



Petition No. 1345  
North Stonington Solar Center, LLC  
98 Ella Wheeler Road, North Stonington CT

### **Development and Management Plan**

#### **Introduction**

On May 23, 2018, Pawcatuck Solar Center LLC (“Original Petitioner”) submitted a petition (“May 2018 Petition”) pursuant to Sections 16-50k(a) of the Connecticut General Statutes (“CGS”) and Section 16-50j-38 *et seq.* of the Regulations of Connecticut State Agencies (“RCSA”), to the Connecticut Siting Council (the “Siting Council”).

The Petition requested a declaratory ruling that a Certificate of Environmental Compatibility and Public Need (“Certificate”) was not required for the construction, operation and maintenance of a 15.0 megawatt (“MW”) alternating current (“AC”) ground-mounted solar photovoltaic (“PV”) electric generating facility to be constructed on four abutting parcels comprising approximately 353 acres in the Town of North Stonington, Connecticut (the “Project”).

Subsequent to a public field review of the Project, required public notice period, and Petitioner’s response to three sets of Siting Council interrogatories, the Siting Council issued its Declaratory Ruling on October 26, 2018 (the “2018 Declaratory Ruling”) approving the Project. The 2018 Declaratory Ruling concluded that the Project met the Connecticut Department of Energy and Environmental Protection’s (“DEEP”) air and water quality standards and would not “have a substantial adverse environmental effect...and would not require a Certificate of Environmental Compatibility and Public Need.” The Siting Council’s approval was subject to certain conditions, including, the preparation of a

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Development and Management (D&M) Plan.<sup>1</sup> The Siting Council's 2018 Declaratory Ruling also approved a specific site layout, referred to as the "Alternate 2" site layout.

On May 1, 2019, Lincoln Clean Energy, LLC ("LCE"), acquired the Original Petitioner, assumed control of the Project, and changed the Project name to North Stonington Solar Center, LLC (the current "Petitioner"). The Siting Council acknowledged transfer of Project ownership to LCE and the name change on June 12, 2019. On March 3, 2020, Enerparc Inc. ("Owner") notified the Siting Council that it had acquired the Project from LCE. The Siting Council acknowledged transfer of the ownership of the Project to Owner on March 4, 2020.

On March 17, 2020, CS Energy, on behalf of Petitioner, submitted a Partial D&M Plan to the Siting Council requesting to begin site clearing activities in order to finish prior to a May 1, 2020 deadline mandated by DEEP's Bureau of Natural Resources based on the presence of the red bat, a special concern species listed on Connecticut's Natural Diversity Database. DEEP required that no tree-clearing activities take place between May 1, 2020 and September 1, 2020.

On April 14, 2020, DEEP issued Notice of Permit Authorization under Connecticut's General Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activities for site clearing activities. From April 14 to April 30, 2020

As described more fully below, the construction, operation and maintenance of the proposed Project satisfies the criteria of CGS § 16-50k(a) and will not have a substantial adverse environmental effect.

As a participant and awardee of the CT DEEP Tri-State RFP for Long-term Contracts under Public Act 15-107 1(b) and CGS § 16-50j, this Project is exempt from the requirements of CGS § 16-50k(a)(iii) as established through Public Act No. 17-218.

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### Site Summary

As noted in the May 2018 Petition, the “Project Area,” representing the limits of disturbance, will encompass approximately 144 acres to accommodate the Solar Facility, temporary construction staging areas, and access and peripheral tree-free zones (to mitigate shading effects). This required clearing of existing forest and selective tree removal. The total amount of clearing has been reduced from approximately 98 acres to approximately 84 acres, with 28 of those acres restricted from grubbing activities to maintain the woody understory and 7 of those acres subject to selective tree removal. Upon completion, the fence-enclosed Solar Facility has been reduced from approximately 118 acres to approximately 110 acres. As stated above, all tree clearing activities were completed on April 30, 2020

### The Solar Project

As shown in much greater detail in the enclosed drawings the solar field will include;

