diligence be cured within such sixty (60) day period, failure of the Tenant within such sixty (60) day period to commence to cure the same and thereafter to prosecute the curing of such default with due diligence and to completion; or

(c) The commencement of any bankruptcy proceedings by or against the Tenant, provided, however, the commencement of an involuntary proceeding against Tenant shall not be a Tenant Event of Default if Tenant is diligently pursuing the dismissal of any such involuntary proceeding and accomplishes such cure within one hundred eighty (180) days.

Section 11.2 - Landlord's Remedies. Subject to the provisions of Article IX, if a Tenant Event of Default shall have occurred and be continuing, Landlord shall give written notice to Tenant specifying the Tenant Event of Default (the "Tenant Event of Default Notice") and provide Tenant with fifteen (15) days in which to cure such Tenant Event of Default. If Tenant has not cured such Tenant Event of Default within fifteen (15) days of its receipt of the Tenant Event of Default Notice, Landlord may, at its election and in addition to all other rights and remedies provided at law, in equity or elsewhere herein, terminate this Lease by giving Tenant written notice of Landlord's intention to do so (the "Landlord Termination Notice"). Upon the fifteenth (15th) day next succeeding the delivery of such Landlord Termination Notice, if Tenant still has not cured such Tenant Event of Default, this Lease shall expire and terminate on such date and all right, title and interest of Tenant hereunder shall end on such date, but Tenant shall remain liable for all sums accruing prior to the termination of the Lease, plus any other sums due and payable pursuant to this Section 11.2. Upon any such termination, Tenant shall be afforded appropriate time to remove the Solar Arrays from the Leased Premises.

If a Tenant Event of Default occurs and Landlord elects not to terminate this Lease, then Landlord shall have the immediate right, pursuant to legal process, if any be applicable, to pay any sums or do any act on behalf of Tenant, in order to cure a default by Tenant, and any sums expended by Landlord, together

with interest thereon at a rate of [REDACTED], shall be immediately due and payable by Tenant to Landlord.

In addition to the foregoing, if Tenant shall fail to promptly cure any non-monetary default and such default has created an emergency situation or risk of injury to person or property, Landlord shall be entitled to notify Tenant of its intention to cure such default, and if Tenant fails to immediately take action to effect such cure, Landlord shall be entitled to cure such default and Tenant shall reimburse Landlord for all reasonable costs incurred by Landlord in effecting such cure, including reasonable attorneys' fees incurred.

Section 11.3 - Default by Landlord and Tenant's Remedies. If Landlord shall fail to observe or perform any provision hereof and such failure shall continue for thirty (30) days after notice to Landlord of such failure, then a default under this Agreement with respect to Landlord shall exist (each, a "Landlord Event of Default"); provided, however, that in the case of any such failure which cannot with due diligence be cured within such thirty (30) day period, if Landlord shall commence promptly to cure the same and thereafter prosecute the curing thereof with due diligence, the time within which such failure may be cured shall be extended for such period as is necessary to complete the curing thereof with due diligence, unless such Landlord Event of Default would cause Tenant to be in default, beyond applicable notice and cure periods, under a sublease, in which event Landlord shall not have any longer cure period than twenty (20) days prior to the end of such cure period given to Tenant under the applicable sublease, provided that Tenant informs Landlord in writing of the length of such cure period. Tenant shall have the right to cure any Landlord Event of Default and offset the cost of such cure from Basic Rent due hereunder; provided that any such offset from Basic Rent shall [REDACTED]; provided, further, that Tenant shall be entitled to continue to offset from Basic Rent until such time as Tenant has recouped all of its expenditures from curing such Landlord Event of Default. Such deductions from rent by Tenant shall not constitute a default by Tenant unless Tenant shall fail to pay the amount of such deduction within thirty (30) days after final adjudication that such amount is owing to Landlord and all appeal periods have expired without the filing of an appeal.

If a Landlord Event of Default shall have occurred and be continuing, and Landlord fails to cure any such Landlord Event of Default within ten (10) days after the date of an additional written notice from Tenant to Landlord, Tenant may terminate this Lease by giving Landlord notice of Tenant's intention to do so (the "Tenant Termination Notice"). Upon the fifteenth (15th) day next succeeding the giving of such Tenant Termination Notice, this Lease and the estate hereby granted shall expire and terminate on such date as fully and completely and with the same effect as if such date were the date herein fixed with the expiration of the Lease Term, and Basic Rent shall be apportioned as of such date and Landlord shall promptly refund to Tenant any Basic Rent theretofore paid which is allocable to the period subsequent to such date. In addition, Tenant shall have any and all additional remedies available to it at law or in equity.

Section 11.4 - Non-Waiver. The Landlord's or Tenant's failure to act upon a breach of any of the covenants of this Lease by the other party shall in no way constitute a waiver of the rights of such party, at any time in the future, to act upon such default; nor shall any such failure to act prevent the Landlord or Tenant from acting in the event of any other or further breach of the other party's covenants. No provision of this Lease shall be deemed to have been waived unless such waiver is in writing signed by the Landlord and Tenant.

Section 11.5 – Attorneys' Fees. In the event that either party to this Lease brings an action against the other to enforce any covenant of this Lease, including actions for rent or other payments due and actions in summary process, the prevailing party shall be indemnified by the other party against all legal costs and charges, including reasonable attorneys' fees.

ARTICLE XII.
Termination and Surrender

Section 12.1 - Condition of Premises. Upon expiration or other termination of this Lease, the Solar Arrays and any improvements constructed on, stored at, or brought onto the Leased Premises by Tenant, including any trade fixtures or signs, shall be removed by Tenant, and the Leased Premises shall be restored to substantially the same condition that existed upon the Commencement Date of the Lease, normal wear and tear excepted and also excluding any need for Tenant to remedy site work (including, for example and without limitation, tree removal and site grading, if applicable) that was performed by Tenant to prepare the Leased Premises for the installation of the Solar Array (collectively, the "Tenant Removal Obligation"). All trade fixtures and signs, whether by law deemed to be a part of the realty or not, installed by the Tenant at any time or anyone claiming under the Tenant, shall remain the property of the Tenant or persons claiming under the Tenant and may be removed by the Tenant or anyone claiming under the Tenant at any time or times during the Lease Term. If Tenant does not complete the Tenant Removal Obligation within one hundred twenty (120) days after expiration or other termination of the Lease, or such additional time as may be granted by Landlord (the "Tenant Removal Period"), Landlord shall have the right, at its option and upon prior written notice to Tenant, (a) to remove the System from the Premises and store the System, or sell it for salvage value, and (b) restore the Premises to substantially the same condition that existed as of the Commencement Date of the Lease, reasonable wear and tear excepted, all at Tenant's sole cost and expense, including any warehousing costs but less any actual sales amount for salvage; in the event that the sales amount for salvage exceeds the cost and expenses Landlord incurs to remove the System, restore the Premises, and sell the equipment, then such excess proceeds shall be paid to Tenant..

