Petition of C-Tec Solar, LLC for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is Required for the Proposed Construction, Operation and Maintenance of Two Solar-Based Electric Generating Facilities, with Respective Outputs of 3.8 MW and 2.2 MW, to be Located at 277 Sadds Mill Road, Ellington, Connecticut

PREPARED FOR THE CONNECTICUT SITING COUNCIL

C-Tec Solar, LLC
1 Griffin Road South, Suite 200, Bloomfield, Connecticut 06002

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I. Introduction

A. Purpose and Statutory Authority

Pursuant to Conn. Gen. Stat. §§ 4-176 and 16-50k(a) and Regs. Conn. State Agencies § 16-50j-38 *et seq*., C-Tec Solar, LLC (the "Petitioner"; or "C-Tec") respectfully requests that the Connecticut Siting Council (the "Council") approve, by declaratory ruling, C-Tec's proposed installation and development of two (2) solar-based electric generating facilities, with respective outputs of approximately 3.8 megawatts ("MW") and 2.2 MW (collectively, the "Project"), located at 277 Sadds Mill Road, Ellington, Connecticut (the "Project Site" or the "Site").

Conn. Gen. Stat § 16-50k(a) provides, in pertinent part:

> *Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling . . . (B) the construction or location of any . . . grid-side distributed resources project or facility with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Protection…*

In accordance with Conn. Gen. Stat. § 16-50k(a), C-Tec respectfully requests that the Council approve this Project by declaratory ruling. As detailed below, the proposed Project will result in no air emissions, has been designed to minimize natural resource impact(s), and complies with the applicable air and water quality standards of the Connecticut Department of Energy and Environmental Protection ("CTDEEP"). The proposed Project will not have a significant adverse impact on core forests or prime farmland soils as defined in Public Act 17-218. In addition, the Project will not have an undue adverse effect on the existing environment and ecology; nor will it affect the scenic, historic and recreational resources that are located in the vicinity of the Project Site. The Project will, however, offer a number of environmental and economic benefits to the State of Connecticut and the Ellington community. Therefore, C-Tec strongly encourages the Project's approval.

B. Project Overview/Key Project Elements

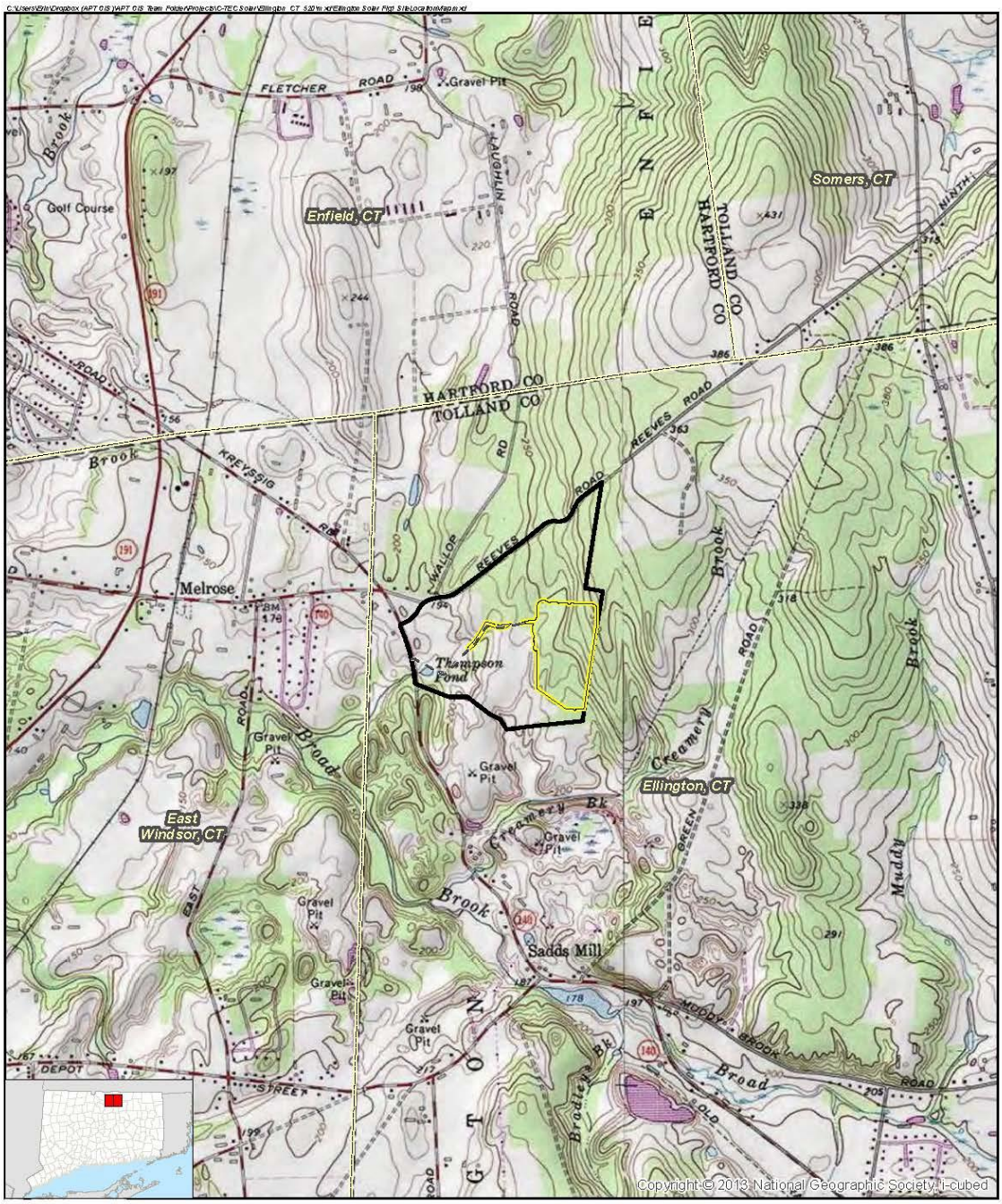
1. Site

The Project will be located on two irregularly-shaped parcels, encompassing approximately 157.3 acres, in Ellington, Connecticut (the "Project Site"; or the "Site"). The Site is privately-owned and is zoned as Industrial ("I") by the Town of Ellington (the "Town") with the exception of a narrow strip of land located along the northern property line of the Site, which is zoned as Rural Agricultural Residential ("RAR"). The Project will be located entirely within the portion of the property that is zoned Industrial.

The surrounding land use of the Project Site is characterized primarily by a mix of undeveloped wooded and agricultural land(s) to the north and east, with agricultural land and some industrial operations (sand and gravel production businesses) and the Ellington Transfer Station[1] to the south. Residential development becomes more prevalent farther to the northwest/west of the Site.

Figure 1, *Site Location Map*, depicts the location of the Project Site and the immediate surrounding area.

[1] The Ellington Transfer Station is owned and operated by the Materials Innovation and Recycling Authority, a quasi-public Connecticut state agency.



Legend

- Site
- Project Area
- Access Road (No Improvements)
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Broad Brook, CT (1984) and Ellington, CT (1984)
Map Scale: 1 inch = 2,000 feet
Map Date: March 2021

2,000 1,000 0 2,000 Feet

Figure 1
Site Location Map

Proposed Solar Energy Facility
277 Sadds Mill Road
Ellington, Connecticut

CTEC SOLAR
ALL-POINTS TECHNOLOGY CORPORATION

2. Community Relations

C-Tec has been in communication with and has engaged state and local regulators in the design and development of the Project. On February 14, 2018, C-Tec personnel, the Site's landowner, and representatives from the CTDEEP Forestry Division performed a site walk and inspection of the Project Site. C-Tec also formally notified abutting property owners and governmental officials about the project twice – once on December 14, 2020 and again on April 6 & 7, 2021. These notifications were undertaken by certified mail, and at least one "green card" receipt for each abutter and governmental official has been returned to C-Tec as can be seen in the chart contained in Appendix B, *Notices to Abutters and Governmental Officials.* Additional receipts continue to be received, so it is anticipated that most of the notices are or will be received twice.

In addition to these formal notifications, C-Tec has had informal interactions with municipal officials in Ellington regarding the project. C-Tec has also contacted officials from the Town of East Windsor regarding the Project, given the Project's proximity to East Windsor, however, no informal communications have taken place with East Windsor personnel. A few abutters have contacted C-Tec representatives in response to the formal notifications. Thus far, the response to the proposed Project has been positive with no known adverse reactions to the proposed Project.

II. Legal Name and Address of Petitioner and Contact Information

The legal name of the Petitioner is C-Tec Solar, LLC. C-Tec Solar, LLC is a Connecticut limited liability company with its principal place of business at 1 Griffin Road South, Suite 200, Bloomfield, Connecticut 06002.