- A total number of PV modules to be installed of 45,927 on a tracker system at 435 w each.
- The interconnection wiring is an overhead pole system to avoid wetland impacts associated with installation of underground conduits.
- The amount of perimeter maintenance/access is approximately 7,350 linear feet.
- The updated access road is optimized to provide access to every equipment pad and avoids going around the arrays where it is not necessary. Turn-arounds were added as needed at the ends of roads for constructability and long-term maintenance access and activities.
- The Project is expected to produce in excess of 30,343,000 Kilowatt-Hours (“kWh”) of energy in the first year of operation. This is slightly reduced from the May 2018 Petition which estimated approximately 31,500,000 kWh of energy in the first year of operation. The reduction is primarily based on the modified layout that was chosen to reduce the amount of required tree clearing.
- Commencement of construction and installation of the Project is expected to begin July 15, 2020 but is totally dependent upon first obtaining applicable Siting Council and DEEP approvals. Final site stabilization, testing, and commissioning is expected to be completed by December 2020.

**Commented [m1]:** Should be w versus kw

**Commented [m2]:** Looks like we provided different details associated with the overhead poles in the petition now, should we update?

**Commented [FD3]:** Need a description. How many poles? Height? Material?



### **10/26/2018 Ruling by the Siting Council**

The Petitioner shall prepare a Development and Management Plan (D&M) for this facility using the Alternate 2 site layout design, as depicted on Array Plan WJ111, submitted to the Council on October 12, 2018. The D&M Plan shall be in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of North Stonington for comment and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

- a) A final site plan including, but not limited to, final solar panel and tracking system design, access roads, electrical interconnection, fencing, equipment pads, and post-construction stormwater controls, as designed in the Department of Energy and Environmental Protection (DEEP)-approved Stormwater Pollution Control Plan (SWPCP);
- b) Submission of a copy of the DEEP-approved SWPCP;
- c) Construction site plans that comply with the DEEP-approved SWPCP and include, but are not limited to, site clearing, grading, site phasing, construction laydown areas, temporary access roads, erosion and sedimentation controls, concrete washout stations, and specifics on construction related environmental mitigation;
- d) Final seeding plan for all disturbed areas of the site;
- e) Construction work hours and days of the week;
- f) Details of any post-construction environmental mitigation measures; and
- g) Details of post-construction site maintenance and vegetation management.

### **Site Plans**

A final site plan including, but not limited to, final solar panel design, electrical interconnection, fencing, and equipment pads. Attachment 1 contains construction plans for the project that include final solar panel design, electrical interconnection, fencing, and equipment pads.

### **DEEP-approved SWPCP Phase 1 & Phase 2**

In attachment 2 the council will find the Stormwater Pollution Control plan that is consistent with the 2002 Connecticut Guidelines for Erosion and Sediment Control which has been submitted to DEEP for review as well as confirmation of receipt from the DEEP. You will also find Construction site plans that comply with the DEEP-approved SWPCP. In attachment 2 will be the phase 1 DEEP approval for tree clearing for reference.

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**Final seeding plan for all disturbed areas of the site**

Seeding will encompass all disturbed areas such as Swales, Retention/Detention structures and all grading areas. The below table that can be found in attachment 1 in the civil drawings page *ESC-100 Erosion and Sediment Control Notes figures 43-44*, the proposed seed is a mix of Creeping Red fescue (Pennlawn, Wintergreen) 40%, Tall Fescue (Kentucky31) or Smooth Bromegrass (Saratoga, Lincoln) 40% and Redtop (Streeker, Common) 10%. This mixture will be implemented at 42 pounds per Acre. This seeding breakdown is consistent with the 2002 Connecticut Guidelines for Erosion and Sediment Control.