Section 12.2 - Holding Over. If the Tenant remains on the Leased Premises beyond the expiration of the Lease Term or any renewal or extension thereof, without the written consent of the Landlord, such holding over shall be deemed to create a month to month tenancy at a rate equal to [REDACTED], subject to all other terms and conditions of this Lease in effect immediately prior to such expiration, except those relating to the term of this Lease.

ARTICLE XIII.
Intentionally Omitted

ARTICLE XIV.
Concluding Provisions

Section 14.1 - Amendments. This Agreement may not be amended, modified, altered or changed in any respect whatsoever except by a further agreement in writing, fully executed by each of the parties hereto.

Section 14.2 - Brokerage. The Landlord and the Tenant hereby represent and agree that they have neither communicated nor dealt with any real estate broker or agent in connection with the Leased Premises or the transaction contemplated herein. The Landlord and the Tenant agree that if either has communicated or dealt with any other real estate broker or agent who makes a claim for commission in connection with this transaction, then the party so communicating or dealing shall indemnify and hold the other party harmless against any costs or expenses, including the cost of defense, resulting from any such claim.

Section 14.3 - Joint Effort. Preparation of this Agreement has been a joint effort of the parties, and the resulting document shall not be construed more severely against one of the parties than the other.

Section 14.4 - Captions. The captions of this Agreement are for convenience and reference only and in no way define, describe, extend or limit the scope or intent of this Agreement or the intent of any provision hereof.

Section 14.5 - Notice. Any notice, demand, offer or other written instrument (“Notice”) required or permitted to be given, made or sent under this Lease shall be in writing, signed by or on behalf of the party giving such Notice and shall be hand delivered or sent, postage prepaid, by Federal Express or similar overnight delivery, or by Registered or Certified Mail, Return Receipt Requested, addressed to the Landlord Notice Information or Tenant Notice Information, as applicable, that appears on the first page of this Agreement.

Any Notice to be given to the estate of any deceased or incompetent person shall be addressed to the personal representative of such deceased or incompetent person at the address of such representative or, if there is no personal representative, to the estate of the deceased or incompetent person at the address set forth in this Section.

Either party may change its address set forth in this Section by giving Notice to the other party, and if applicable, to the holder of any leasehold mortgage, in accordance with this Section.

Notice shall be effective upon hand delivery or, if by registered or certified mail or Federal Express or similar overnight delivery, the date of receipt or rejection evidenced on the return receipt.

Section 14.6 - Arbitration. In the event of any dispute concerning the condemnation award proceeds pursuant to Article VIII among or between any party bound by the terms of this Agreement, such dispute shall be settled by arbitration at the local office of the American Arbitration Association in accordance with the rules of the American Arbitration Association as then existing, and judgment upon the award rendered may be entered in any court having jurisdiction thereof.

Section 14.7 - Notice of Lease. This Lease shall not be recorded, but a memorandum of lease (the “Memorandum”) conforming to the requirements of the law of the Project State identified on the first page of this Agreement shall be recorded. All governmental charges attributable to the execution or recording of this Memorandum shall be paid by the party requiring the recording of the Memorandum.

Section 14.8 - Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which taken together shall constitute one and the same instrument.

Section 14.9 - Partial Invalidity. The invalidity of one or more of the phrases, sentences, clauses, Sections or Articles contained in this Agreement shall not affect the remaining portions so long as the material purposes of this Agreement can be determined and effectuated. If any portion of this Agreement may be interpreted in two or more ways, one of which would render the portion invalid or inconsistent with the rest of this Agreement, it shall be interpreted to render such portion valid or consistent.

Section 14.10 - Transmittal of Lease. This Lease is transmitted for examination only and does not constitute an offer to lease, and this Lease shall become effective only upon the execution and unconditional delivery thereof by both parties hereto.

Section 14.11 - Governing Law. This Agreement shall be governed by, construed and enforced in accordance with the laws of the State of Connecticut without regard to any choice of law or conflict of law principles.

Section 14.12 - Successors. This Agreement shall be binding upon and inure to the benefit of the parties and to their respective heirs, personal representatives, successors and assigns.

Section 14.13 - Force Majeure. Except as otherwise specifically provided elsewhere in this Lease, in any case where either party is required to do any act (other than Tenant’s obligation to pay Basic Rent),

the time for such performance shall be extended by the period of delays caused by fire or other casualty, government regulations, adverse weather conditions, acts of god, terrorism or other causes beyond the reasonable control of such party, and not the result of the fault or negligence of the affected party and such event or circumstance could not have been prevented or overcome by such party through the exercise of due diligence.

Section 14.14 - Entire Agreement. This Agreement contains the entire understanding of the parties. There are no oral understandings, terms or conditions, and no party has relied upon any representation, express or implied, not contained in this Agreement.

Section 14.15 - Effective Date. This Agreement shall be effective between the parties as of the date this Agreement is executed by both Landlord and Tenant.

Section 14.16 - Confidentiality. Landlord and Tenant agree that they and their respective agents and employees will keep the provisions of this Lease in confidence and shall not publish or disclose any of the terms and provisions hereof at any time during the Lease Term. The restrictions contained in this Section shall not apply to disclosures which are required to be made by Landlord or Tenant by law, in connection with litigation, to prospective purchasers, assignees, subtenants, mortgagees, investors, title companies or to their respective accountants, affiliated entities, attorneys and financial institutions.

