

Tobacco Valley Solar

26.4 MW Solar Photovoltaic Development Simsbury, Connecticut

PREPARED FOR

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PREPARED BY



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January 31, 2019

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List of Exhibits

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Exhibit C	Soil Management Plan
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Exhibit E	Pollinator Habitat Plan
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List of Acronyms and Definitions

AC	Alternating Current
CO ₂	Carbon Dioxide
CLEAR	Center for Land Use Education and Research
CSC	Connecticut Siting Council
CT ESA	Connecticut Endangered Species Act
CT DEEP	Connecticut Department of Energy and Environmental Protection
CT SWAP	Connecticut Statewide Wildlife Action Plan
dB(A)	A weighted decibels
DEEP	Department of Energy and Environmental Protection
DC	direct current
DPH	Connecticut Department of Public Health
D&M Plan	Development and Management Plan
DNE	Determination of No Effect
DWW	DWW Solar II, LLC
EDR	Environmental Design & Research PDC
ESA	federal Endangered Species Act
eq	equivalent
FAA	Federal Aviation Administration
GZA	GZA GeoEnvironmental Inc.
ISO-NE	Independent System Operator of New England
kV	kilovolt
LLC	Limited Liability Company
MW	Megawatt
MT	Metric Tons
NDDDB	Natural Diversity Data Base
O&M	Operation and Maintenance
PHA	Pollinator Habitat Area
PPA	Power Purchase Agreement
POCD	Plan of Conservation and Development
RCSA	Regulations of Connecticut State Agencies
SIS	System Impact Study
SHPO	State Historic Preservation Office
SWPCP	Stormwater Pollution Control Plan
TVS	Tobacco Valley Solar
VHB	Vanasse Hangen Brustlin, Inc.
XLPE	Cross-linked polyethylene

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Introduction

This Development and Management Plan (D&M Plan) is submitted by DWW Solar II, LLC in accordance with the requirements of Sections 15-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies (RCSA), as they pertain to construction of a new renewable generation facility, and with the Decision and Order issued by the Connecticut Siting Council (CSC or Council) for the Tobacco Valley Solar (TVS) Project in Petition No. 1313. The Council's December 21, 2017 Decision and Order concluded that the proposed 26.4 megawatt (MW) ground-mounted solar photovoltaic system, located on five separate parcels of land totaling approximately 289 acres off Hopmeadow Street (US 202/CT 10), Hoskins Road and County Road in Simsbury Connecticut, would not have a substantial adverse environmental effect and would meet applicable Connecticut Department of Energy and Environmental Protection (CT DEEP) air and water quality standards.

The Council required that a D&M Plan be prepared to provide supplemental information regarding the Project. Specifically, the Council requested the following information:

- › A final site plan including, but not limited to, the solar field areas, solar array design, all access roads and access ways, grading details, soil stockpile and disposition areas, wildlife friendly fence design, underground electric wire detail, and electrical utility corridor and interconnection;
- › Erosion and sedimentation control plan consistent with the *2002 Connecticut Guidelines for Erosion and Sedimentation Control*;
- › Resource Protection Plan that include details for site clearing, grubbing, and stabilization details, including two rows of sedimentation barriers proximate to any wetland/watercourse area;

- › Site construction phasing plan with details of each clearing / earthwork phase. If phases are greater than five acres, a detailed rationale shall be provided as to why work phases should exceed five acres;
- › A stormwater management plan consistent with the *2004 Connecticut Stormwater Quality Manual*, including an analysis on the potential impact of driveways on stormwater flows, including, but not limited to potential diversion of stormwater away from wetlands;
- › Plans to comply with the recommendations outlined in DEEP's "Stormwater Management at Solar Farm Construction Projects" dated September 8, 2017;
- › Agricultural Protection Plan to reduce impacts to farmland soils during construction and operation of the facility, and restoration of the site at the end of its useful life if future use of the site will be agriculture;
- › Final plant and wildlife protection measures and/ or seasonal restriction timelines for all DEEP-identified Natural Diversity Database species, as recommended by DEEP;
- › Preventative measures for breeding birds and forest roosting bats, including clearing restrictions or field surveys with subsequent avoidance measures;
- › Identification of barns to be retained at the Project Site;
- › Identification of areas for fuel storage and equipment refueling outside of the aquifer protection area;
- › Compliance with Department of Public Health Public Water regulations and consultation the with the Department of Public Health to develop a Project Aquifer Protection Program;
- › Construction schedule, including, work days and hours;
- › Construction traffic management measures;
- › Visual Mitigation Plan, including but not limited to, landscape plantings and fencing, where appropriate;
- › Post-construction restoration plan, including appropriate seed mixes, plantings, one-acre of model pollinator habitat, and proposed use/management of the non-Project field area on Parcel 5;
- › Vegetation Management Plan including, but not limited to, provisions for frequency of mowing and vegetation maintenance that incorporate any DEEP-required seasonal restrictions, post-construction site inspections on a quarterly basis, and plans to remove and dispose of any accumulated sediment and debris that could affect stormwater patterns; and
- › Decommissioning Plan to include a listing of all materials to be removed, methods of removal, and any above-ground and subsurface materials to remain.

This D&M Plan has been prepared by Vanasse Hangen Brustlin, Inc. (VHB) under the direction of DWW Solar II, LLC., in association with other consultants including Heritage Consultants, Inc. (Heritage), Environmental Design & Research, P.D.C. (EDR), GZA GeoEnvironmental, Inc. (GZA), North Light Energy (NLE), and Swinerton Renewable Energy (Swinerton).