C-Tec Solar, LLC has successfully developed over 100 MW of commercial solar projects in the Northeast. C-Tec's portfolio of projects range from rooftop to ground-mounted power plants, and several notable projects of C-Tec include:

1. **The Agawam Corporate Center** (Agawam, MA): Ballasted Roof Mount using Ecolibrium and DCE racking, *456,28 kW*;

2. **Thompson Farm** (Thompson, CT): Virtual Net Metering Driven Post Ground Mount Project, which sells power to the Town of West Hartford and the City of Hartford through Power Purchase Agreements ("PPA"), *3.74 MW*;

3. **All Granite Charlton** (Charlton, MA): Ballasted Roof Mounted Solar Array under SREC 2, *108.2 kW*;

4. **Hartford Distributors, Inc.** (Manchester, CT): Metal Roof Mount - Financed as PPA through Connecticut Green Bank, *748 kW*;

5. **Brewport** (Bridgeport, CT): Roof Mount, *105 kW*;

6. **Klingberg** (New Britain, CT): Roof Mount, *129 kW*;

7. **Board of Education** (Bloomfield, CT): The first project under Connecticut's Shared Clean Energy Facility Pilot Program, *2 MW*;

8. **Voluntown Road** (Griswold, CT): a Virtual Net Metering ("VNM") facility, providing power to municipalities throughout Connecticut, *2.4 MW*;

9. **Bilton Road** (Somers, CT): VNM facility, providing power to municipalities throughout Connecticut, *3.6 MW*;

10. **Lesro Industries** (Bloomfield, CT): Ballasted Roof Mount, *998 kW*;

11. **NE Tool** (Manchester, CT): Solar Carport, *100 kW*; and

12. **Mitchell** (Simsbury, CT): Installation at the Mitchell Automotive Group's Simsbury location, *130kW*.

C-Tec is also regarded as a leader in Solar-Plus-Storage, currently developing several battery powered projects in the states of Connecticut and Massachusetts, while also being awarded one of the first Solar Massachusetts Renewable Target Program ("SMART") projects in the State of Massachusetts.

As a fully integrated solar development company, C-Tec manages all aspects of the solar development and implementation process—including design and engineering to procurement and installation. C-Tec brings its years of industry knowledge and experience to bear on every project pursued.

Correspondence and other communications concerning the Project are to be addressed to, and notices, orders and other papers may be served upon, the following:

Michael Morrison
C-Tec Solar, LLC
1 Griffin Road South, Suite 200
Bloomfield, CT 06002
michael.morrison@ctecsolar.com
(860) 580-7174 ext. 121

Jeff D. Pipeling
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Lee D. Hoffman
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702
lhoffman@pullcom.com
(860) 424-4315

All three individuals consent to electronic mailings of all Council and Petition-related correspondence.

III. Description of Proposed Project

A. Property Description

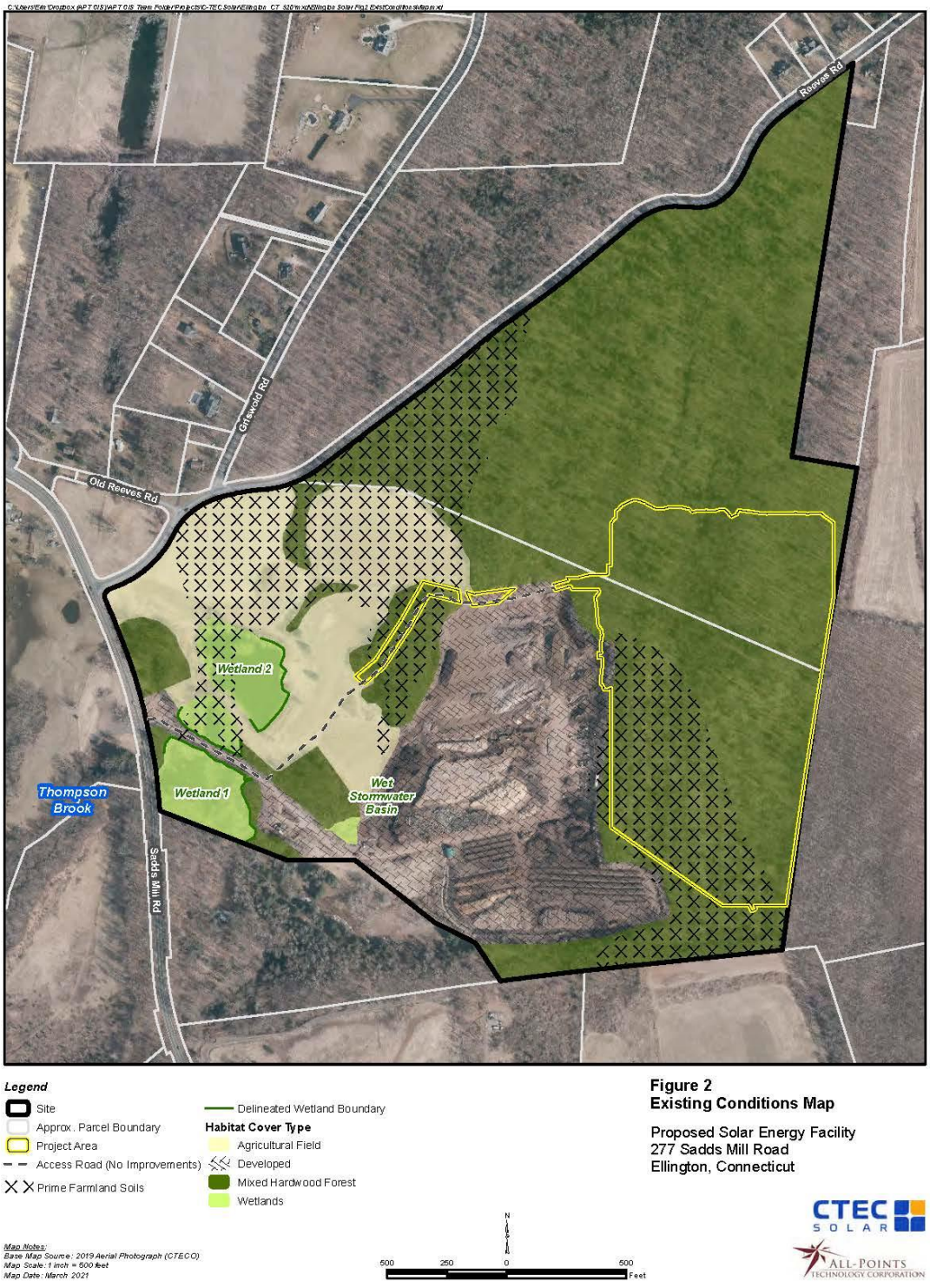
The Project Site is located on the eastern side of Sadds Mill Road (CT 140) and is bounded by Reeves Road to the north and the Ellington Transfer Station to the south. The northern and eastern extents of the Site consist of undeveloped wooded areas, while the western extent of the Site is characterized by a mix of undeveloped wooded land and agricultural fields. The central portion of the Site is currently developed, as the present landowner conducts an active sand and gravel, mulch, and compost recycling facility business thereon

(the "Materials Facility"). Several temporary structures associated with this Materials Facility are located within the central and western portions of the developed areas onsite, and a guard shack/operations office is located along the Site's main access road to the west.

The existing topography of the Site varies throughout, with grades gradually sloping downward in a northeast to south/southeast pattern. Ground elevations onsite range from approximately 300 feet above mean sea level ("AMSL") in the northeast to approximately 228 feet AMSL to the south.

The Project itself will be sited along the eastern property line, within a wooded portion of the Site, to the east of the Materials Facility. Once developed, the Facility will occupy roughly 24 acres of the Site with an additional 8.13 acres of improvements beyond the fenced limits, for a total "Project Area" of approximately 32.13 acres.

Figure 2, *Existing Conditions Map*, depicts current conditions on the Site.



B. Proposed Project Description

Provided below is pertinent information regarding the Project, including, (i) the contemplated Facility/Project equipment; (ii) the expected service life and capacity factor of the Facility; (iii) how the Site will

be accessed; (iv) the proposed electrical interconnection plans for the Project; (v) C-Tec's preliminary construction and phasing schedule(s) for the Project; (vi) the Project's anticipated maintenance plans; and (vii) C-Tec's decommissioning plans for the Facility. Additional details for the Project, including proposed development drawings, are provided in Appendix A, *Project Plans*.

1. Solar Panels and Related Ground Equipment

As presently designed, the solar electric energy generating facilities (collectively, the "Facility") will consist of 18,432 Q. Peak Duo XL-G10.3/BFG 480W photovoltaic modules ("panels"); 60 CPS SCA60KTL-DO/US-480 and eight (8) CPS SCA50KTL-DO/US-480 inverters; two (2) pad mounted switchgears; two (2) 2,000 kVA transformers, and four (4) service interconnection lines. A ground-mounted racking system will be used to secure the Facility's panel arrays, and the perimeter of the Facility will be enclosed by a seven (7)-foot tall chain-link security fence.

Once constructed, the leading edge of the panels will be approximately thirty-six (36) inches above the existing ground surface, which will provide adequate room for any accumulating snow to "sheet" off. Any production degradation due to snow build-up has already been modeled into the annual system output and performance calculations for the Project. C-Tec does not anticipate that the panels will require any cleaning or snow clearing.