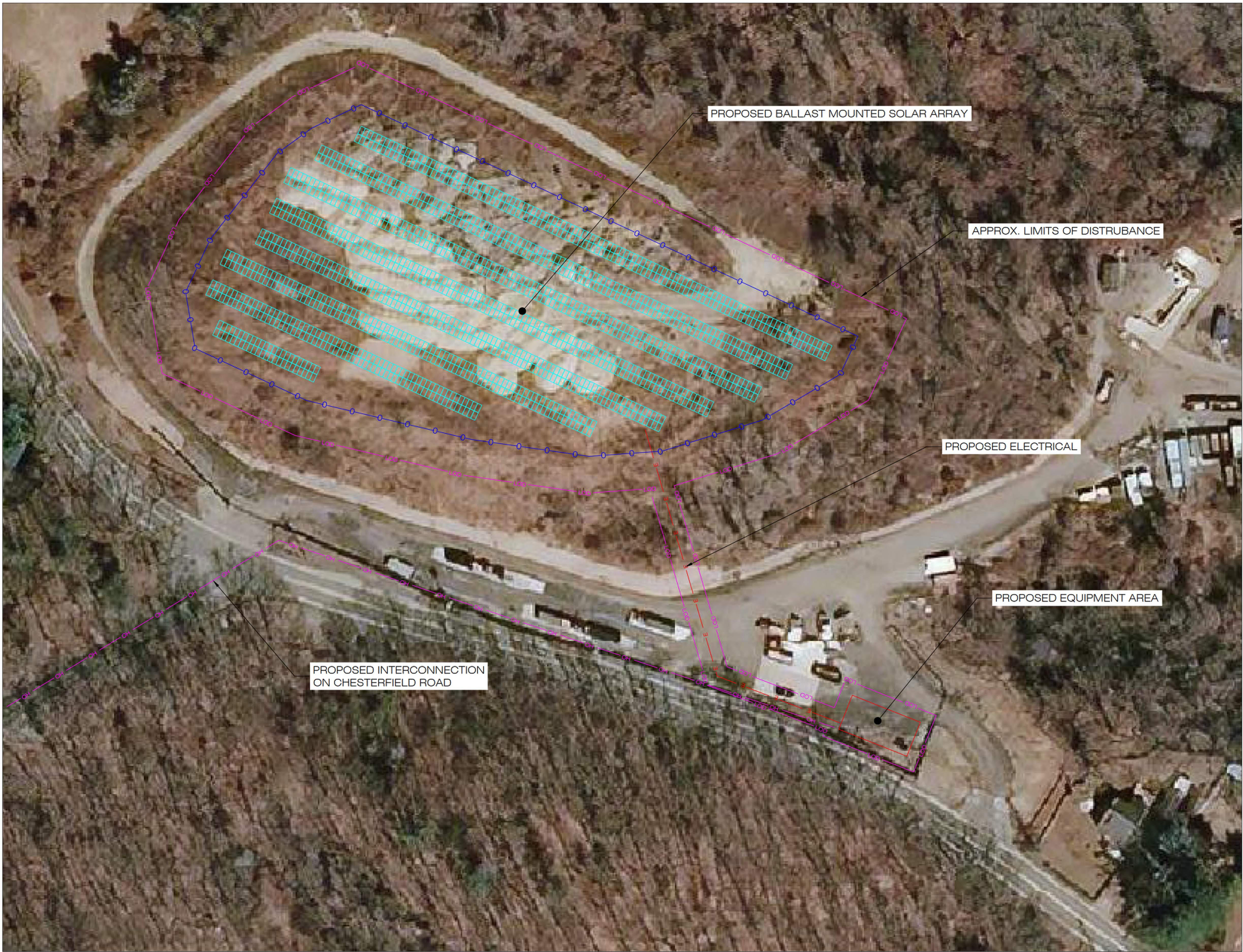
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EXHIBIT D
LEASED PREMISES

Site Address: 669 CT-163, Montville, CT 06353 (Parcel ID: 038-056-000)

The “Leased Premises” is the area of the parcel containing the Solar Array, any solar equipment, the interconnection path, and any access road to the Solar Array, including the area indicated within the “Limits of Disturbance” shown in the layout on the following page, containing approximately three and one-half (3.5) acres of land, together with any and all improvements, appurtenances, rights, privileges and easements benefiting, belonging or pertaining thereto and any right, title and interest of the Landlord in and to any land lying in the bed of any street, road or highway to the center line thereof in front of or adjoining said parcel area, and shall include additional reasonable areas necessary and appropriate for purposes of interconnection of the solar array to the electrical infrastructure of the local electric utility. A running description of the Leased Premises will be substituted upon the completion of engineering and a site survey.

*[REMAINDER OF THIS PAGE LEFT INTENTIONALLY BLANK;
LEASED PREMISES LAYOUT TO FOLLOW]*



General Notes

SYSTEM SPECIFICATIONS

DC SYSTEM SIZE	768.96 kW
AC SYSTEM SIZE	600.00 kW
MODULE QUANTITY	1,424
MODULE POWER	540 W
TILT	25°
AZIMUTH	205°
NOTES	

No.	Revision/Issue	Date

Firm Name and Address

VEROLOGY

150 TRUMBULL STREET
HARTFORD, CT 06103

Project Name and Address

MONTVILLE LANDFILL

669 CT-163
MONTVILLE, CT 06353
41.464195, -72.156911

Project	MONTVILLE LANDFILL	Sheet
Date	01/13/2022	CP-1
Drawn By	BJP	

EXHIBIT E
MEMORANDUM OF COMMENCEMENT DATE AND LEASE TERM

This Memorandum of Commencement Date and Lease Term is by and between [_____, a [STATE] [ENTITY TYPE] with an address of [_____, _____, _____] (“Landlord”) and **VCP Realty, LLC**, a Connecticut limited liability company with an address of 150 Trumbull Street, 4th Floor, Hartford, CT 06103 (“Tenant”).

STATEMENT OF FACTS

A. On _____, 20____, Landlord and Tenant entered into a Lease Agreement for that certain [*insert descriptor, i.e. piece of land, rooftop, etc.*] known as _____, _____ containing approximately _____ [*acres of land, square feet, etc.*] (the “Lease”).

B. Pursuant to Section 1.2 of the Lease, the Landlord and Tenant agreed to execute a memorandum setting forth the Commencement Date and Lease Term.

IT IS AGREED:

1. The Landlord and Tenant agree that the Commencement Date of the Lease is _____, 20____; and that the Initial Term of the Lease shall expire on _____, 20____.

2. Except for the matters set forth herein, the Lease shall be unmodified and remain in full force and effect.

Signed this _____ day of _____, 20____.

Witnessed by:

LANDLORD:

Print Name:

By _____

Its _____, duly authorized

Print Name:

TENANT:
VCP Realty, LLC

Print Name:

By _____

Its _____, duly authorized

Print Name:

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____,
20__ by _____, a member of _____, a
_____, on behalf of the _____.

Commissioner of the Superior Court
Notary Public
My Commission Expires: _____

STATE OF CONNECTICUT)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____,
20__ by _____, an Authorized Person of VCP Realty, LLC, a Connecticut limited
liability company, on behalf of the limited liability company.

Commissioner of the Superior Court
Notary Public
My Commission Expires: _____

EXHIBIT F
LIST OF DUE DILIGENCE MATERIALS

1. Copies of all maintenance and service contracts, all service or supply contracts and any other contracts or agreements related to the Premises, construction projects or repairs in process;
2. Access to copies of all available licenses, permits, maps, approvals, conditions and restrictions with respect to the Premises;
3. Details of all building, health and safety violations, if any within the last three (3) years and a list of all pending or threatened litigation;
4. Copies of the most recent property tax bill, sewer bill, and water bill;
5. Copies of any environmental or engineering reports; and
6. Copies of any existing title insurance policies and surveys.
7. Tenant acknowledges that it has already received any documents required under this Exhibit.

EXHIBIT G
TITLE ENCUMBRANCES

*[To be populated by Tenant after it obtains at its own expense and shares title search with
Landlord.]*

EXHIBIT H
FORM OF SUBORDINATION, NON-DISTURBANCE
AND ATTORNMENT AGREEMENT

THIS AGREEMENT made as of this ____ day of _____, 20__, by and between _____, whose business address is _____, hereinafter referred to as "**Tenant**", and _____, whose address is _____, hereinafter referred to as "**Mortgagee**".

Reference is made to that certain lease (hereinafter referred to as the "**Lease**") dated _____, 20__, from _____, as Landlord ("**Landlord**"), to Tenant, as tenant of premises at _____, more fully described therein.