\*see next 2 pages for the specific varieties\*

Figure PS-2 Selecting Seed Mix to Match Need

Area To Be Seeded	Mixture Number <sup>1</sup>	
	Mowing Desired	Mowing Not Required
BORROW AREAS, ROADSIDES, DIKES, LEVES, POND BANKS AND OTHER SLOPES AND BANKS A) Well or excessively drained soils <sup>2</sup> B) Somewhat poorly drained soils <sup>2</sup> C) Variable drainage soils <sup>2</sup>	1,2,3,4,5 or 8 2 2	5, 6, 7, 8, 9, 10, 11, 12, 16, <b>22</b> 5, 6 5, 6, 11
DRAINAGE DITCH AND CHANNEL BANKS A) Well or excessively drained soils <sup>2</sup> B) Somewhat poorly drained soils <sup>2</sup> C) Variable drainage soils <sup>2</sup>	1, 2, 3, or 4 2 2	9, 10, 11, 12
DIVERSIONS A) Well or excessively drained soils <sup>2</sup> B) Somewhat poorly drained soils <sup>2</sup> C) Variable drainage soils <sup>2</sup>	2, 3 or 4 2 2	9, 10, 11
EFFLUENT DISPOSAL		5 or 6
GRAVEL PITS <sup>3</sup>		26, 27, 28
GULLIED AND ERODED AREAS		3, 4, 5, 8, 10, 11, 12
MINESPOIL & WASTE, AND OTHER SPOIL BANKS (If toxic substances & physical properties not limiting) <sup>3</sup>		15, 16, 17, 18, 26, 27, 28
SHORELINES (Fluctuating water levels)		5 or 6
SKI SLOPES		4, 10
SOD WATERWAYS AND SPILLWAYS	1, 2, 3, 4, 6, 7, or 8	1, 2, 3, 4, 6, 7, or 8
SUNNY RECREATION AREAS (Picnic areas and playgrounds or driving and archery ranges; nature trails)	1, 2 or <b>23</b>	
CAMPING AND PARKING, NATURE TRAILS (Shaded)	19, <b>21</b> or <b>23</b>	
SAND DUNES (Blowing sand)	25	
WOODLAND ACCESS ROADS, SKID TRAILS AND LOG-YARDING AREAS		9, 10, 16, <b>22</b> , 26
LAWNS AND HIGH MAINTENANCE AREAS	1, 19, <b>21</b> or <b>29</b>	

<sup>1</sup> The numbers following in these columns refer to seed mixtures in **Figure PS-3**. Mixes for shady areas are in **bold-italics** print (including mixes 20 through 24).  
<sup>2</sup> See county soil survey for drainage class. Soil surveys are available from the County Soil and Water Conservation District Office.  
<sup>3</sup> Use mix 26 when soil passing a 200 mesh sieve is less than 15% of total weight. Use mix 26 & 27 when soil passing a 200 mesh sieve is between 15 and 20% of total weight. Use mix 20, 27 & 28 when soil passing a 200 mesh sieve is above 20% of total weight.

Figure PS-3 Seed Mixtures for Permanent Seeding

No.	Seed Mixture (Variety) <sup>1</sup>	Lbs/Acre	Lbs/1,000 Sq. Ft.
1 <sup>5</sup>	Kentucky Bluegrass	20	.45
	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Perennial Ryegrass (Norlea, Manhattan)	<u>5</u>	<u>.10</u>
	Total	45	1.00
2 <sup>5</sup>	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Redtop (Streeker, Common)	2	.05
	Tall Fescue (Kentucky 31) or Smooth Bromegrass (Saratoga, Lincoln)	<u>20</u>	<u>.45</u>
	Total	42	.95
3 <sup>5</sup>	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Bird's-foot Trefoil (Empire, Viking) with inoculant <sup>1</sup>	8	.20
	Tall Fescue (Kentucky 31) or Smooth Bromegrass (Saratoga, Lincoln)	<u>20</u>	<u>.45</u>
	Total	48	1.10
4 <sup>5</sup>	Creeping Red Fescue (Pennlawn, Wintergreen) or Tall Fescue (Kentucky 31)	20	.45
	Redtop (Streeker, Common)	2	.05
	Bird's-foot Trefoil (Empire, Viking) with inoculant <sup>1</sup>	<u>8</u>	<u>.20</u>
	Total	30	.70
5 <sup>5</sup>	White Clover	10	.25
	Perennial Rye Grass	<u>2</u>	<u>.05</u>
	Total	12	.30
6 <sup>5</sup>	Creeping Red Fescue	20	.50
	Redtop (Streeker, Common)	2	.05
	Perennial Rye Grass	<u>20</u>	<u>.50</u>
	Total	42	1.05
7 <sup>5</sup>	Smooth Bromegrass (Saratoga, Lincoln)	15	.35
	Perennial Ryegrass (Norlea, Manhattan)	5	.10
	Bird's-foot Trefoil (Empire, Viking) with inoculant <sup>1</sup>	<u>10</u>	<u>.25</u>
	Total	30	.79
8 <sup>6</sup>	Switchgrass (Blackwell, Shelter, Cave-in-rock)	10 <sup>1</sup>	.25
	Weeping Lovegrass	3	.07
	Little Bluestem (Blaze, Aldous, Camper)	<u>10<sup>1</sup></u>	<u>.25</u>
	Total	23	.57
9 <sup>5</sup>	Creeping Red Fescue (Pennlawn, Wintergreen)	10	.25
	Crown Vetch (Chemung, Penngriff) with inoculant <sup>1</sup>	15	.35
	(or Flatpea (Lathco) with inoculant <sup>1</sup> )	(30)	(.75)
	Tall Fescue (Kentucky 31) or Smooth Bromegrass (Saratoga, Lincoln)	15	.35
	Redtop (Streeker, Common)	<u>2</u>	<u>.05</u>
	Total	42 (or 57)	1.00 (or 1.40)
10 <sup>5</sup>	Creeping Red Fescue (Pennlawn, Wintergreen)	20	.45
	Redtop (Streeker, Common)	2	.05
	Crown Vetch (Chemung, Penngriff) with inoculant <sup>1</sup>	15	.35
	(or Flatpea (Lathco) with inoculant <sup>1</sup> )	(30)	(.75)
	Total	57 (or 52)	.85 (or 1.25)
	11 <sup>5</sup>	Bird's-foot Trefoil (Empire, Viking) with inoculant <sup>1</sup>	8
Crown Vetch (Chemung, Penngriff) with inoculant <sup>1</sup>		15	.35
Creeping Red Fescue (Pennlawn, Wintergreen) or Tall Fescue (Kentucky 31)		<u>20</u>	<u>.45</u>
or Smooth Bromegrass (Saratoga, Lincoln)			
Total		43	1.00