The proposed electrical interconnection to the existing Eversource distribution system will extend to the solar field above-ground initially—following the existing network of dirt access roads that originate off of Sadds Mill Road—before transitioning underground at the fence line. The aboveground portion of this proposed interconnection will require the installation of approximately thirteen (13) new utility poles.

2. Service Life and Capacity Factor

The Facility's panels and inverters have an anticipated service life of twenty (20) to thirty-five (35) years. Solar PV has an expected net AC capacity factor of approximately 21.83 percent.

3. Site Access

The Facility will be accessed from the west, utilizing the existing Materials Facility dirt road network that originates off Sadds Mill Road (the "Access Road(s)"). Development of the Project will not affect continued access to the remainder of the Site.

The Petitioner does not anticipate that the Access Road(s) will need to be regraded and/or resurfaced in connection with the development of the Project. In addition, the Project will not require the construction of any paved road(s), thereby minimizing the creation of impervious surfaces onsite.

4. Interconnection

The proposed Project will interconnect to the existing Eversource distribution system that is located on Sadds Mill Road. Specifically, the interconnection will extend to the solar field above-ground initially, following the existing Access Road(s), before transitioning underground at the fence line. The aboveground portion of the interconnection will require the installation of approximately thirteen (13) new utility poles.

The interconnection will be performed in accordance with Eversource's technical standards and State of Connecticut, ISO-New England ("ISO-NE"), and Federal Energy Regulatory Commission ("FERC") requirements.

5. Construction Schedule and Phasing

Pending regulatory approvals, Project construction is anticipated to begin in fall of 2021, and will take approximately nine (9) months to complete. Construction activities within the Project Area will include: tree-clearing; grading; installing erosion and sedimentation ("E&S") control measures for the Project; creating stormwater basins; installing the Facility's racking and modules; electrical trenching; and installing overhead utility poles to allow for the proposed interconnection for the Project.

With regard to the referenced tree-clearing and grading activities, C-Tec expects that approximately 31.7 acres of tree-clearing will be required for construction of the proposed Facility.[2] Some earthwork, excavation and regrading activities (cuts/fills) will also be necessary within the Project Area to bring the Site's grades below fifteen percent (15%) and to construct the stormwater management basins for the Project. These features and topographic modifications were deemed necessary in light of CTDEEP's *Appendix I, Stormwater Management at Solar Array Construction Projects* ("Appendix I").

C-Tec's preliminary construction plans for the Project are as follows:

PHASE 1

1. Remove existing impediments as necessary and provide minimal clearing and grubbing to install the required construction entrance/s;

[2] Some additional tree-trimming/clearing may be required to accommodate the installation of the new electric utility poles.

2. Clear only as needed to install the perimeter erosion and sedimentation control measures and, if applicable, tree protection. All wetland areas shall be protected before major construction begins;

3. Install the perimeter erosion;

4. Install gravel access road; and

5. Install temporary sediment basins TSB-1, TSB-2A, and TSB-2B.

PHASE 2 (upon completion of the installation of each of the temporary sediment basins)

1. Install the diversion berm and bypass to the north and associated grading as necessary (as shown on EC-7);

2. Once the diversion berm and bypass in the north are in place, the remaining array area-clearing and grubbing can be completed as required. Remove cut wood and stockpile for future use or remove off-site. Remove and dispose of demolition debris off-site in accordance with applicable laws;

3. Temporarily seed disturbed areas not under construction for thirty (30) days or more;

4. Install remaining electrical conduit;

5. Install racking posts for ground mounted solar panels;

6. Install ground mounted solar panels and complete electrical installation;

7. After substantial completion of the installation of the solar panels, complete remaining site work, including any required landscape screening, and stabilize all disturbed areas;

8. Fine grade, rake, seed, and mulch all remaining disturbed areas; and

9. After the Site is stabilized, and with the approval of the permittee and Town of Ellington agent, remove perimeter erosion and sedimentation controls.

6. Project Maintenance

Required maintenance of the Project will be minimal. C-Tec anticipates that the Site will require mowing and routine maintenance of the electrical equipment one (1) time per year, which will typically involve two (2) technicians. C-Tec does not expect that any snow-removal operations will be necessary for the Project, given that the selective positioning of the Facility's panels allows for any accumulating snow to "sheet" off. Repairs to the Facility will be made on an as-needed basis.

7. Project Decommissioning

At the end of its useful lifespan, the Project will be fully decommissioned and removed from the Project Site. C-Tec will notify the Council and appropriate Town officials of the proposed date of discontinued Facility operations and will provide plans for its proper and safe removal.

IV. Project Benefits

If approved, the Project will provide a range of environmental and economic benefits to the State of Connecticut and the Town of Ellington, respectively. As a preliminary matter, the Project will provide the State's electrical system with additional generating capacity that will meet demand using renewable energy and contribute to grid stability. Because the Project will generate the majority of its power during the summer electrical peak, it will provide peaking resources when the State has its greatest need—in turn, decreasing energy costs for ratepayers statewide.

The Project will also represent a source of both direct and indirect revenue contribution to the community, as it anticipates using local labor, as practical, for construction and Project installation, and will provide significant municipal tax revenues to the Town of Ellington, with no additional burden on Town services and/or infrastructure (e.g., education/schools, highway maintenance, water and/or wastewater).

V. Potential Environmental Effects

As demonstrated below, the Project, if approved, will not pose any material public health or safety concerns, nor will it have an undue adverse effect on the existing environment, wildlife, and ecology. No wetlands, watercourses, or vernal pools will be directly impacted by the development of the Project, nor will the scenic, historic, and recreational resources located within the vicinity of the Project Site be affected thereby.

A. Public Health and Safety

The Project will meet and/or exceed all applicable public health and safety standards and requirements related to electric power generation. Accordingly, in terms of public health, the Facility will neither consume any raw materials nor produce any by-products, and will be unstaffed during normal operating conditions—thereby minimizing the potential for harmful pollutants being emitted onsite. In addition, no potable water use(s) or sanitary discharges are planned in connection with the operation of the Facility, nor is the use of liquid fuel contemplated. During construction and post-construction operations and maintenance, Project workers and personnel will follow all health and safety standards applicable to solar energy generating facilities.

Moreover, the Facility will be enclosed by a seven (7)-foot tall chain-link fence; the main entrance to the Facility will be gated, limiting access to authorized personnel only. All Town emergency response personnel, however, will be provided access to the Facility via a Knox Pad lock. Two (2) additional gates will also be installed along the southern fence line to provide access for the inspection and maintenance of the Project's stormwater management basins.

Lastly, the Petitioner notes that the Facility will be remotely monitored and will have the ability to remotely de-energize in the case of an emergency, thereby limiting the potential for injuries and/or harms to result.

B. Federal, Local and State Land Use, Conservation and Development Plans

The Project is consistent with local, state, and federal policies. Connecticut has adopted ambitious targets regarding the deployment of renewable energy resources in the State, including eliminating carbon from the power grid by 2040, and an economy-wide reduction in carbon emissions from current levels of 35 percent by 2030, 70 percent by 2040, and carbon neutral by 2050.[3] The Project, if constructed, will support these goals.

Moreover, while local land use requirements do not apply to the Project, it has nonetheless been designed to meet, to the extent(s) feasible, the intent of the Town of Ellington's land use regulations (the "Zoning Regulations"). As stated previously, the Site is located in two (2) different zones within Ellington: the Industrial ("I") zone and the Rural Agricultural Residential ("RAR") zone. The majority of the Site, including the Facility, is located in the Industrial (I) zone. Pursuant to Section 7.15 ("Alternative Energy – Solar") of the Town of Ellington's Zoning Regulations, solar energy systems are permitted in Ellington's Industrial Zones.[4]

Although the Town's 2019 Plan of Conservation and Development ("POCD") does not specifically address the use and/or promotion of renewable energy sources in Ellington, the Petitioner nonetheless believes that the Town endorses these efforts. In 2015, the Town of Ellington joined the Clean Energy Communities program, a nationally-recognized *Energize Connecticut* program that helps municipalities save energy and

[3] *See* Governor Ned Lamont Renewable Energy Plan (July 2018), accessible at, https://www.ctlcv.org/uploads/6/2/0/1/6201942/ned_lamont_energy_plan_10-11-18.pdf