Reference is further made to a certain mortgage dated _____, 20__, now held by Mortgagee, as heretofore amended and extended (the "**Mortgage**"), covering the property demised by the Lease, the Mortgage having been recorded in _____.

Tenant and Mortgagee hereby agree as follows:

1. The Lease and the rights of Tenant thereunder are hereby subordinated and shall be and remain subordinated to the Mortgage and the lien thereof, and to any and all extensions, replacements, modifications, consolidations, spreaders and extensions thereof.

2. Mortgagee hereby consents to the Lease and agrees that:

(a) notwithstanding the Mortgage and the lien thereof, or any extension, modification, consolidation, spreader or extension thereof, or any other restriction, lien, encumbrance, right, title or interest now or hereafter held by Mortgagee, or any default, expiration, termination, foreclosure, sale entry or other act or omission under, pursuant to or affecting any of the foregoing, Tenant shall not be disturbed in peaceful enjoyment of the Premises or any rights, privileges and benefits under the Lease terminated or canceled at any time, except in the event Landlord shall have the right to terminate the Lease under the terms and provisions expressly set forth therein.

(b) in the event Mortgagee should succeed to Landlord's rights, title and interest as Landlord under the Lease, Mortgagee will perform, fulfill and observe all of Landlord's representations, warranties and agreements set forth in the Lease while it is Landlord thereunder.

3. In the event of a foreclosure of the Mortgage, Tenant agrees to attorn to and recognize the purchaser at the foreclosure sale as Landlord under the Lease for the balance of the then remaining term of the Lease subject to all of the terms and provisions of the Lease.

4. The agreements contained herein shall bind and inure to the benefit of the successors and assigns in interest of the parties hereto, and, without limitation of the foregoing generality, the agreements of Mortgagee herein shall specifically be binding upon any purchaser or successor of said property at a sale foreclosing said Mortgage or in lieu of such foreclosure.

5. If the loan made by Mortgagee is secured by a deed of trust or security deed rather than a mortgage, all reference herein to Mortgage shall be construed as referred to such other type of security interest.

IN WITNESS WHEREOF, the parties hereof have caused the execution hereof as of the day and year first above written.

Attest:

By: _____

Vice President

Attest:

MORTGAGEE:

By: _____

Authorization Application for Disruption of a Solid Waste Disposal Area

APPENDIX C

Electrical Manufacturer Specifications

50/60kW, 1000Vdc String Inverters for North America

The 50 & 60kW (55 & 66kVA) medium-power CPS three-phase string inverters are designed for ground mount, large rooftop and carport applications. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiency at 98.8% peak and 98.5% CEC, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 50/60KTL products ship with either the Standard wire-box or the Rapid Shutdown wire-box, each fully integrated and separable with touch safe fusing, monitoring, and AC and DC disconnect switches. The integrated PLC transmitter in the Rapid Shutdown wire-box enables PVRSS certified module-level rapid shutdown when used with the Tigo TS4-F/TS4-A-F/TS4-A-2F products, APS RSD-S-PLC/RSD-D products, and NEP PVG-2 products. The CPS FlexOM Gateway enables monitoring, controls and remote product upgrades.



CPS SCA50KTL-DO/US-480
CPS SCA60KTL-DO/US-480

Key Features

- NEC 2017/2020 PVRSS certified for rapid shutdown
- 55 & 66kVA rating allows max rated active power @ ± 0.91 PF
- Selectable max AC apparent power of 50/55kVA and 60/66kVA
- NEC-compliant & UL listed Arc-Fault circuit protection
- 15-90° Mounting orientation for low profile roof installs
- Optional FlexOM Gateway enables remote firmware upgrades
- Integrated AC & DC disconnect switches
- 3 MPPTs with 5 inputs each for maximum flexibility
- NEMA Type 4X outdoor rated enclosure
- UL 1741-SA certified to CA Rule 21, including SA8 - SA18
- UL 1741-SB and IEEE 1547-2018 certified
- Separable wire-box design for fast service
- Standard 10-year warranty with extensions up to 20 years



50/60KTL Standard Wire-box



50/60KTL Rapid Shutdown Wire-box



Model Name	CPS SCA50KTL-DO/US-480		CPS SCA60KTL-DO/US-480
DC Input			
Max. PV power	90kW (33kW per MPPT)		
Max. DC input voltage	1000Vdc		
Operating DC input voltage range	200-950Vdc		
Start-up DC input voltage / power	330V / 80W		
Number of MPP trackers	3		
MPPT voltage range @ PF>0.99	480-850Vdc	540-850Vdc	
Max. PV short-circuit current (Isc x 1.25)	204A (68A per MPPT)		
Number of DC inputs	15 inputs, 5 per MPPT		
DC disconnection type	Load-rated DC switch		
DC surge protection	Type II MOV, 2800V _C , 20kA I _{TM} (8/20μS)		
AC Output			
Rated AC output power @ PF>0.99 to ±0.91 ¹	50kW	60kW	
Max. AC apparent power (selectable)	50/55kVA	60/66kVA	
Rated output voltage	480Vac		
Output voltage range ²	422 - 528Vac		
Grid connection type	3Φ / PE / N (neutral optional)		
Max. AC output current @ 480Vac	60.2/66.2A	72.2/79.4A	
Rated output frequency	60Hz		
Output frequency range ²	57 - 63Hz		
Power factor	>0.99 (±0.8 adjustable)		
Current THD @ rated load	<3%		
Max. fault current contribution (1 cycle RMS)	64.1A (1.06/0.88 PU)		
Max. OCPD rating	110A	125A	
AC disconnection type	Load-break rated AC switch		
AC surge protection	Type II MOV, 1240V _C , 15kA I _{TM} (8/20μS)		
System and Performance			
Topology	Transformerless		
Max. efficiency	98.8%		
CEC efficiency	98.5%		
Stand-by / night consumption	<1W		
Environment			
Enclosure protection degree	NEMA Type 4X		
Cooling method	Variable speed cooling fans		
Operating temperature range ³	-22°F to +140°F / - 30°C to +60°C		
Non-operating temperature range ⁴	No low temp minimum to +158°F / +70°C maximum		
Operating humidity	0 to 100%		
Operating altitude	13,123.4ft / 4000m (derating from 9842.5ft / 3000m)		
Audible noise	<60dBA @ 1m and 25°C		
Display and Communication			
User interface and display	LCD + LED		
Inverter monitoring	SunSpec, Modbus RS485		
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)		
Modbus data mapping	CPS		
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)		
Mechanical			
Dimensions (H x W x D)	39.4 x 23.6 x 10.24in. (1000 x 600 x 260mm)		
Weight	Inverter: 123.5lbs/56kg; Wire-box: 33lbs/15kg		
Mounting / installation angle ⁵	15 to 90 degrees from horizontal (vertical or angled)		
AC termination	M8 stud type terminal block (wire range: #6 - 3/0AWG CU/AL; lugs not supplied)		
DC termination ⁶	Screw clamp, neg. busbar (RSD version ⁶); wire range: #14 - #6AWG CU		
Fused string inputs (5 per MPPT) ⁷	RSD ⁶ and Standard Wire-box: 20A fuses provided (fuse values up to 30A acceptable)		
Safety			
Certifications and standards	UL1741-SA/SB Ed. 3, UL1699B, CSA-C22.2 NO.107.1-01, IEEE1547-2018; FCC PART15		
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018 ⁸ , CA Rule 21, ISO-NE		
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt		
Warranty			
Standard	10 years		
Extended terms	15 and 20 years		

1) Active power derating begins at PF=±0.91 to ±0.8 when max AC apparent power is set to 55 or 66kVA.

2) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.

3) Active power derating begins at 40°C when PF=±0.9 and MPPT ≥V_{min}; at 45°C when PF=1 and MPPT ≥V_{min}; and at 50°C when PF=1 and MPPT ≥V_{min}.

4) See user manual for further requirements regarding non-operating conditions.

5) Shade cover accessory required for installation angles of 75 degrees or less.

6) RSD wire-box only includes fuses/fuseholders on the positive polarity, compliant with NEC 2017/2020.

7) Fuse values above 20A have additional spacing requirements or require the use of the Y-Comb Terminal Block. See user manual for details.

8) Firmware version 17.0 or later required.



Three-Phase Pad-Mount Transformers

Three Phase Pad-Mount Transformers

Pad-mount transformers are ground-mounted distribution transformers enclosed in a metal cabinet, usually located on a concrete pad. This type of transformer, enclosed in a grounded metal box with all live contact points, can be installed in residential areas without fencing, unlike transformers in substations.

MPS' pad mount transformers are protected against tampering and the weather, so they can be safely placed where people are present. All enclosures are made from heavy gauge sheet steel and powder painted with a baked-on coating to make them tamper-resistant. Our pad mount transformers come in live-front and dead-front designs along with radial or loop feed.

Our transformers are made of high-grade materials and typically support residential, commercial, and industrial loads in cities and rural areas. They are filled with sustainable and biodegradable dielectric fluid, which offers excellent fire protection and a longer lifespan.

MPS manufactures a full variety of liquid-filled Three-Phase Pad-Mounted distribution transformers that comply with ANSI/IEEE standards.



General Characteristic

Base KVA Rating:	45 kVA through 10,000 KVA	Frequency:	50 Hz, 60Hz
Primary Voltages:	600-35,000 V	Standard:	IEEE/ANSI, CSA
Secondary Voltages:	208/120Y - 34,500V	Tank Type:	Pad-Mount
Phases:	Three	Windings:	Copper, Aluminum

Design Specifications

HV Bushings Configuration

- Dead-Front or Live-Front
- Loop Feed or Radial Feed

Fluid Options

- Type-II Mineral Oil
- Non-Mineral Oil (Synthetic Ester, Natural Ester)
- Envirotemp™ FR3™

Overcurrent Protection

- Bayonets Fusing (Current sensing (CLF), High amperage overload)
- Surge arresters
- Elbow arresters (for dead-front designs)

Construction

- Rectangular Wound Copper or Aluminum Windings
- Mild Steel or Stainless Steel Tank
- Steel divider between HV and LV cabinets
- Penta-head Captive Bolt
- Stainless steel door hinges
- Bolted cover for tank access

KVA Ratings (45-5000 KVA)¹

45, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3750, 5000.

¹ Transformers come in standard ratings and can be customized for specific requirements.

Cooling Mechanism

ONAN, KNAN

Nameplate

Stainless Steel Nameplate

Ancillary Equipment

- Oil Temperature Indicator (OTI)
- Winding Temperature Indicator (WTI)
- Magnetic Oil Level Gauge (MOG)
- Forced Fan Cooling
- Marshalling Box
- Pressure Relief Device (PRD)
- Radiator Valves
- Dehydrating Breather
- Adjustment Taps

Winding Connection Configurations

- Delta - Wye
- Grounded Wye – Wye
- Delta – Delta
- Wye – Wye
- Wye – Delta

Standard Testing

Every transformer undergoes all standard commercial tests in accordance with ANSI C57.12.90.

- Heat Run Test
- ANSI Impulse Test
- Audible Sound-Level Test
- 8- or 24-Hour Leak Test
- Temperature Test
- Turn Ratio Test
- Windings Resistance Test
- Polarity Test
- Induced Voltage Test

Accessories

- | | | | |
|-------------------------|---------------------|-----------------------------|------------------------------------|
| • Vacuum manometer | • Oil drain valve | • Tapping switch | • Two 2-Position Line Switches |
| • Pressure relief valve | • FR3 | • 2 Position ON/OFF, | • Cable connector for H.V. Bushing |
| • Oil filter | • Bayonet Fuse | • 4-Position T-Blade Switch | |
| • Oil Level indicator | • Temperature gauge | • 4-Position V-Blade Switch | |

Audible Sound Levels (as per NEMA Standards)

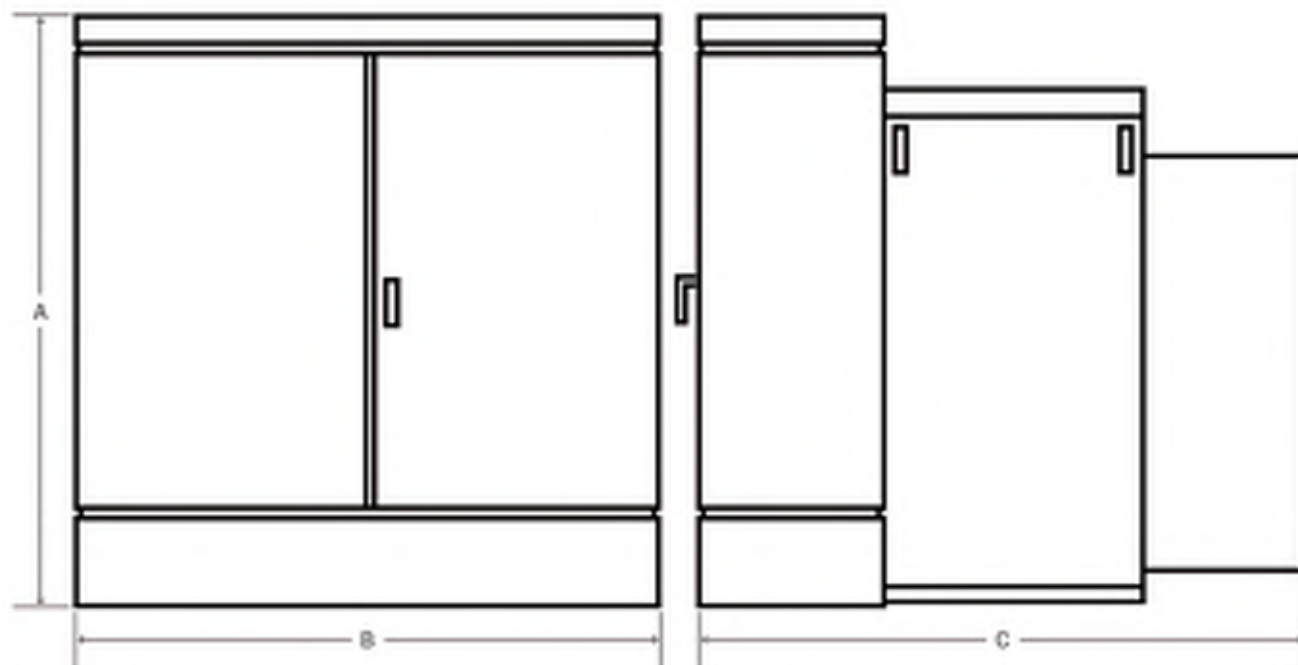
Two-Winding KVA Rating	Decibels (dB)
45-500	56
501-700	57
701-1000	58
1001-1500	60
1501-2000	61
2001-2500	62
2501-3000	63
3001-4000	64
4001-5000	65