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Petitioner

DWW Solar II, LLC (DWW Solar or the Petitioner) is a New York Foreign Limited-Liability Company headquartered at 1166 Avenue of the Americas, 9th Floor, New York, NY 10036. DWW Solar’s owner D.E. Shaw Renewable Investments LLC is a leading developer of renewable energy projects. The company is led by a veteran management team with extensive experience in developing, constructing and operating renewable energy projects throughout the United States.

Correspondence and/or communications regarding this D&M Plan should be addressed to:

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Proposed Project

3.1 Project History

DWW Solar II, LLC proposed the TVS Project in response to the New England Clean Energy Request for Proposals. In October 2016, the Project was selected as one of the bidders to enter final contract negotiations with various electric utilities. On June 29, 2017, DWW Solar II, LLC filed a Petition for a Declaratory Ruling That A Certificate Of Environmental Compatibility And Public Need Is Not Required with the CSC. The Project proposed in the Petition consisted of a new solar power generating facility located on 156 acres of a 289-acre site consisting of five parcels adjacent to the existing Eversource 115 kilovolt (kV) North Simsbury Substation. Refer to Figure: USGS Project Location Map provided at Exhibit A.

The CSC held a Pre-Hearing Conference at the Council's offices on July 27, 2017. A site walk was held on September 12, 2017 at which DWW Solar presented the Project and responded to questions. The site walk was followed by an evidentiary hearing and public comment session held at Eno Memorial Hall in Simsbury. Two subsequent evidentiary hearings were held at the Council's offices on October 10 and November 2, 2017. On December 21, 2017, the Council issued its Decision and Order authorizing the Project to be constructed contingent on the submission of a satisfactory D&M Plan and the issuance of other applicable permits.

Appeal

On February 1, 2018, the Town of Simsbury (the Town) appealed the Decision and Order to the Superior Court of the Judicial District of New Britain. On February 5, 2018 the abutting Parties, Flammini et al. (the Abutters), filed a similar appeal. Subsequent to the filing of the appeals, DWW Solar engaged in settlement negotiations with the Town and the Abutters. The negotiations continued for several

months until the parties reached substantial agreement on the matter and a Settlement Agreement was executed. On October 19, 2017, Flammini et al. and the Town of Simsbury filed motions for stay with the Superior Court.

3.2 Project and Property Description

Property Description

The Project site consists of six separate parcels of land totaling approximately 302 acres off Hopmeadow Street (US 202/CT 10), Hoskins Road and County Road in Simsbury. Since the CSC approved the Project, the Town and the Abutters requested that the Project be redesigned such that permanent Project improvements not be sited on the parcel of land situated south of Hoskins Road. DWW Solar agreed. It was also agreed by all parties that this parcel may be utilized on a temporary basis during construction and operation of the Project for activities such as temporary staging and laydown areas provided that such activities not be closer than 100 feet from the property boundary. Additionally, the parcel south of Hoskins Road shall be maintained as grassland, agricultural land or pollinator habitat for the life of the Project. Refer to Figure: Reductions in Project Footprint provided at Exhibit A.

Due to the elimination of Project equipment south of Hoskins Road, DWW Solar sought additional adjacent land that could be added to the site to make up for the loss in production. A parcel was identified abutting the site on the east that is owned by the same owner that the original five parcels will be purchased from. An approximately 4.3-acre portion of this lot (H04-403-015) will be leased by DWW Solar and developed as part of the Project. Refer to Figure: Site Location Map provided at Exhibit A.

Parcel ID	Acreage¹	Zoning Designation
G03-403-032	138	R-40
G03-403-012	30	R-40
G03-403-026-32H	54	I-1
G03-403-014	14	I-1
H05-103-024	53	R-40
I04-403-015	4.3 (lease)	I-1

¹ Acreage according to VHB property boundary survey/site plans.

Project Description

The Project includes the construction of solar photovoltaic arrays across approximately 135 acres of the site. The Project will connect to the regional electric grid at the existing Eversource North Simsbury Substation.

The solar panels will be mounted on fixed metal framework or “racking”. The racks will be arranged in rows east to west with panels facing south and will be supported on pile foundations arranged in rows spaced approximately 6 feet apart. The panels are fixed at a tilt of approximately 20 degrees and will be approximately 3 feet above grade at the low end and approximately 10 feet above grade at the highest point. The photovoltaic panels are composed of low reflectance, crystalline silicon cells supported in anodized aluminum frames. Proposed array foundations will be driven piles.

The panels will be connected with direct current (DC) wiring on the racks, and from there connected via combiner boxes and underground DC cable to each inverter. Alternating current (AC) cable will be direct buried to connect the panel arrays to electrical equipment pads. Eleven combined inverter and transformer skids will be mounted on steel piles or on concrete equipment pads and will be spaced throughout the Project site. Any concrete equipment pads will be cast in place. Footings for the pads will extend 4 to 5 feet below grade. This equipment is anticipated to have a height above adjacent grade of approximately 10 feet. The solar array will connect to the Eversource North Simsbury Substation described above via buried electrical cables. All cabling for the Project will either attach to the racking (collector cable) or be buried underground (interconnection cable). Direct buried cable will be trenched in approximately 3 to 4 feet of cover below grade. Cabling at the Eversource North Simsbury Substation will transition overhead at the point of interconnection to enter the existing substation yard.