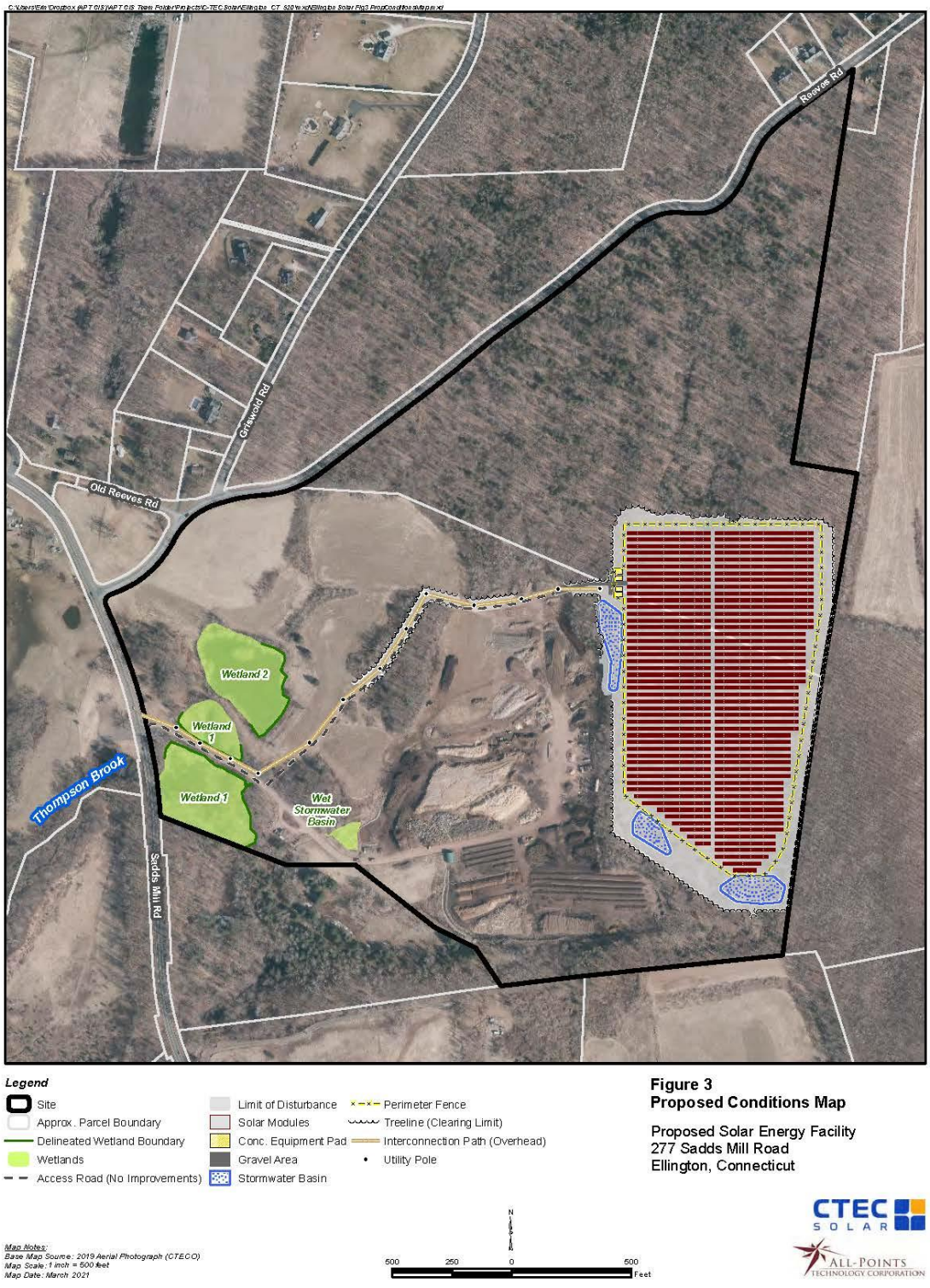
[4] *See* Town of Ellington Zoning Regulations (eff. Dec. 1, 2020), accessible at, https://resources.finalsite.net/images/v1607368127/ellingtonctgov/kmvu7fnooylfiofpzi8i/ZoningRegswithcoverpage_EFFECTIVE_12_01_2020.pdf

increase the installation of renewable energy within their borders.[5] Based on the foregoing, the Project is consistent with local, and state policies.

C. Ecological, Vegetation, Wildlife Habitat, and Natural Diversity Database and Endangered Species

This Section provides an overview of the current environmental conditions at the Site and an evaluation of the Project's potential impacts to the respective habitats, wildlife, and other natural resources occurring on and within the vicinity of the property. As demonstrated by the information included below, the Project will not have an undue adverse effect on the existing environment and ecology. Please refer to Figure 3, *Proposed Conditions Map*, for a depiction of the Project and its compatibility with the environmental resources discussed herein.

[5] *See Connecticut Patch, Town of Ellington Partners with Energize Connecticut for a Clean Energy Future (Oct. 7, 2015), accessible at, https://patch.com/connecticut/ellington-somers/town-ellington-partners-energize-connecticut-clean-energy-future-0.*



1. Habitats

Four (4) habitat types are present within the Project Site: (i) Agricultural Field, (ii) Mixed Hardwood Forest, (iii) Developed, and (vi) Wetland. Table 1, *Habitat Assessment and Impacts Table*, provides calculations

regarding the total on-site area(s) for each referenced habitat type, as well as the total area(s) proposed to be affected by the Project.

Table 1: Habitat Area Table

Habitat Areas		
Habitat Type	Total Area On-Site (+/- ac.)	Area Occupied by Project (+/- ac.)
Agricultural Field	21.3	0.0
Mixed Hardwood Forest	97.2	31.7
Developed	31.9	0.5
Wetland	6.3	0.0

As demonstrated by the information included in Table 1, as well as the supplemental habitat descriptions produced below, the proposed Facility will only alter two (2) of the four (4) habitat types located on the Site: Mixed Hardwood Forest and Developed. To mitigate potential Project impacts to the Mixed Hardwood Forest habitat onsite (and the wildlife that occurs within), C-Tec intends to establish a "Habitat Enhancement Area." This Habitat Enhancement Area is detailed further below.

Agricultural Field: Portions of the existing Access Road(s) bisect maintained hayfields onsite that consist of typical cool-season grasses that are routinely mowed and/or hayed. Although the installation of the Project's overhead utility poles may have a nominal effect on this habitat, the Petitioner does not anticipate that the Project will have a material impact on this habitat type, as no regrading and/or resurfacing activities are proposed in connection with the Access Road(s).

Mixed Hardwood Forest: Mixed Hardwood Forest habitat occupies a majority of the northeast and eastern extents of the Site. Smaller, isolated pockets of forested habitat are also located within the Developed and Agricultural habitats that occur in the central-western and western portions of the Project Site. While these smaller fragmented forested habitats share similar species compositions as the larger forested block that occurs to the east of the property, due to increased "edge" effects, these areas have experienced an increase in invasive species dominance in the understory and along the transitional margins. Such invasive species include autumn olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), and Asiatic bittersweet (*Celastrus orbiculatus*).

The Site's larger forest block, which is present in the eastern portion of the Site, is generally dominated in the overstory by mature hardwoods, including red and white oaks (*Quercus ruba* and *Quercus alba*) and red and sugar maple (*Acer rubrum* and *Acer saccharum*), with suppressed components of American beech (*Fagus grandifolia*). A majority of this forested habitat is in the so-called "stem exclusionary phase," with dense stocking and closed canopy. Generally, two (2) age classes appear to be present within the forest overstory. As such,

understory growth is limited, with dominant species consisting of mapleleaf viburnum (*Viburnum acerifolium*), musclewood (*Viburnum acerifolium*), and American beech/red maple thickets.

In the southeast corner of the Project Site, this habitat has recently been logged, with much of the overstory removed, and has not yet had the opportunity to rebound.[6] Therefore, classification of the transitional nature of this habitat type is provided as an inclusion to the larger forested habitat. Please refer to Appendix C, *Environmental Assessment,* for additional information concerning this habitat type.

Developed: The Developed areas refer to the respective locations of the Materials Facility, associated Materials Facility structures, and the Access Road(s) onsite. The only proposed activity in these areas is the installation of the Project's overhead utility poles, which will have a minimal impact to this habitat type.

Wetland: As detailed in Section E below, two (2) wetland areas were identified on the Site. No impacts to these resources are anticipated as a result of the development of this Project.

2. Wildlife

As mentioned previously, the proposed Facility will impact two (2) of the four (4) habitat types that occur on the Project Site: Mixed Hardwood Forest and Developed. Project-related activities proposed within the existing Developed areas onsite are not anticipated to affect wildlife, as these areas currently provide very little value from a wildlife utilization perspective. As such, the following discussion focuses on the wildlife that inhabit the Mixed Hardwood Forest portions of the Project Site.

Species that may utilize the Site's forested areas include the wood thrush (Hylocichla mustelina) and ovenbird (Seiurus aurocapilla); other common forest-interior species expected to occur therein include the eastern wood pewee (Contopus virens) and the red-eyed vireo (Vireo olivaceus). These species are noted as examples, however, similar species would also likely be present.[7]

While the Mixed Hardwood Forest habitat on the Site combined with the larger forested habitat(s) that occur(s) to the north and east of the property is of suitable size and "continuity" to support certain forest-dependent

[6] The Petitioner notes that, at the time of inspection, a majority of the removed tree canopy had been left in place on the forest floor ("slash"), thereby retaining much of the biological nutrient content of the trees harvested and improving habitat structure in the understory.