Transformer Dimensions

Rating (KVA)	Height (mm) A	Width (mm) B	Depth (mm) C	Oil Weight (kg)	Total Weight (kg)
45	1430	1350	900	100	540
75	1430	1390	910	120	645
112.5	1430	1420	920	138	729
150	1530	1510	980	201	989
225	1530	1510	980	201	989
300	1680	1660	1080	260	1415
500	1790	1810	1160	325	1905
750	2030	2030	1300	535	2755
1000	1854	1651	1549	650	3235
1500	2150	2210	1470	748	5835
2000	2220	2380	1600	950	6430
2500	2330	2480	1650	1020	8865

* The measurements and weights are for reference only. For exact dimensions, please get in touch with MPS.

Padmount Transformer Outline



SUMEC

Phono[®] Solar
AUSTRALIA

540W

DIAMOND MODULE TECHNOLOGY

TWIN PLUS SERIES

- ✓ 15 Year Product Warranty
- ✓ Outstanding Module Efficiency
- ✓ PID Resistant
- ✓ Better Performance Under Shading Effect
- ✓ Salt Mist Certified to the Highest Severity Level

**144
CELLS**



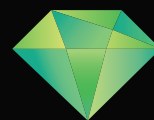
**DIAMOND
MODULE
TECHNOLOGY**

**15 YEAR
PRODUCT
WARRANTY**



**BLUE
CHIP[™]**
Solar Panel





40+ YEARS OF EXPERIENCE

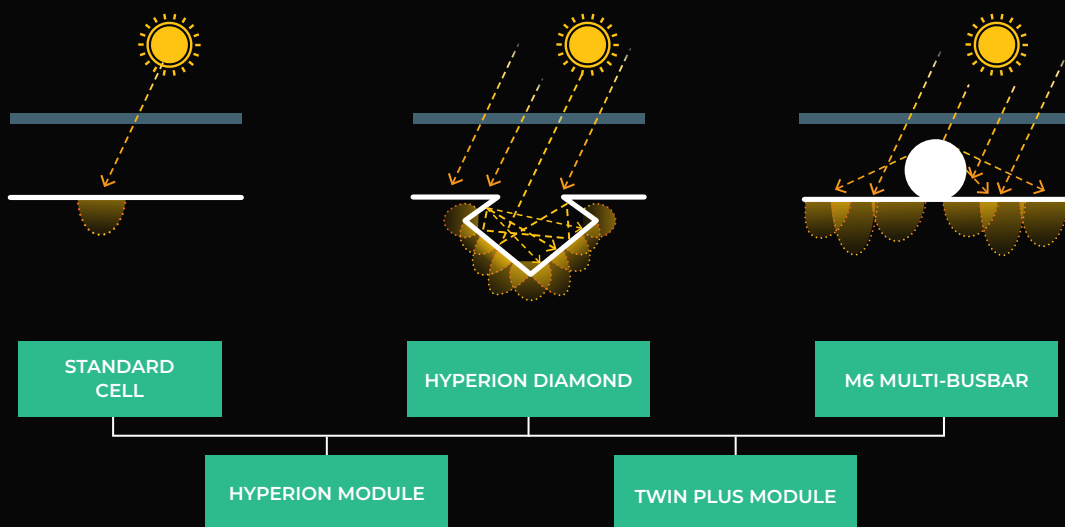
1978	2010	2018	2019	2020	2021
Sumec starts business	Phono Solar first sell solar panels in Australia Diamond Module Technology is pioneered	Phono re-brands to Sumec Phono Solar	Introduction of Market Leading 15 Year Product Warranty	New facility opens for production	Ranked as a PVEL Top Performing Panel for 2021

“ We have invested in a brand new, state of the art, manufacturing line and are proud to introduce our latest Diamond Module Technology and leading Warranty to the Australian market. ”