The facility will be surrounded by a 7-foot-high chain link fence for security. The chain-link fence will be raised above the round surface approximately 6 inches to allow small wildlife to pass under the fence. Outside the fence, an approximately 100-foot-wide zone around the east, west and south sides will be cleared of vegetation and managed as meadow for the lifetime of the facility operation. Generally, the Project will conform to existing surface grades except in locations where slopes exceed 10 percent. Refer to the Site Plans included in the SWPCP attached at Exhibit B. A network of gravel or compacted native material roads will provide access within the facility. A Soil Management Plan has been prepared which will guide the handling and management of excess soils generated and groundwater encountered during construction of the Project. The Soil Management Plan is provided at Exhibit C.

Construction access to the site will be from Hoskins Road between the two existing tobacco barns. Equipment, office trailers and laydown areas will generally be in this area as well. South of Hoskins Road a 2 to 3-acre area will be prepared for temporary parking, staging and laydown uses. This area will be sited within the existing cleared field and will not require tree clearing. The area will be restored

following construction. The County Road access to the site will not be used by general construction traffic but may be used in the event of emergency.

Operational phase access to the Site will be provided primarily off Hoskins Road with occasional access from County Road. Project roads will connect to the public roadway at these locations. A gate will be installed at both the County Road and Hoskins Road entrances to limit vehicle access to the site. Signs identifying the facility will be provided at each of these locations and will include contact information for DWW Solar personnel and/or a designated operator in charge of managing the facility. These signs will be designed with consideration of the signage guidance provided in the Town of Simsbury Zoning Regulations.

The Project layout is depicted on Figure: Project Layout Map provided at Exhibit A and the Site Plans are provided at Exhibit B.

Construction of the Project is expected to take 6-8 months and is expected to begin in spring 2019. Work hours will generally be between 6:30am and 5:30pm Monday through Friday, although expanded hours/days may be required from time to time to meet critical Project milestones.

Revisions to the Project Since the Decision and Order

As described in the discussion above, DWW Solar has made several revisions to the Project layout and equipment since the Decision and Order. The revisions were prompted by the Settlement Agreement, commitments made during the hearing process which were summarized in the Decision and Order, and refinements of the Project as it has progressed through final design engineering. Significant revisions include the following:

› **Reductions in Project Footprint.**

Permanent Project improvements have been eliminated on lot H05-103-024 south of Hoskins Road (a/k/a Parcel 5) This parcel will now be used for temporary staging. Reduction of Project area in the north field area (a/k/a Parcel 1) and the middle field area (a/k/a Parcel 3) were made based on engineering considerations. The decision to reduce the project footprint at the north edges of the north and south arrays was primarily to reduce the amount of tree clearing required on north-facing slopes. Not only are north-facing slopes the least efficient for the layout of solar photovoltaic modules due to the majority of sun exposure being from the south, but also tree removal on steep slopes has shown through experience to present soil stabilization and re-vegetation challenges following completion of clearing and grubbing. Cumulatively, these reductions reduced the Project footprint by 25 acres. Refer to Figure: Reductions in Project Footprint provided at Exhibit A.

› **Addition of Project Parcels.**

In order to make up for the loss of Project area, DWW Solar evaluated abutting properties for additional areas that could be obtained and incorporated into the Project. A property identified as I04-403-015 that abuts the east side of the middle field area was identified that is owned by the same owner as the existing

five parcels. DWW Solar will lease an approximate 4.3-acre portion of this property that is characterized by farm field that is contiguous to the middle field area. Once the leased parcel is added to the Project, the overall Project footprint is approximately 135 acres. Refer to Figure: Site Location Map provided at Exhibit A.

› **Reductions in Tree Clearing.**

The reductions in Project footprint described above result in an approximate 11-acre reduction in tree clearing. Miscellaneous smaller areas of clearing were also eliminated as the Project limit of disturbance was refined. Current Project-related clearing is approximately 19.2 acres, a reduction of approximately 11 acres. Refer to Figure: Tree Clearing Plan provided at Exhibit A.

› **Reduction in Equipment.**

During final engineering of the Project DWW Solar identified a more efficient, quieter inverter than the one previously considered for use on the Project. Use of the TMEIC Solar Water Samurai PHV-L3360GR inverter allows a reduction in the number of inverters from 14 to 11. Similarly, a reassessment of sound generated by the Project identified a sound level range 3 to 15 A-weighted decibels (dB(A)) at Project area receptors reduced from a sound level range of 34 to 40 dB(A). Refer to Acoustic Study Addendum provided at Exhibit D.

› **Condensing of Project Layout.**

Spacing between rows of panels has been reduced from 13 feet to six feet to accommodate a smaller Project footprint, reducing overall impacts while allowing TVS to meet the obligations of the Power Purchase Agreement (PPA).

› **Panel Efficiency.**

In accordance with the Decision and Order and the Settlement Agreement, DWW Solar continued to evaluate the use of more efficient solar panels. DWW Solar has identified commercially viable 395 and 400-watt panels and plans to use these more efficient panels for the Project. Using more efficient panels will allow the Project to achieve the target nameplate capacity with a smaller footprint.

› **Pollinator Habitat Enhancement Demonstration Project.**

DWW Solar committed to implementing a one-acre demonstration scale project aimed at enhancing pollinator habitat within the Project Site. The pollinator habitat area (PHA) is sited along the southern portion of the eastern site boundary north of Hoskins Road. The PHA is approximately 1.8 acres in area. The PHA is described in Exhibit E Pollinator Habitat Plan and depicted on plan sheets L-1.3, L-1.4 and L2.1 provided at Exhibit B.