[7] By way of example, habitat for forest-dwelling birds includes areas suitable for forest-interior neotropical migrants, many of which are identified as a "greatest conservation need" ("GCN") by the CTDEEP's 2015 *Connecticut Wildlife Action Plan*. While the Petitioner did not observe any of these GCN species at the Project Site, and as detailed in subsection 3.1 below, no NDDB polygon exists partially or entirely on the Site, the Petitioner nonetheless acknowledges that the Site contains suitable habitat for such species.

wildlife species (such as those forest-interior species listed above) and higher species biodiversity, the existing land uses surrounding the Site have created substantial habitat fragmentation. The Site itself is dominated by edge forest; and Reeves Road and surrounding agricultural fields represent ecological barriers to additional forested habitat beyond the Site. As such, Project-related impacts to forested habitat would not likely result in a significant negative effect (i.e., additional habitat fragmentation) on a larger landscape scale.

The edge forest habitat prevalent on the Site does however provide higher quality habitat for "Generalist" species that are more tolerant of human disturbance, habitat fragmentation, and resultant "edge" effects. As such, several song birds and mammals, including the raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), grey squirrel (*Sciurus carolinensis*), Virginia opossum (*Didelphus virginiana*), and eastern chipmunk (*Tamias striatus*), could be expected to occur within these areas of the Site.

To protect such species from potential Project impact(s), C-Tec intends to establish a "Habitat Enhancement Area" along the eastern edge of the Facility. This area will be properly managed for wildlife use by restricting mowing on a rotational basis every four (4) to seven (7) years. This mowing plan will also permit the subject area to revert to Late Old Field habitat and create a soft ecotone that can provide cover and a suitable environment for forest-dwelling wildlife and edge nesting birds. Additionally, soils that are disturbed during construction activities within this area will be seeded with a pollinator-friendly seed mix to provide permanent stabilization and wildlife habitat.

Based on the foregoing, no adverse impacts to wildlife are expected to result from the development of the Project.

3. State Listed/Threatened Species

3.1 Natural Diversity Data Base

By way of background. the CTDEEP Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine, *inter alia*, the impact of proposed development projects on state-listed species. In furtherance of this endeavor, the CTDEEP has developed maps to serve as a pre-screening tool to help applicants determine if there is the potential for project-related impact to state-listed species.

The NDDB maps represent approximate locations of (i) endangered, threatened and special concern species, as well as (ii) significant natural communities in Connecticut. The respective locations of species and natural communities depicted on the maps are based on data collected over the years by CTDEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded (or cross-hatched) areas on the maps. Exact locations have

been masked to protect sensitive species from collection and disturbance, and to protect a landowner's rights whenever species occur on private property.

All Points Technology ("APT") reviewed the most recent CTDEEP NDDB mapping (June 2020) and determined that no NDDB polygon exists partially or entirely on the Site. Therefore, consultation with NDDB is not required and the Project will not adversely affect state-listed species. *See* Appendix C, *Environmental Assessment,* for the location of the nearest NDDB polygon.

3.2 USFWS Consultation

The northern long-eared bat ("NLEB"; *Myotis septentrionalis*) is a federally-listed threatened species known to occur in the vicinity of the Site. The NLEB's range encompasses the entire State of Connecticut, and suitable NLEB roost habitat includes trees (live, dying, dead, or snag) with a diameter at breast height ("DBH") of three (3) inches or greater.

APT reviewed the *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map (February 1, 2016) to determine the location(s) of any known maternity roost trees or hibernaculum in the State. This map reveals that there are currently no known NLEB maternity roost trees in Connecticut. The nearest NLEB habitat resource to the Site is located in East Granby, approximately eleven (11) miles to the west of the Site.

Because tree removal activities will be performed on the Project Site—and these activities can potentially impact suitable NLEB habitat—APT completed, in accordance with the US Fish and Wildlife Service ("USFWS") criteria for assessing NLEB, a "Determination of Compliance" with Section 7 of the Endangered Species Act of 1973. The results of this assessment revealed that the Project will likely not result in an adverse effect to or incidental take[8] of NLEB. Thus, it was determined that further consultation with the USFWS is not required, nor is a permit. On October 21, 2020, C-Tec received a letter from UWFWS (the "Response Letter") confirming this determination. A full review of the *Endangered Species Act (ESA) Compliance Determination* and USFWS's Response Letter is provided in Appendix C, *Environmental Assessment.*

[8] "Incidental take" is defined by the Endangered Species Act as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." For example, harvesting trees can kill bats that are roosting in the trees, but the purpose of the activity is not to kill bats.

4. Core Forest

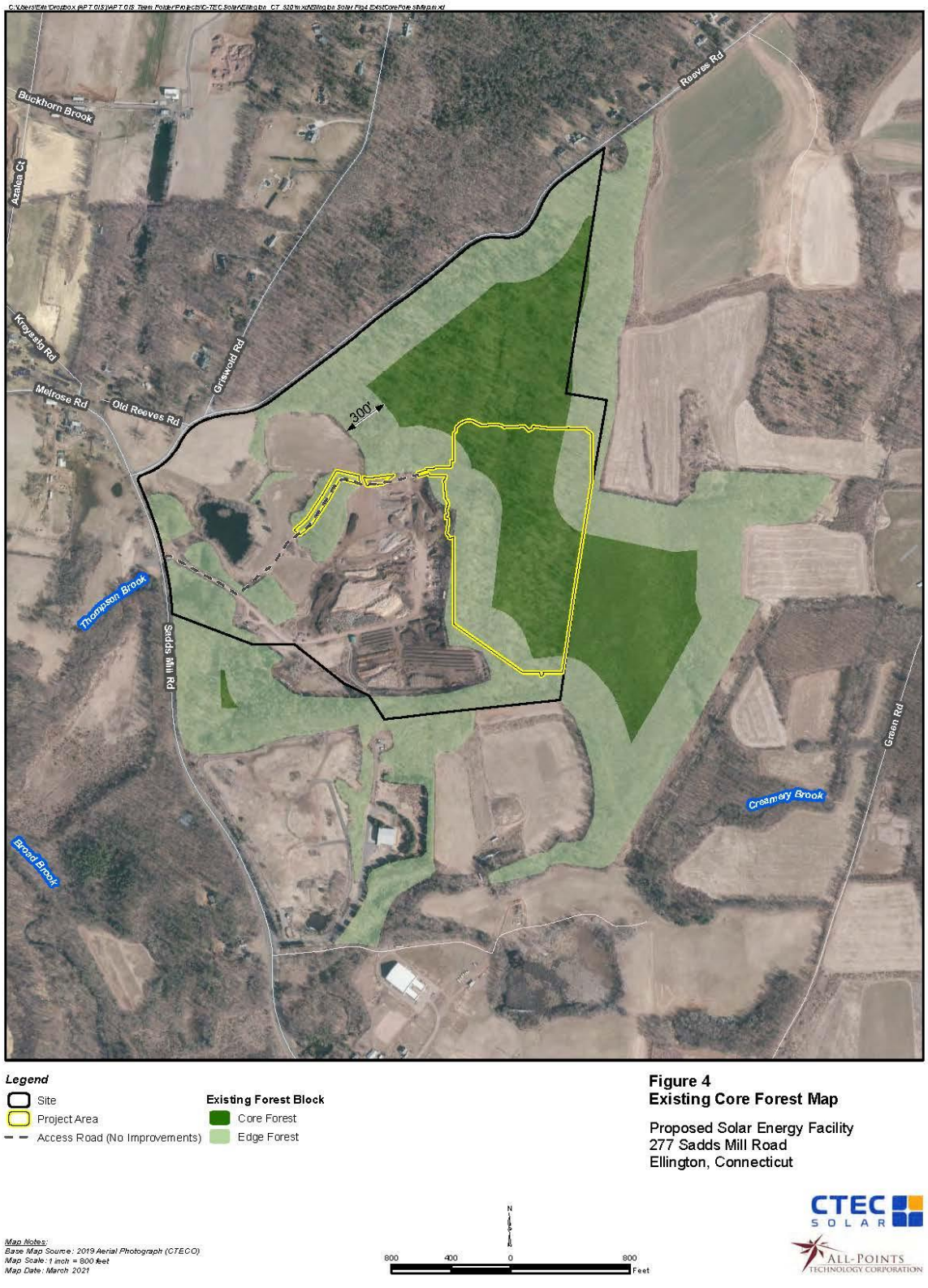
APT—through utilization of two (2) publicly available GIS-based datasets designed to assess impacts to core forest habitat—evaluated the size and extent of the contiguous interior forest block (or "core forest") present within and adjacent to the Project Site. In addition, APT performed an independent evaluation of the Site (based on GIS analysis of 2016 leaf-off aerial photography, field observations, and professional experience).

The first dataset, the CTDEEP's *Forestland Habitat Impact Mapping*, [9] revealed that the Site is not included within an area mapped as "core forest." The second dataset, UConn's Center for Land Use Education and Research's ("CLEAR") *Forest Fragmentation Analysis* ("FFA")[10] study, designates "core forest" as greater than 300 feet from non-forested habitat. This 300-foot zone is referred to as the "edge width," and represents sub-optimal breeding habitat for forest-interior birds due to decreased forest quality, increased levels of disturbance, and increased rates of nest predation and brood parasitism within this transitional forest edge ("edge effect").