President Zhao, Sumec Phono Solar



ADVANCED DIAMOND MODULE TECHNOLOGY



SCAN TO
VIEW
BROCHURE



BLOOMBERG
TIER 1 BRAND



OWNED BY
FORTUNE 500
GLOBAL COMPANY



**2021 TOP
PERFORMING
PANEL**



**25 YEAR
PERFORMANCE
WARRANTY**

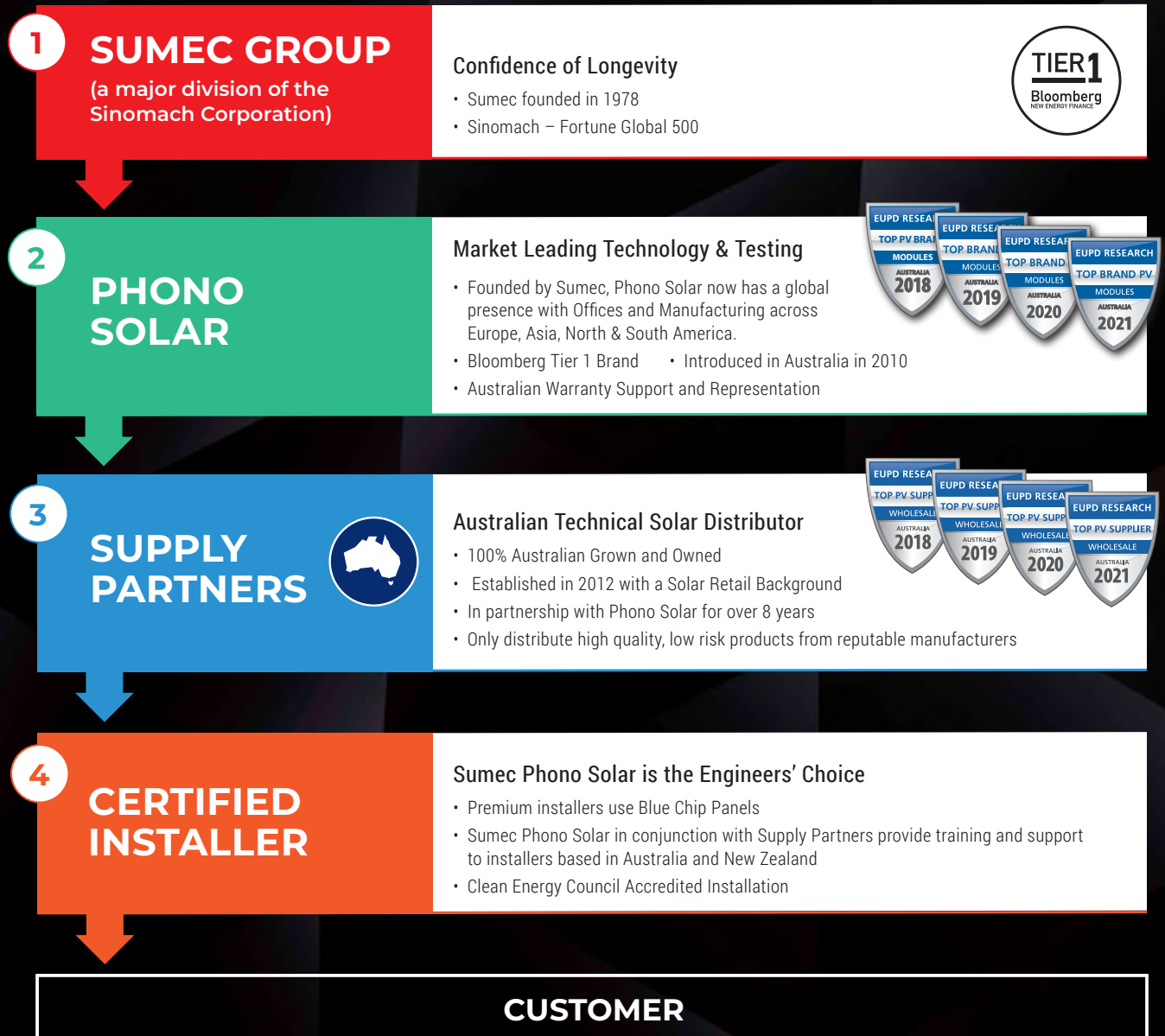
MAKE A SECURE INVESTMENT

4 LAYERS OF PROTECTION

In 2013 there were more than 400 Solar Panel Manufacturers approved for install in Australia and today there are fewer than 100.

SUMEC were founded over 40 years ago. We understand a warranty is only as strong as the company behind it.

As a **Blue Chip brand**, Sumec Phono Solar has **longevity, commitment and stability** at every layer of protection. From the Fortune 500 Founding Corporation, through to the experienced Australian Distributor, **you can feel secure in your solar investment** for decades to come.



**AUSTRALIAN
OFFICE AND
REPRESENTATION**

SUMEC PHONO SOLAR AUSTRALIA
Level 35, Tower One, 100 Barangaroo Ave, Sydney, AUSTRALIA
TEL: 02 8114 4516 www.phonosolar.com.au

PHONO SOLAR INTERNATIONAL (SUMEC)
No. 1 Xinghuo Rd., Nanjing Hi-tech Zone, Nanjing, CHINA
www.phonosolar.com

TWIN PLUS SERIES

ELECTRICAL TYPICAL VALUES

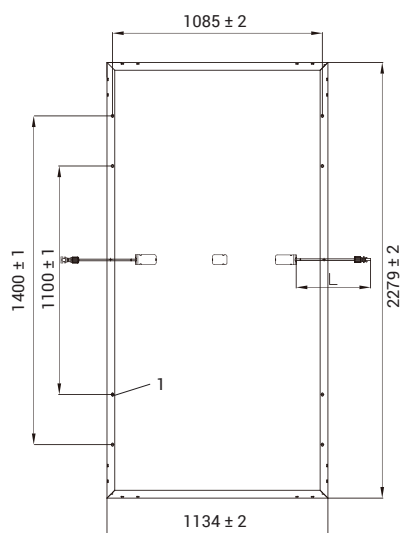
Model	PS540M6-24/TH PS540M6H-24/TH
Cell Type	144 x Monocrystalline 182mm x 91mm
Rated Power (P _{mpp}) ²	540W
Tolerance	0~+5
Rated Current (I _{mpp})	13.06
Rated Voltage (V _{mpp})	41.35
Short Circuit Current (I _{sc})	13.62
Open Circuit Voltage (V _{oc})	49.39
Module Efficiency (%)	20.89
NOCT (Nominal Operation Cell Temperature)	45°C ± 2°C
Voltage Temperature Coefficient	-0.28%/°C
Current Temperature Coefficient	+0.05%/°C
Power Temperature Coefficient	-0.35%/°C

MECHANICAL CHARACTERISTICS

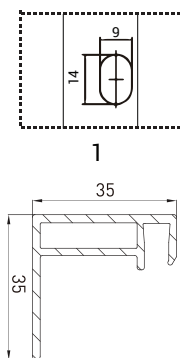
Dimensions	Length: 2279mm, Width: 1134mm Height: 35mm
Weight	29.0kg
Front Glass	3.2mm toughened glass
Frame	Anodised aluminium alloy
Cable	4mm ² (IEC), 1350mm
Junction Box	IP 68 rated
Connectors	Genuine MC4 (1000V) / MC4-EVO 2 (1500V)

PACKING CONFIGURATION

Container	Pallet	20'GP	40'HQ
Pieces per container	31	155	620



1. In compliance with our warranty terms and conditions.
2. Measurement conditions under irradiance level of Standard Test Conditions (STC): Irradiance 1000W/m², AM 1.5G, Cell Temperature 25°C.

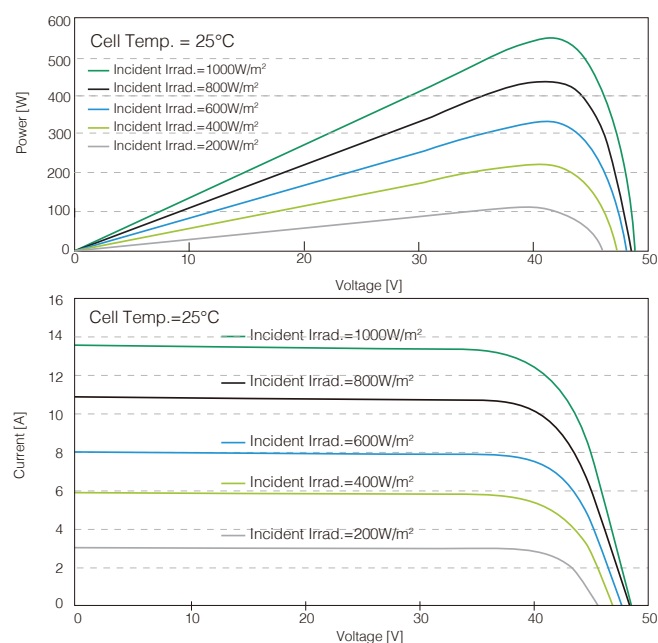


Note:mm

ABSOLUTE MAXIMUM RATING

Operating Temperature	From -40 to +85°C
Hail Diameter@ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	25A
PV Module Classification	II
Fire Rating (IEC 61730)	C
Maximum System Voltage	DC 1000V/1500V

ELECTRICAL CHARACTERISTICS



SUMEC
Phono Solar
AUSTRALIA



- 15 year product warranty
- 25-year linear performance warranty to 84.8%

1. In compliance with our warranty terms and conditions.

NOTE: This datasheet is not legally binding. Phono Solar reserves the right to make specifications changes without notice.