### **Construction work hours and days of the week**

Consistent with the Town of North Stonington Bylaws

Monday – Saturday: 6:00 AM – 6:00 PM

Sunday: 8:00 AM – 6:00 PM

### **Post-Construction Restoration Plan for all Disturbed Areas on Site**

The Post-Construction Restoration Plan for all disturbed areas of the site can be found in attachment 1 on the civil drawings page *ESC-100 Erosion and Sediment Control Notes figures 43-44*.

### **Post-Construction Site Maintenance and Vegetative Management Plan**

The Post-Construction Site Maintenance and Vegetation Management Plan is intended to outline the required work expected to keep the Facility operating as designed throughout its life cycle. The Post-Construction Site Maintenance and Vegetation Management Plan consists of the elements listed below.

#### **Daily System Monitoring**

The Facility will be monitored remotely 24 hours a day 7 seven days a week for system performance. Any alerts and/or alarms that are received will be reviewed and technicians will be dispatched as required.

#### **Annual Inspections and Maintenance**

- The Facility will be routinely monitored throughout the year to determine if there are any issues with the system and perform any preventative maintenance that maybe required. The inspections will include the following:

##### **Site Inspection**

- Condition of Project access drive (free of obstructions and stable)
- Condition of fencing and gates
- Condition of equipment pads and supports
- Vegetative ground cover, both within and outside the Facility, will be checked for erosion
- Stormwater management basins shall be inspected for damage including rilling and erosion, sediment accumulation, and confirm there is no blockage of outlet control weir
- Any required corrective actions shall be performed promptly

#### **Electrical and Racking Equipment**

- Visual inspection of all electrical equipment including but not limited to modules, wiring, conduit, mounting system, switchgear, and transformers
- Inspect ground connections
- Inverter cleaning, testing, and preventative maintenance as required by manufacturer
- Transformer cleaning, testing, and preventative maintenance as required by manufacturer

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- Check proper operation of all AC and DC disconnect switches
- Electrical testing of DC strings

#### Landscaping

- The Facility will be mowed whenever the vegetation reaches a height that impedes solar production.

**Commented [m4]:** Formatting bullet should be moved over to align with the above sections.

#### Maintenance and Repairs

- Any repairs that are identified during the inspections or through dispatched alarm visits will be reviewed with North Stonington Solar Center, LLC and a priority and timeline for repair will be developed for each instance. Once repairs are completed North Stonington Solar Center, LLC will close out work orders.