The FFA study identifies three (3) categories of core forest: small (< 250 acres); medium (250-500 acres); and large (>500 acres). Based on the FFA criteria, the Site contains forested habitat that includes a "small" core forest interior. This is consistent with APT's independent analysis of the Site, which revealed the presence of a small core forest block that totals approximately 60.97 acres. Reeves Road isolates this small-sized core forest block from a larger forest block that occurs offsite to the north. The Project Area, which has been part of a managed woodlot since the 1720s (including recent logging operations), is located within the southern portion of this forest zone. *See* Figure 4, *Existing Core Forest Map*, on the next page.

[9] Source: http://ctdeep.maps.arcgis.com/apps/webappviewer/index.html?id=7b81844bab634281b544c20bf2d7bfb8 This spatial screening layer identifies prime contiguous and connected core forestland blocks. If the project intersects with the Forestland Habitat Impact Map there is a potential for material effects to core forest.

[10] CLEAR's FFA: http://clear.uconn.edu/projects/landscape/forestfrag/forestfrag_public%20summary.pdf

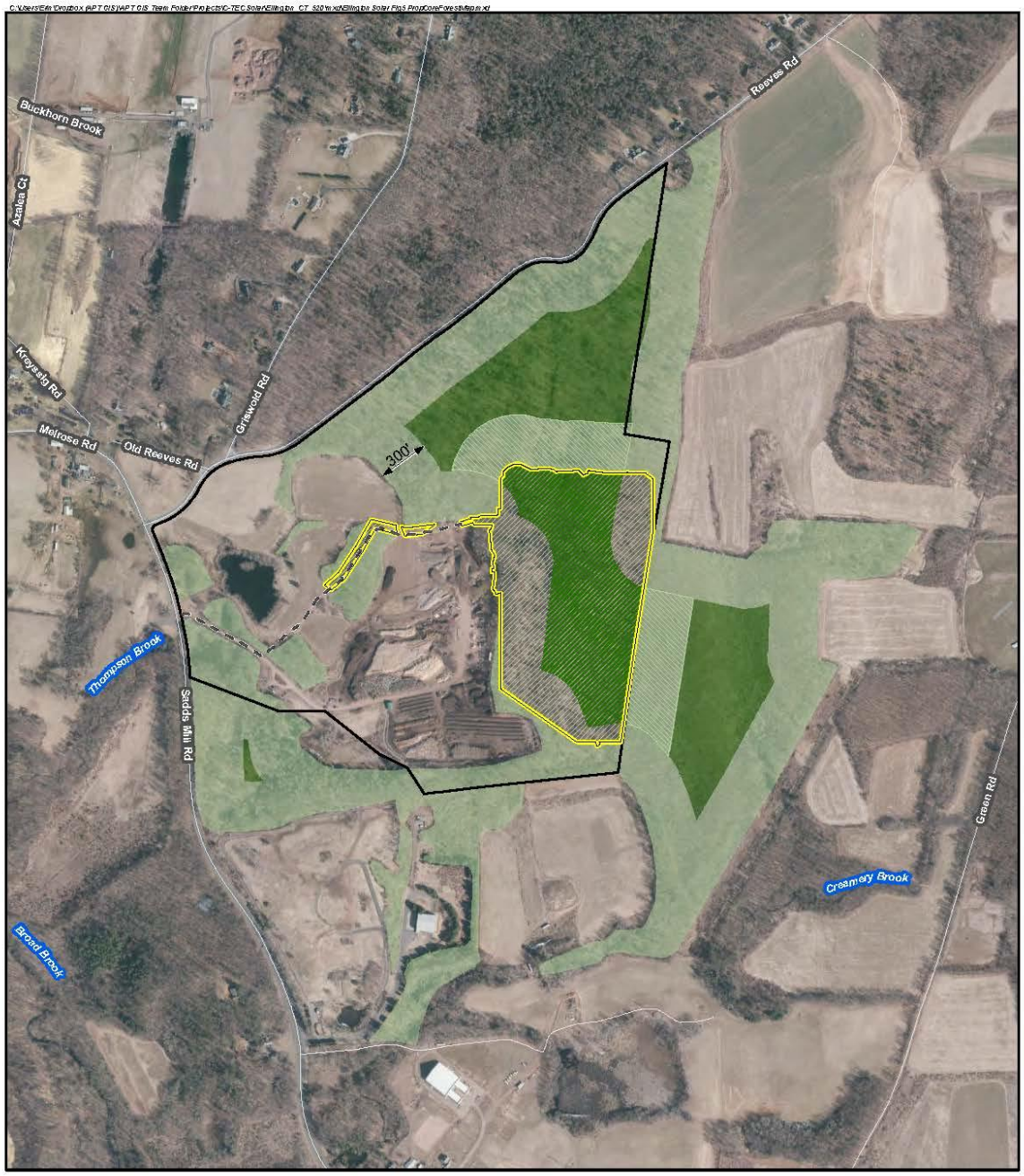


Approximately 31.7 acres of tree-clearing will be required for the development of the Facility, including the installation of the proposed interconnection line. However, only 17.33 acres of tree-clearing would occur

within this small core forest block. The majority of the forested habitat that will be cleared for the development of the Facility is considered "edge forest" due to existing fragmentation.

The clearing activities proposed for the Project would create approximately 13.1 acres of new edge forest, reducing the total small core forest block from roughly 60.97 acres to ±30.43 acres. Considering the small size of the existing core forest block and existing perforations, the Project would likely not result in a significant negative impact to core forest habitat. *See* Figure 5, *Proposed Core Forest Map* on the next page.

In accordance with Conn. Gen. Stat. § 16-50k(a), the Petitioner provided the CTDEEP Forestry Division ("Forestry") with certain information and materials that demonstrate that the Project will not materially affect core forest. On February 14, 2018, CTEC personnel, the Site's landowner, and individuals from CTDEEP Forestry performed a site walk and inspection of the subject property. After the site walk occurred, representatives from CTDEEP Forestry indicated that the Project would not materially affect the status of any habitat identified as core forest. Subsequently, the Petitioner sent correspondence to CTDEEP Forestry in December of 2020, documenting the results of the Site visit and the assessment that the Project will not materially affect core forest. On December 23, 2020, the CTDEEP Forestry Division notified the Petitioner that it concurred with this assessment in that the Project "…*will not materially affect the status of such Site as core forest.*" A copy of this letter is included in Appendix C, *Environmental Assessment.*



Legend

- Site
- Project Area
- Access Road (No Improvements)

Proposed Forest Block

- Core Forest
- Edge Forest
- Direct Impact to Core Forest
- Direct Impact to Edge Forest
- Newly Created Edge Forest (Previously Core Forest)

N

800 400 0 800 Feet

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 800 feet
Map Date: March 2021

Figure 5
Proposed Core Forest Map

Proposed Solar Energy Facility
277 Sadds Mill Road
Ellington, Connecticut

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5. Soils and Geology

The construction of the Project's stormwater management basins and the anticipated grading activities within the Facility area will generate some excess material that will be distributed onsite. Any excess material will be transferred to the Materials Facility. Prior to the removal or placement of fill material, the Site's topsoil will be stripped and stockpiled for use on disturbed areas. The topsoil will then be spread over the disturbed areas being seeded. *See* Appendix A, *Project Plans.* All exposed soils resulting from construction activities will be properly and promptly treated in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

Surficial materials on the western portion of the Site are comprised of deposits of sand and gravel, while surficial materials on the eastern portion of the Site are comprised of thin deposits of glacial till. Soils located on and within the vicinity of the Site are identified as Manchester gravelly sandy loam, Enfield silt loam, Narragansett silt loam, and Gravelly udorthents-Pits complex. Bedrock beneath the Project Site is identified as Portland Arkose; however, the Petitioner does not anticipate encountering bedrock during Project development. For additional information concerning the soils and geology comprising the Project Site, please refer to Appendix B, *Environmental Assessment*.

6. Prime Farmland Soils

In accordance with the Code of Federal Regulations, CFR Title 7, part 657, farmland soils include land that is defined as "prime", "unique", or "farmlands of statewide or local importance," based on soil type. Farmland soils are regarded as the most suitable land in terms of producing food, feed, fiber, forage, and oilseed crops.

According to the *Connecticut Environmental Conditions Online Resource Guide*,[11] the Project Area contains Prime Farmland Soils. *See* Figure 2, *Existing Conditions Map.* However, for the reasons delineated below, C-Tec does not expect that the Project will materially impact this resource.

Table 3, *Farmland Soils Assessment and Impacts,* found on the next page, details the amount of farmland soils located on the Site and the expected Project-related impact(s).

[11] Connecticut Environmental Conditions Online (CTECO) Resource Guide, accessible at, www.cteco.uconn.edu

Table 3: Farmland Soils Assessment and Impacts Table

Farmland Soils Assessment and Impacts		
Farmland Soil Classification	Total Area On-Site (+/- ac.)	Area within Project Limits (+/- ac.)
Prime Farmland Soil Area	39.7	10.6

The majority of the property on which the Project will be located, except for those areas associated with the Materials Facility, has remained largely undeveloped and has been used primarily for agriculture (western portions of the property) and forest management activities (Project Area) over the past century. Recognizing that the Project has a fixed useful life (and could, therefore, be considered temporary in nature), C-Tec has proposed using minimally intrusive methods for the construction of the Facility. The use of a ground-mounted racking system for the installation of the solar panels and associated equipment, for example, minimizes the need for substantive grading onsite, thereby avoiding further disturbance/impact to farmland soils.