› **Cultural Resources.**

DWW Solar agreed to conduct historical research to investigate whether Martin Luther King Jr. had any association with the Project site. Based upon the findings of Heritage, an association between Martin Luther King, Jr. and the proposed Project site, or any barns within it, could not be made. The results of the research are provided at Exhibit F.

Heritage performed a Phase 1b Cultural Resource Survey of the property based upon the findings of their Phase 1a study to investigate potentially sensitive

cultural resources. The Phase 1b report dated August 2017 summarized field activities conducted by Heritage. The report concluded that the various location of interest identified in the Phase 1a report lacked sufficient integrity to be eligible for listing on the National Register of Historic Places and that the proposed Project would have no adverse effect on archaeological resources. In their letter dated January 3, 2019, the State Historic Preservation Office (SHPO) concurred with Heritage’s findings. The Heritage report and the SHPO correspondence is provided at Exhibit F.

› **Aeronautical Facilities.**

For the Petition, VHB filed 17 Notice of Proposed Construction or Alteration - Off Airport (Form 7460-1) notifications with the Federal Aviation Administration (FAA). On April 18, 2017, FAA issued a Determination of No Hazard to Air Navigation (Determination of No Effect (DNE)) for the Project. In 2018, VHB filed extension requests with the FAA which were issued on October 30, 2018. Copies of the DNE extensions are provided at Exhibit G.

› **Sound.**

VHB prepared an Acoustical Study Addendum, the purpose of the study was to evaluate the sound levels from the proposed 11 inverters. The addendum used the original ambient sound level measurements and evaluated the updated Project related sound levels from the new proposed inverters models at the same sensitive receptors identified in the original evaluation using Cadna(A) software. VHB concluded in the reassessment that sound levels ranging from 3 to 15 dB(A) at Project area receptors would be expected from the new inverter models. This is a reduction from the original inverter model’s expected sound level range of 34 to 40 dB(A). Refer to Acoustic Study Addendum provided at Exhibit D. These sound levels comply with applicable CT DEEP Noise Impact Regulatory Criteria (RCSA Title 22a, §§ 22a-69-1 to 22a 69-7).

› **Agriculture.**

Approximately 93.5 acres of Prime Farmland soils are present within the Project site. Soil resources are depicted on Figure: Farmland Soils provided at Exhibit A. The Project will alter approximately 13.4 acres of Prime Farmland soils. Refer to Figure: Farmland Soils and Proposed Grading limits provided at Exhibit A.

The Decision and Order required DWW Solar to develop an Agricultural Protection Plan for use on the Project site. VHB consulted with Kip Kolesinskas, Consulting Conservation Scientist for the Department of Agriculture on April 27, 2018. Mr. Kolesinskas provided many recommendations for the TVS Project including inventory and understand the physical, chemical, and spatial properties of the soils; minimize soil disturbance, compaction, and bare soil; and manage the site, soil and plant community throughout the life of the Project to facilitate possible future agricultural use. The guidance provided by Mr. Kolesinskas, as well as research conducted by VHB, formed the basis of the Agricultural Protection Plan provided at Exhibit H.

Additionally, per Mr. Kolesinskas’ recommendation, VHB has prepared a Site Specific Soil Survey of the site which included excavation and data collection

from 145 observation pits including topsoil thickness, texture, color, consistence, and percent coarse fragments. The method used to prepare the survey generally follow the Standards and Procedures for Site Specific Soil Mapping in Rhode Island², but has been modified to map soil edaphic factors rather than constraints to development. Connecticut does not have a comparable guidance document. The soil survey is still in progress, but an interim draft is provided at Exhibit I. It is anticipated that the soil survey will serve as a baseline conditions assessment and will identify areas where high value soil resources are present on site, aiding in the protection of these resources during construction.

› **Walking Path.**

As requested by residents and agreed to by DWW Solar, a bicycle - walking path is proposed for the Project. The bicycle - walking path will connect County Road on the west side of the site to Casterbridge Crossing on the east side of the site and will also include a short spur trail to the forested areas north of the Project site for potential future bicycle and pedestrian connectivity. The path will follow existing gravel roadways where assessible outside the security fence (approximately 3,650 linear feet) and will be supplemented with mowed trails in grassed areas where gravel roads will nor be constructed (approximately 4,150 linear feet). Refer to Figure: Proposed Walking Path provided at Exhibit A.

› **Carbon Debt Analysis.**

The Project layout has changed since the Petition therefore, VHB updated the Carbon Debt Analysis originally prepared for the Petition. Further, VHB subsequently revised, at the request of the Council, to include impacts of upstream materials. Based upon the current Project proposal, the carbon debt of the Project is estimated to be 49,076.1 MT CO₂eq over a period of 30 years. Anticipating a carbon debt of 49,076.1 MT CO₂eq and annual PV production benefits of 14,371.8 MT CO₂eq/year, it would take the Project 3.4 years (or nearly 41 months) to have a net improvement with respect to GHG emissions. The updated Carbon Debt Analysis is provided at Exhibit J.

› **Soil Management.**

A Soil Management Plan has been prepared which will guide the handling and management of excess soils generated and groundwater encountered during construction of the Project. The Soil Management Plan is provided at Exhibit C.

² Final Draft October 2007 University of Rhode Island College of the Environment and Life Sciences Department of Natural Resources Science Cooperative Extension, Kingston, RI

3.3 Interconnection Update

3.3.1 General

The Project's medium voltage electrical infrastructure consists of 11 combined inverter and transformer skids, collector cables, and a switchgear. The switchgear combines the power from the northern and southern parts of the Project into a generator lead cables for delivery to the 23 kV side of the Eversource North Simsbury Substation.