Further information can be found on our website: www.phonosolar.com.au

Sumec Phono Solar modules are proudly manufactured in China.

Authorization Application for Disruption of a Solid Waste Disposal Area

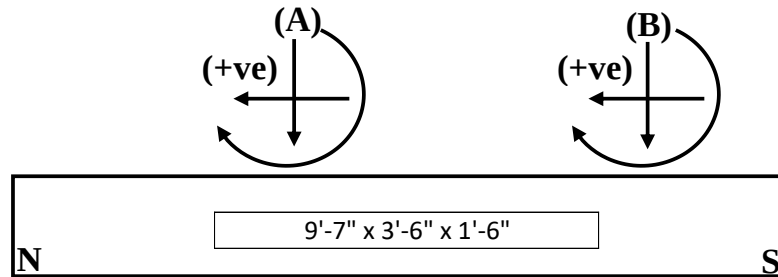
APPENDIX D

Ballast Calculations

Project Information

.Customer: Verogy
 .Project Name: Montville Landfill
 .Project Location: 669 CT 163, Montville, CT 06353
 .Module Model No: PS545M8GF-24/TH

System Information



Ballast Block Geometry

.Length (N-S): 9'-7"
 .Width (E-W): 3'-6"
 .Depth: 1'-6"
 .Concrete Density (kcf): 0.15
 .Volume (ft³): 50.31
 .Wt. of footing (kips): 7.55

Loading Condition

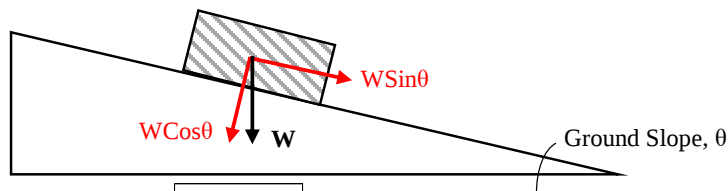
Location	A	B	} RISA INPUT
Downward Forces (kips):	4.96	2.79	
Upload Forces (kips):	-2.80	-0.19	
Moment (kips-ft):	0.66	0.43	
Shear (kips):	-1.53	-0.12	

Post to Post Spacing: 5.06
 Edge Distance (ft): 3.77 0.75

Bearing Pressure Calculation

Allowable Bearing (ksf): 0.50 (Assumed)
 Max. Down Forces + Ballast Wt (kips): 15.29
 Footprint Area (sq.ft): 33.54
 Bearing Pressure (ksf): 0.46 < 0.5ksf, Safe

Sliding Check



Coeff. Of Friction (μ):	0.55	
Ground Slope (%):	0%	
Sliding Resistance (kips):	2.51	$\Sigma(Uplift + Wt. \text{ of footing}) \times \mu$
Total Shear Force (kips):	1.65	$\Sigma(Shear)$
Safety Factor Against Sliding:	1.52	> 1.5, Safe

Table 1: Coefficient for Concrete Cast on Soil

Interface Materials	Coefficient, f
Mass concrete on the following foundation materials:	
Clean sound rock	0.70
Clean gravel, gravel-sand mixtures, coarse sand	0.55 to 0.60
Clean fine to medium sand, silty medium to coarse sand, silty or clayey gravel	0.45 to 0.55
Clean fine sand, silty or clayey fine to medium sand	0.35 to 0.45
Fine sandy silt, nonplastic silt	0.30 to 0.35
Very stiff and hard residual or preconsolidated clay	0.40 to 0.50
Medium stiff and stiff clay and silty clay	0.30 to 0.35

Reference: Armstrong, Richard C. Engineering And Design: Revision Of Thrust Block Criteria In TM 5-813-5/AFM 88-10, Vol 5 Appendix C. Ft. Belvoir: Defense Technical Information Center, 1992. Print.

Uplift Check

0.6 x Footing Weight (kips):	4.53	$\Sigma(0.6 \times Wt. \text{ of footing})$
Total Uplift Wind Forces (kips):	2.99	$\Sigma(Uplift)$
Safety Factor Against Uplift:	1.51	> 1.5, Safe

Overturning Check

	(kips-ft)	
Location	N	S
Moment due to Axial Load:	-12.24	-16.43
Moment Due to Horizontal Load:	-2.48	-2.48
Applied Moment:	1.08	1.08
Moment Res. By Footing Weight:	36.16	36.16
Moment Res. By Soil Weight:	0.00	0.00
Moment Resting (Sum):	37.25	37.25
Moment Overturning (Sum):	14.72	18.91
Safety Factor:	2.53	1.97
Safety Factor Against Overturning:	1.97	> 1.5, Safe

Authorization Application for Disruption of a Solid Waste Disposal Area

APPENDIX E

Geotechnical Calculations, Test Pit Information, and Stockpile Sample Results

Geotechnical Calculations

Project: Montville Landfill Location: Montville, CT WSE Project No.: ENG23-0165 Calculation: 01 - Stress on cap and capping soils	 55 Walkers brook Dr., Reading, MA 01867 (HQ) Tel: 978.532.1900
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Calc. By: J. MacGregor, 6/1/23
Checked by: J. Laird, 6/15/2023

Objective: Estimate stress applied to the FML cap and to the capping soils due to the existing capping soils and the added solar panel ballast foundation and up to 3 ft of leveling fill.

Calculations:

Existing Landfill Information	
Cover Soils = 6" topsoil	
Capping Layer = 18" compacted impervious	
Unit Weight of Vegetative Support Layer (saturated) =	115 lbs/ft3 (assumed)
Unit Weight of capping =	120 lbs/ft3 (assumed)
Unit Weight of leveling fill =	135 lbs/ft3 (assumed)

Precast Concrete Ballast Information	
B = ballast width =	3 ft
L = ballast length =	11 ft
z = depth to cap =	0.5 ft
q _b = stress from ballast at ground surface =	550 lbs/ft2
Leveling Fill Below Ballasts = Up to 1 ft. of Dense Grade (Assumed)	
q _i = stress from leveling fill =	135 lbs/ft2

Stress on Capping Layers	
Existing due to topsoil (6-inches):	
Δq _{topsoil} =	57.5 lb/ft ² = 0.40 lbs/in ²

Stress Increase on Capping Layer Due to Ballast and Leveling Fill	
Use the 2:1 Stress Increase Method	
$\Delta q = \frac{q_o \times B \times L}{(B + z) \times (L + z)}$	$q_o = q_b + q_f = 685 \text{ lbs/ft}^2$
Δq _{ballast} =	561.6149 lb/ft ² = 3.90 lbs/in ²

Total Stress on Capping Layer Due to Ballast, Leveling Fill and Capping Soils	
Δq _{total} =	4.30 lbs/in ²