Some excavation and regrading activities are necessary within areas mapped as "Prime Farmland Soils," however, to facilitate site development and construct the Project's stormwater management basins. These features and topographic modifications allow the Project to comply with the newly reissued General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, including the latest version of Appendix I contained in the General Permit. Therefore, these features were deemed necessary for purposes of the Project's stormwater management design. Topsoil removed from these areas will be segregated from underlying horizons and will either be stockpiled or spread throughout the Project Area as top dressing for reestablishing vegetation. No topsoil will leave the Site.

In addition, pursuant to and at the request of the Site's landowner, the Petitioner intends to plant a specific pollinator blend of low-growth grasses within the fenced perimeter of the Facility (the Project Area), which will act to attract and promote the propagation of pollinator species and improve the quality of the soils comprising the Project Area.[12] After its useful life, the Facility will be decommissioned and all of the disturbed areas onsite will be top-dressed with native soils and reseeded with the same (or approved equivalent) pollinator blend.

C-Tec respectfully submits that implementation of these design and mitigation strategies will ensure that the Project will not materially affect Prime Farmland Soils, and the Department of Agriculture has recently

[12] The Bee and Butterfly Habitat Fund has provided C-Tec with a specific seed blend and the necessary operation and maintenance program needed to establish the proposed pollinator-friendly species.

concurred with this assessment. In accordance with Connecticut General Statutes §16-50k(a), the Petitioner sent these findings/determinations to the Connecticut Department of Agriculture ("DOA") for its review in December of 2020, with clarification of certain aspects of the pan on March 19, 2021. In addition, DOA personnel visited the site on February 14, 2018 to assess the agricultural operations at the site. Through its correspondence with the DOA, C-Tec represented that the proposed Project will assist the current agricultural operations at the property, will provide for expanded pollinator habitat and expanded apiaries in the area of the proposed Project and that the farm will diversify into honey production with a goal of establishing an on-farm distillery at the property. Based on these representations and the February 2018 site visit, the DOA submitted its findings to the Council on April 5, 2021 that "the Department of Agriculture can conclude that this project will not materially affect the status of the project land as prime farmland."

D. Wetlands and Vernal Pools

Two (2) wetlands have been identified on the Project Site.[13] Wetland 1 is located within the southwestern portion of the Site and consists of seasonally saturated and flooded wetland soils and open water features. The Site's existing Access Road(s) currently bisect(s) Wetland 1, with conveyance being provided via a 24-inch reinforced concrete culvert. As a result of the hydraulic restriction caused by this culvert, the more northern areas of Wetland 1 experience permanent to semi-permanent flooding, whereas the southern extents contain a broad emergent swamp with bordering scrub/shrub dominant habitats. Wetland 1 generally drains south and east under Sadds Mill Road, forming a confluence with drainage received from the larger Thompson Pond (identified as "Wetland 2") to the north. Wetland 2, located within the western portion of the Site and north of Wetland 1, consists of a large permanently flooded open water resource known as "Thompson Pond," which drains south via an outlet structure into Wetland 1. The boundaries of this resource are steeply sloping banks that are dominated by exposed sandy areas and complexes of scrub-shrub vegetation. No vernal pools were identified on the Site.

No direct impacts to wetlands, vernal pools, or watercourses are associated with the development of the Project. As Table 2, *Wetlands Impacts*, below evidences, sufficient setbacks have been established between the Facility and these resources. The nearest wetland boundary to the Facility is over 1,390 feet away. The nearest construction activity to either wetland resource would be the installation of the new utility poles along the existing dirt Access Road(s). Although such activity(ies) would occur within approximately five (5) feet of Wetland 1, this resource will not be adversely impacted, because (i) the new utility poles would be located within developed/disturbed areas along the shoulder of the existing access road generally consisting of fill; and (ii) resurfacing and/or regrading of the existing Access Road(s) is not proposed.

[13] The respective locations of these resources are depicted on Figure 2, *Existing Conditions Map.*

Table 2: Wetlands Impacts Table

Wetland Impacts		
Direct Impacts to Wetland 1 (ac.)	0	
Direct Impacts to Wetland 2 (ac.)	0	
Total Direct Impacts to Wetlands (ac.)	0	
Project Proximity to Wetlands (from limit of disturbance)	Distance (+/-ft.)	Direction (of wetland/water from LOD)
Wetland 1	5	north
Wetland 2	145	north
Solar Installation Proximity to Wetlands (from perimeter fence)	Distance (+/-ft.)	Direction (of wetland/water from perimeter fence)
Wetland 1	1540	west
Wetland 2	1395	west

Potential long-term, secondary impacts to wetland resources associated with the operation of this Facility are similarly not anticipated, as the development will be unstaffed (limiting potential traffic/vehicular disturbance(s) to these resources); the Project will utilize the existing Access Road(s) onsite (reducing the creation of additional impervious surfaces at the property); and the ground beneath the solar arrays will be treated with vegetation, thereby providing ample opportunity for surface water to infiltrate or slow prior to discharge to surrounding resources. As such, the Project will likely not have an adverse impact to the wetland resources identified.

Any potential impacts associated with the Project's construction activities will, however, be minimized by the proper installation and maintenance of proposed sedimentation and erosion controls for the Project, in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. As such, the Project will not have an adverse impact to wetland resources.

E. Water Resources and Stormwater Management

1. Floodplain Areas

APT reviewed the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Maps ("FIRM") for the Site. A FIRM is the official map of a community on which FEMA has delineated both the special hazard areas and risk premium zones applicable to the respective community.

The Project Site is mapped on FIRM PANEL #090158 0005 C, dated February 5, 1997. Based upon the reviewed FIRM Map, the proposed Project Area is located in an area designated as "Zone X," which is defined

as an area of "minimal flooding," typically above the 500-year flood level. Because the Project Area is not located within a 100- and 500-year flood zone, no special considerations or precautions relative to flooding are warranted for the Project.

2. Groundwater

The Site is not located within a mapped preliminary or final Aquifer Protection Area. Groundwater underlying the Site is classified by the CTDEEP as "GA".[14] This classification indicates groundwater within the area is presumed to be suitable for human consumption without treatment. Additionally, the extreme southwestern portion of the Project Site (which contains the Access Road(s)) is classified as "GA, GAA may not meet current standards," indicating that groundwater in this area may be degraded and/or compromised. As such, the Project will have no adverse effect(s) with respect to ground water quality.

3. Surface Water

Based upon a review of available CTDEEP mapping, the Site is located in Major Drainage Basin 4 (Connecticut River), Regional Drainage Basin 42 (Scantic River), and Sub Regional Drainage Basin 4206 (Broad Brook). The majority of the Site, including the entirety of the Project Area, is located in Local Drainage Basin 4206-08 (Creamery Brook at mouth above Broad Brook), while the northwestern portion of the Site is located in Local Drainage Basin 4206-00 (Broad Brook above Hydes Brook).

The CTDEEP mapping revealed that the Project Site is not located within a mapped Public Drinking Supply Watershed. Although CTDEEP classified Thompson Pond as a "Class A" surface waterbody, the designated access route for the Project is over 100 feet to the south and east of this resource.

The Project will have no adverse effect on surface water quality. Sufficient setbacks have been established between the Project and the identified water resources. *See* Table 2, *Wetlands Impacts Table*. In addition, E&S controls will be installed and maintained during Project construction in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. Lastly, once the Facility is operative, stormwater will be managed in accordance with the *2004 Connecticut Stormwater Quality Manual*. Collectively, these design and mitigation measures ensure that the Project, including the construction thereof, will not impact the quality of surface water on and near the Site.

[14] Designated uses in "GA"-classified areas include existing private and potential public or private supplies of drinking water and base flow or hydraulically connected surface water bodies.

4. Stormwater Management

As detailed below, stormwater management for the Project has been designed to meet and/or exceed applicable regulation(s) and guidance, including the *2004 Connecticut Stormwater Quality Manual* and CTDEEP's *Appendix I, Stormwater Management at Solar Array Construction Projects*.

Preparation for the Project development will require approximately 32.13 acres of disturbance—of which, approximately 23.36 acres will represent clearing and grubbing activities, while the remaining 8.77 acres will consist of tree removal (stumps to remain). Three (3) areas interior to the array have grades greater than a fifteen (15%) percent slope, and consequently must also be graded. All areas that are subjected to clearing/grubbing activities during construction will be seeded. The area(s) within the Facility and along the eastern fence line will be seeded with *The Bee & Butterfly Habitat Fund CT Solar Array Mix – 36"*, which is primarily composed (85%) of wildflowers, forbs, and legumes. The remaining area outside of the Facility will be seeded with a New England semi-shade grass and forbs mix (or equivalent).