3.3.2 Description of the Interconnection

For the interconnection with the Eversource Substation, DWW Solar has determined that the previously described "Northern Cable Route" is the most feasible alternative for the connection. This alternative incorporates the proposed switchgear into the Project layout within Lot G03-403-012. Collection cables bringing power from the southern portions of the Project will connect into the switchgear via a cable located in the farm road. From the switchgear heading east, the cable will likely be constructed using a cut and cover (a/k/a direct trenching) construction method under the Project perimeter roadway then east over the wooded knoll south of Howard Street to a point due north of the Eversource Substation. From there, it is anticipated that the cable will be installed using a jack and bore construction method to a location immediately adjacent to the existing Eversource North Simsbury Substation fence. Despite an increase in cost, DWW Solar concluded that it would be more environmentally sound to jack and bore in this location since it will avoid the need for an overhead cable down the steep slope and limit tree clearing.

3.3.3 Process

TVS consulted with the Independent System Operator of New England (ISO-NE) regarding interconnection of the Project in August of 2016. ISO-NE advised that because the Project will interconnect with the Eversource 23 kV distribution system, and because that portion of the 23 kV distribution system did not support any other generation (i.e., it is not part of the Pool Transmission Facility system), the interconnection of the Project would proceed through an Eversource interconnection process, with ISO-NE participating as an affected party. DWW Solar consulted with Eversource the Connecting Transmission Owner starting in late 2016 and submitted a Large Generator Interconnection Request for 26.4 MW AC on February 13, 2017.

On April 19, 2017 Eversource and DWW Solar executed a System Impact Study Agreement. On May 24, 2017 Eversource held a "Customer Kick-off" scoping meeting with DWW Solar to initiate the system impact studies. On April 13, 2018 DWW Solar received the final Interconnection System Impact Study report and on May 24, 2018 DWW Solar received the final Distribution System Impact Study, collectively the "SIS". Notably, no network upgrades or other changes to the Pool

Transmission Facility as result of the proposed Project were identified in the studies. The SIS identified some minor equipment upgrades to the Eversource North Simsbury Substation required to interconnect the proposed TVS Project. DWW Solar entered into an Interconnection Agreement with Eversource on August 20, 2018. Eversource and DWW Solar have been holding twice-monthly meetings to discuss interconnection since August 2018. DWW Solar, Eversource, and ISO-NE hold monthly calls to discuss interconnection. All parties will continue to coordinate closely during construction, commissioning, and as needed thereafter.

In September, following additional detailed engineering of the TVS facility, DWW Solar notified Eversource and ISO-NE of its intention to change from fourteen 1,000-volt inverters, to eleven 1,500-volt inverters. This change was made for two reasons, 1,000-volt inverters are being phased out of the market and are no longer readily available, and 1,500-volt inverters are more efficient requiring fewer inverters thereby reducing impacts and costs. DWW Solar has discussed this change with both Eversource and ISO-NE, and the feedback has been positive. DWW Solar is working with Eversource and ISO-NE to update the single line diagrams and system models to reflect this change in inverters and amend the Interconnection Agreement.

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Development and Management Plan Details

The Decision & Order issued by the Council required that DWW Solar II, LLC provide supplemental information regarding the TVS Project in order to ensure compliance with the RCSA Sections 15-50j-60 through 16-50j-62. DWW Solar provides the following information:

- › A final site plan including, but not limited to, the solar field areas, solar array design, all access roads and access ways, grading details, soil stockpile and disposition areas, wildlife friendly fence design, underground electric wire detail, and electrical utility corridor and interconnection;

Final Site Plans including the requested information are provided at Exhibit B of this D&M Plan.

- › Erosion and sedimentation control plan consistent with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control;

The SWPCP, which includes the requested information, are provided at Exhibit B of this D&M Plan.

- › Resource Protection Plan that include details for site clearing, grubbing, and stabilization details, including two rows of sedimentation barriers proximate to any wetland/watercourse area;

A Resource Protection Plan including the requested information are provided at Exhibit K of this D&M Plan and is summarized on sheet C-1.2 of the Site Plans.

- › Site construction phasing plan with details of each clearing / earthwork phase. If phases are greater than five acres, a detailed rationale shall be provided as to why work phases should exceed five acres;

Final Site Plans and SWPCP including the requested information are provided at Exhibit B of this D&M Plan.

- › A stormwater management plan consistent with the *2004 Connecticut Stormwater Quality Manual*, including an analysis on the potential impact of driveways on stormwater flows, including, but not limited to potential diversion of stormwater away from wetlands;

Final Site Plans and SWPCP including the requested information are provided at Exhibit B of this D&M Plan.

- › Plans to comply with the recommendations outlined in DEEP's "Stormwater Management at Solar Farm Construction Projects" dated September 8, 2017; *DEEP's stormwater guidance memorandum is addressed in the SWPCP provided at Exhibit B of this D&M Plan.*
- › Agricultural Protection Plan to reduce impacts to farmland soils during construction and operation of the facility, and restoration of the site at the end of its useful life if future use of the site will be agriculture;

An Agricultural Protection Plan including the requested information are provided at Exhibit H of this D&M Plan and is summarized on sheet C-1.2 of the Site Plans.

- › Final plant and wildlife protection measures and/ or seasonal restriction timelines for all DEEP-identified Natural Diversity Database species, as recommended by DEEP;

A Resource Protection Plan including the requested information is provided at Exhibit K of this D&M Plan and is summarized on sheet C-1.2 of the Site Plans.

- › Preventative measures for breeding birds and forest roosting bats, including clearing restrictions or field surveys with subsequent avoidance measures;

A Resource Protection Plan including the requested information is provided at Exhibit K of this D&M Plan and is summarized on sheet C-1.2 of the Site Plans.

- › Identification of barns to be retained at the Project Site;

A Barn Management Plan summarizing the inspection and maintenance schedule for the four tobacco barns designated to remain on-site. The Plan is provided at Exhibit L of the D&M Plan.

- › Identification of areas for fuel storage and equipment refueling outside of the aquifer protection area;

Final Site Plans and SWPCP including the requested information are provided at Exhibit B of this D&M Plan.

- › Compliance with Department of Public Health Public Water regulations and consultation the with the Department of Public Health to develop a Project Aquifer Protection Program;

The DWW Solar has consulted with representatives from the Drinking Water Section of the Connecticut Department of Public Health (DPH) concerning the construction of the Project. During those discussions, the Project learned that the DPH's primary concern was the protection of the Aquifer Protection Areas (APAs) identified in the DPH's December 14, 2017 letter concerning the subject. As indicated in the figures and maps in Exhibits A and B, where possible, the Project will not undertake activities in the APAs that would have the possibility of having

an adverse impact on the APAs. Where such activities must take place within the APAs, the Project and/or its contractors will adhere to the Connecticut Department of Public Health's General Construction Best Management Practices for Sites within a Public Drinking Water Supply Area provided at Exhibit M. In addition, several of the plans comprising the D&M Plan, such as the Soil Management Plan and the proposed stormwater controls on the Site, are anticipated to have a positive effect towards the protection of the APAs when compared to the recent agricultural activities at the Site.

- › Construction schedule, including, work days and hours;
Construction of the Project is expected to take 6-8 months and is expected to begin in spring 2019. Work hours will generally be between 6:30am and 5:30pm Monday through Friday, although expanded hours/days may be required from time to time to meet critical Project milestones.
- › Construction traffic management measures;
A Traffic Management Plan describing work zone protection measures is provided at Exhibit N of this D&M Plan.
- › Visual Mitigation Plan, including but not limited to, landscape plantings and fencing, where appropriate;
A Visual Screening Plan describing proposed planting species and screening measures is provided at Exhibit O of this D&M Plan. The Visual Mitigation Plan was developed in consultation with the Town of Simsbury Planning Department.
- › Post-construction restoration plan, including appropriate seed mixes, plantings, one-acre of model pollinator habitat, and proposed use/management of the non-Project field area on Parcel 5;
A Pollinator Habitat Plan is provided as Exhibit E and is detailed on plan sheets L-1.3, L-1.4 and L2.1. A Vegetation Management Plan is provided at Exhibit Q which describes post-construction restoration, seed mixes and long-term vegetation management practices.
- › Vegetation Management Plan including, but not limited to, provisions for frequency of mowing and vegetation maintenance that incorporate any DEEP-required seasonal restrictions, post-construction site inspections on a quarterly basis, and plans to remove and dispose of any accumulated sediment and debris that could affect stormwater patterns;
A Vegetation Management Plan is provided at Exhibit P. Maintenance of the stormwater management measures is described in the SWPCP attached at Exhibit B.
- › Decommissioning Plan to include a listing of all materials to be removed, methods of removal, and any above-ground and subsurface materials to remain.
The Decommissioning Plan is provided at Exhibit Q.

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Environmental Assessment of Additional Parcel

The following sections provide the results of an environmental assessment of the 4.3-acre portion of lot I04-403-015 that is to be leased by DWW Solar to replace Project footprint reduced since the Petition. This 4.3-acre parcel will allow the Project to minimize impacts, reduce grading, and reduce tree clearing.

5.1 Additional Parcel Description

As originally presented to the CSC, the Project site consisted of five separate parcels of land totaling approximately 289 acres off Hopmeadow Street (US 202/CT 10), Hoskins Road and County Road in the Town of Simsbury. The Petitioner seeks to incorporate approximately 4.3 acres from an abutting parcel of land through a lease agreement with the same owner that will transfer the properties for the rest of the Project. This lease area is part of the agricultural field north of Hoskins Road within the Project site which was originally excluded as it is part of a separate very large parcel (Assessors Map I04-403-015, 75.4 acres) which extends east all the way to Hopmeadow Street. Advancements in solar panel technology along with the use of the 4.3 acres allows the solar array to be consolidated and eliminate all previously approved work south of Hoskins Road thereby reducing the overall footprint of the Project. Other effects and benefits of this acquisition are detailed in later sections of this addendum. Refer to Figure: Site Location Map provided at Exhibit A.

5.2 Wetlands

There are no inland wetlands or watercourses within the new lease parcel. The 4.3-acre parcel is the remainder of a larger farm field within the originally proposed

Project area and part of a Natural Resource Conservation Service (NRCS) map unit for Merrimac fine sandy loams, 0 to 3 percent slopes. The Merrimac series is somewhat excessively drained. There are no wetlands or watercourses within 100 feet of the new lease parcel.

The Project was designed to avoid any direct impact to wetlands. The revisions to the solar array layout reduced potential indirect impacts to wetlands by significantly reducing the area of forest cleared near wetlands. As a result of the use of this 4.3-acre area, the Project will avoid clearing approximately 6.0 acres of forest south of wetland along Munnisunk Brook, 1.1 acres of forest south of wetland along Saxton Brook and 4.6 acres of forest north of Bissell Brook.

No adverse impact to wetland resources is anticipated to occur from the use of the lease parcel.

Refer to Figure: Wetland Delineation Map provided at Exhibit A.

5.3 Wildlife and Habitat

The revised solar layout incorporates approximately 4.3-acres of farmland that would have been separated and islanded from the contiguous larger field within the Project Site. According to the 2015 Connecticut Statewide Wildlife Action Plan (CT SWAP), this acquisition consists of a single Key Habitat, Agricultural Land (10(i)). During the breeding bird surveys completed in 2017, VHB did not find grassland birds utilizing this farmland. The proposed consolidation of the solar array will leave +/- 19 acres of farm field south of Hoskins Road undeveloped except for temporary use for employee parking during Project construction. Creation of the contiguous open space south of Hoskins Road has the potential for creating limited grassland bird habitat that would not have been available in the originally approved layout.

In addition, the Project will be able to avoid clearing approximately 11 acres of mixed deciduous hardwood and evergreen conifer forest (CT SWAP Upland Forest (Key Habitat 1(a))). According to the Center for Land Use Education and Research (CLEAR) study of Forest Fragmentation in Connecticut, most of the forest that will be preserved is classified as Edge Forest. However, by preserving Edge Forest most of the indirect losses of Core Forest associated with the original Project layout will also be avoided along Munnisunk Brook and Bissell Brook.

The Project also proposes a pollinator habitat demonstration project which is depicted on D&M Plan Sheets L-1.3 and L-1.4 and described in the Pollinator Habitat Plan provided at Exhibit E. It is 1.8 acres in area.

No adverse impact to wildlife habitat is anticipated to occur from the use of the lease parcel.

Vegetation Cover Types

The new lease area consists of a single cover type, which is agricultural field. The last crop grown in the field was tobacco and it is currently fallow with annual grasses including annual rye, crabgrass, and fall panic grass common. By reducing the area occupied by the Project, the overall area of vegetation cover type conversions has been reduced. Specifically, the farm field south of Hoskins Road will not be incorporated into the solar Project and approximately 11 acres of upland forest that would have been cleared will remain intact. Refer to Figure: Tree Clearing Plan provided at Exhibit A.

This reduction in the Project footprint will preserve more existing vegetation cover types than the plan approved by the CSC. No adverse impact to vegetation cover types is anticipated to result from the reconfiguration and reduction in area of the solar array.

Rare Threatened and Endangered Species

The Conservation Measures Plan prepared for this Project was submitted to the NDDB April 25, 2017 and later revised and resubmitted November 1, 2017. The measures were approved with additional limitations provided in NDDB Determination No. 2017102132 dated March 5, 2018. An addendum to the Conservation Measures Plan was submitted to the NDDB on January 11, 2019 in consideration of adding 4.3-acres to the plan. The added leased land is a portion of the same farm field that was included in the original NDDB Determination and does not introduce new habitat types to the Project Site.

Rare species protection protocols for the three reptile species that the NDDB determined could be present at the Project Site will be implemented at the additional 4.3-acre area in a manner consistent with the management of the rest of the Project.

The incorporation of the additional 4.3-acre lease area into the Project is not anticipated to have any effect on any rare species protected by the federal Endangered Species Act (ESA) or the Connecticut Endangered Species Act (CT ESA).

Refer to Exhibit R for NDDB correspondence.

Vernal Pool Survey

There were no vernal pools identified within the Project Site and the added lease area does not include any wetland or watercourse which could provide this function. The four farm ponds investigated within the Project Site all supported fish populations. The only farm pond where an obligate vernal pool species (wood frog) was observed breeding is south of Hoskins Road and drains to Bissell Brook. The Project no longer proposes to develop the property south of Hoskins Road.

The revised Project layout is not anticipated to have any effect on vernal pools.

5.4 Surface and Groundwater Resources

The 4.3-acre lease area is near level and high on a glacial outwash terrace near a drainage divide. Most of the 4.3-acres will drain east towards Hopmeadow Street. The lease area is within an Aquifer Protection Zone. This designation is consistent with the surficial geology, however solar facilities are not considered prohibited uses in Section J of Article 10 of the Simsbury Zoning Regulations which establishes the Aquifer Protection Zone. Hazardous materials will not be used or stored on-Site. DWW Solar consulted with the DPH regarding appropriate Best Management Practices within the Aquifer Protection Zone. DPH provided a guidance document entitled *General Construction Best Management Practices for Sites within a Public Drinking Water Supply Area (July 2014)*. DWW Solar will comply with the provisions of the guidance document which is attached at Exhibit M.

Once operational the Project will be unstaffed and does not require potable water uses or result in sanitary discharges. Portable sanitary facilities will be required on-Site during construction.

The 4.3-acre lease area is not within a floodplain or floodway.

Refer to Figure: Floodplain, Surface & Groundwater Resources provided at Exhibit A.

5.5 Stormwater

The additional 4.3-acre lease parcel was incorporated into VHB's drainage analysis. The parcel slopes east toward the remainder of the lot. In accordance with the Connecticut Stormwater Quality Manual (CT Department of Environmental Protection, 2004) (the Stormwater Manual), Section 22a-430b of the Connecticut General Statutes and the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (the General Permit), effective date October 1, 2018, three sediment traps are proposed within the 4.3-acre parcel. Pursuant to discussions with the CT DEEP Stormwater Program, the traps will be maintained post construction to mitigate runoff from the Project.

Final Site Plans and SWPCP including the requested information are provided at Exhibit B of this D&M Plan.

5.6 Scenic Values

The 4.3-acre parcel is a continuation of the farm field north of Hoskins Road. The proposed Project improvements will be sited in the existing cleared area which is indistinguishable from the adjacent farm field. The 4.3-acre portion of the Project will not result in additional viewshed effects from that of the original Project assessed in the Petition.

5.7 Cultural Resources

DWW Solar retained Heritage to conduct a Phase 1b Cultural Resources survey of the additional Project area. Heritage reviewed data compiled for the Phase 1a Cultural Resources Assessment prepared in 2017 and submitted as part of the Petition on June 29, 2017 to assess the likelihood for additional cultural resources to be present on the 4.3-acre parcel. After consulting with and receiving approval by staff at the Connecticut SHPO on November 8, 2018, Heritage conducted a pedestrian survey of the area in an effort to identify surficial expressions of any archaeological sites that might be located there. Based on the field observations, no cultural material was identified, and no suggestion of subsurface archaeological deposits was noted.

These findings were reported to the SHPO on November 19, 2018. Concurrence with Heritage's findings was received on January 3, 2019. SHPO agreed that no additional archaeological investigations are required.

Refer to Exhibit F SHPO Correspondence and Cultural Resource Surveys.

5.8 Aeronautical Facilities

VHB coordinated with the FAA regarding the additional 4.3-acre parcel. FAA advised that DWW Solar should file two additional Notice of Proposed Construction or Alteration - Off Airport (Form 7460-1) notifications with the FAA. Copies of the 7460-1 filings are provided at Exhibit G. The filings were made on December 12, 2018 and provided required information about the Project such as the type of activity/construction, the latitude and longitude of the facility, the height of equipment above ground, and ground elevations. Due to the Government shutdown, the FAA Obstruction Evaluation Group has suspended review of new applications.

Given that the additional area is essentially a minor change, and the continuation of a portion of farm field previously planned for the Project and that the additional area is generally encompassed by areas previously reviewed and approved by FAA, DWW Solar anticipates that DNEs will be issued by FAA once they recommence their reviews.

5.9 Air Quality

It is expected that the Project will have minimal emissions of regulated air pollutants and greenhouse gases during construction and no emissions during operation. Minor construction related impacts to air quality could include emissions produced by the operation of construction machinery or fugitive dust emissions. Such emissions will not be substantially different with the addition of the 4.3-acre parcel than for the original Project. In order to reduce and mitigate such potential impacts to air quality, exposed soils will be periodically sprayed with water as necessary during construction.

5.10 Noise

Sound generating equipment will not be located within the 4.3-acre parcel. Refer to Section 3.2 and Exhibit D for an updated acoustic assessment.

5.11 Public Health & Safety

Similar to the rest of the Project, improvements within the additional parcel will be surrounded with 7-foot tall chain link fencing. The chain-link fence will be posted with safety signage providing the warning that high voltage equipment is stored inside the fence.

Project related safety measures are described in the updated Operations and Maintenance (O&M) Plan provided at Exhibit S.

5.12 Land Use

Municipal Zoning

A review of the Zoning Ordinance for Simsbury, Connecticut (2016) was performed to identify the zoning designation for the 4.3-acre parcel. The parcel is zoned I-1 consistent with the adjacent lot that was part of the original Petition.

Zone I-1 is defined as a Restricted Industrial Zone. The following uses are permitted in Zone I-1:

- › Office buildings.
- › Research laboratories.
- › Warehouses and the manufacture, processing, or assembly of goods.

Per Article 7 of the Town of Simsbury's Zoning Regulations, "Public utility installations needed for the public convenience and necessity" are allowed as a Special Exception in any zone.

Future Land Use

VHB reviewed the Town of Simsbury Plan of Conservation and Development (2017) (POCD) to identify the Town's future land use plans for the Project Site and vicinity. The 4.3-acre parcel is identified as Industrial on the Future Land Use Plan.

Agriculture

Approximately 3.6 acres of the additional parcel are designated as Prime Farmland. Project improvements within the additional parcel will alter 0.9 acres of Prime Farmland.

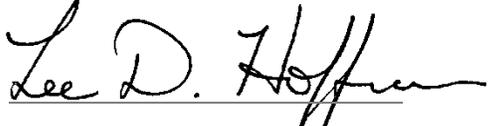


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Certification

This is to certify that on this 31st of January 2019, one original and 15 copies of this D&M Plan were delivered via hand delivery to the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut, and one (1) copy was delivered via U.S. Mail and/or electronic mail to the remaining parties on the service list.

Respectfully submitted,
DWW Solar II, LLC

By 

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Exhibit A – Figures

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Exhibit B – Stormwater Pollution Control Plan and Site Plans

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Exhibit C – Soil Management Plan

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Exhibit D – Acoustical Study Addendum

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Exhibit E – Pollinator Habitat Plan

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Exhibit F – SHPO Correspondence and Cultural Resources Survey

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Exhibit G – FAA Notice of Proposed Construction

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Exhibit H – Agricultural Protection Plan

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Exhibit I – Site Specific Soil Survey

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Exhibit J – Carbon Debt Analysis

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Exhibit K – Resource Protection Plan

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Exhibit L – Barn Management Plan

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**Exhibit M – DPH General Construction
Best Management Practices for Sites
within a Public Drinking Water Supply
Area**

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Exhibit N – Traffic Management Plan

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Exhibit O – Visual Screening Plan

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Exhibit P – Vegetation Management Plan

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Exhibit Q – Decommissioning Plan

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Exhibit R – CT DEEP NDDB Correspondence

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Exhibit S – Operations & Maintenance Plan

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