Due to (i) the conversion of existing woods to meadow and (ii) the required "half-drop" in hydrologic soil groups within the array area (pursuant to *Appendix I*), C-Tec expects that there will be an increase in stormwater runoff on the Site. In order to effectively manage this increase in runoff, the Project's design proposes the installation of three (3) grass-lined stormwater management basins along the southern and western portions of the Project Area. These basins will be equipped with outflow control devices and overflow weirs. Because of the Project's inclusion of these features, post-development peak discharges to the waters of the State of Connecticut for the 2-, 25-, 50- and 100- year storm events are less than the Site's pre-development peak discharges. As a result, the proposed solar array will not result in any adverse conditions to the surrounding areas and properties. For additional technical details regarding stormwater, please refer to the Project's *Stormwater Management Report* submitted under Appendix F.

Lastly, to further safeguard water resources from potential impacts during construction, the Petitioner is committed to implementing protective measures in the form of a Stormwater Pollution Control Plan ("SWPCP") to be finalized and submitted to the Council, pending approval by the CTDEEP Stormwater Management Division. The SWPCP will include the monitoring of established E&S controls that will be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. C-Tec will also apply for the CTDEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities*. As such, with the incorporation of adequate protective measures, stormwater runoff associated with Project development will not result in an adverse impact to the water quality of nearby surface water bodies.

F. Air Quality

As a solar energy generating facility, the Project will not emit any harmful byproducts during operation. Also, once operative, it will be unstaffed and monitored remotely. As such, throughout the Project's life, the Site will only receive minimal traffic (and correspondingly, minimal pollution).

C-Tec does anticipate that some temporary, construction-related mobile source emissions may result from the construction of the Project (e.g., those associated with construction vehicles and equipment). Any potential air quality impacts associated with said construction activities, however, would arguably be *de minimis*. Nonetheless, C-Tec is committed to ensuring that same will be mitigated through the implementation of the following measures:

- Limiting the idling time(s) of construction equipment;
- The proper maintenance of all on-Site vehicles and equipment; and,
- Watering/spraying equipment to minimize dust and particulate releases.

In addition, C-Tec will ensure that all on-site and off-road equipment will meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency.

G. Historic and Archaeological Resources

Heritage Consultants LLC ("Heritage Consultants") at the request of APT, reviewed relevant historic and archaeological information to determine whether the Site holds potential cultural resource significance. Heritage Consultants' review of historic maps and aerial images of the Site, examination of files maintained by the Connecticut State Historic Preservation Office ("SHPO"), and a pedestrian survey of the Site revealed one (1) National Register of Historic Places ("NRHP") property within one (1) mile of the Site. This resource is not proximate to the Project Area and due to its distance from the Site, no direct or indirect Project impacts are anticipated.

In terms of archaeological potential, it was determined that approximately 14.84 acres located along the central and eastern portions of the Project Area retained a moderate potential to contain intact archaeological deposits in the subsoil. Consequently, at the request of C-Tec, Heritage performed a Phase 1B Professional Cultural Resources Assessment and Reconnaissance Survey ("Phase 1B") of the subject area.

Fieldwork for the Phase 1B assessment included a pedestrian survey, photo-documentation, and the excavation of 302 shovel tests across the Project Area, none of which yielded any cultural materials, cultural

features, or soil anomalies. Based on the results, no additional testing is necessary prior to construction of the Project.

On January 5, 2021, Heritage Consultants submitted Project and Site historic/cultural information, as well as copies of the Phase 1A and 1B reports, to the SHPO for agency review and comment. SHPO responded on February 9, 2021, stating that "…SHPO concurs with the findings of the report that additional archeological investigations of the Project Area are not warranted and that no historic properties will be affected by the proposed activities." Copies of the Phase 1A and Phase 1B reports as well as SHPO's response letter are included in Appendix C, *Environmental Assessment*

H. Scenic and Recreational Areas

No state or local designated scenic roads or scenic areas are located near the Project Site, nor are there any Blue-Blazed Hiking Trails located proximate to the Site. Therefore, development of the Project will not physically or visually impact these areas.

Similarly, there are no public recreational areas located proximate to the Site. The nearest protected "open space" parcel is located at 48 Reeves Road, approximately 550 feet to the northeast of the Site. This parcel is an undeveloped land managed by the Northern Connecticut Land Trust. The nearest private recreational area is an equestrian center located at 189 Sadds Mill Road in Ellington, CT, which is approximately 2,300 feet away from the Site to the south. Project impact(s) to either of these resources (physical and/or visual) are not anticipated. Figure 6, *Surrounding Features Map,* depicts these resources, as well as the other resources that are located within one mile of the Project Site.

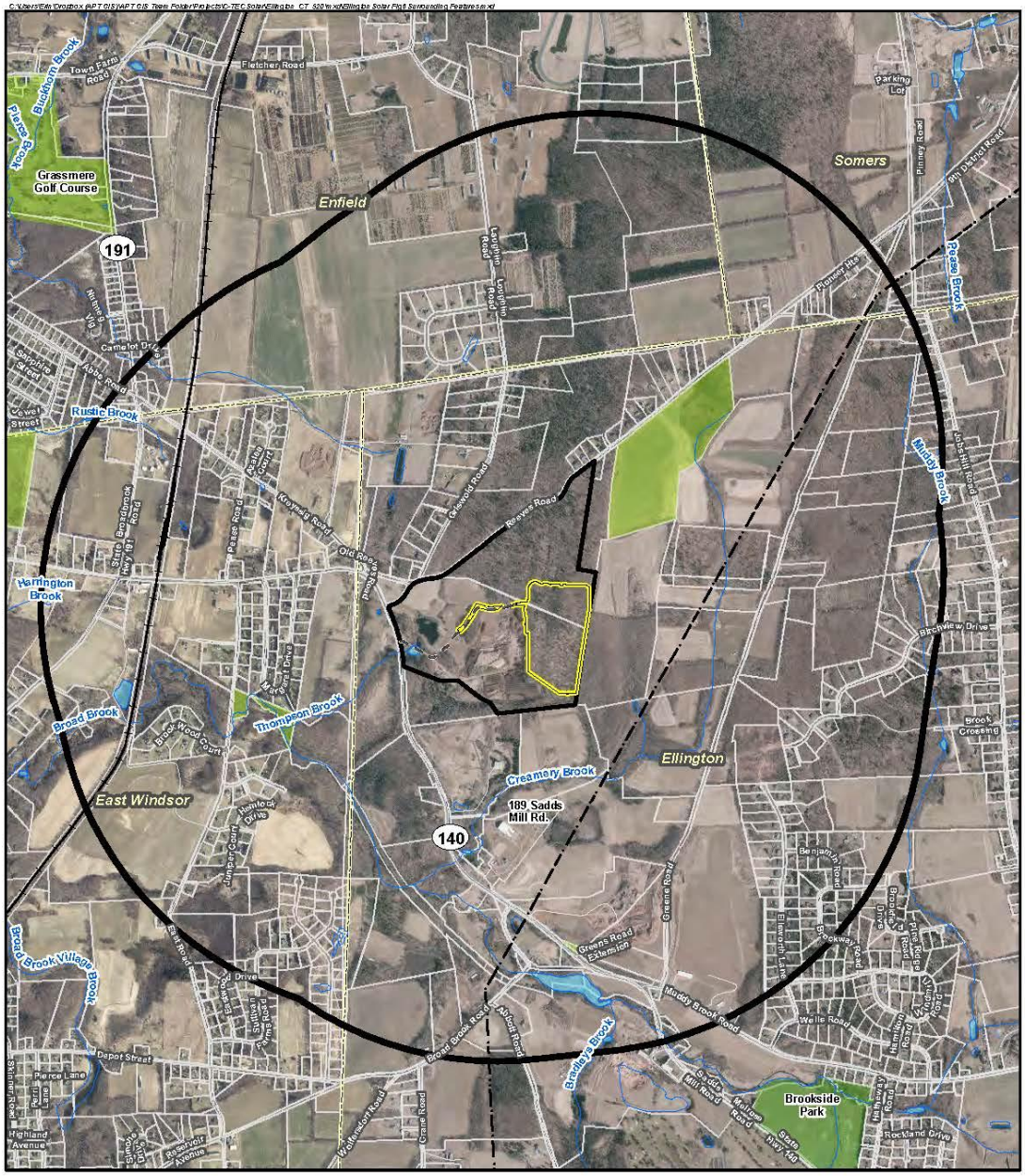

Figure 6
Surrounding Features Map

Proposed Solar Energy Facility
277 Sadds Mill Road
Ellington, Connecticut

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I. Noise

Project-related construction noise is exempt under the Connecticut Regulations for the Control of Noise. *See* R.C.S.A. 22a-69-1.8(h).[15] During construction of the Facility, the temporary increase in noise will likely raise localized ambient sound levels immediately surrounding the Project Area. Standard types of construction equipment will be used for the Project. In general, the highest noise level from this type of equipment (e.g., backhoe, bulldozer, crane, trucks, etc.) is approximately 88 dBA at the source.

Once operational, noise from the Project will be minimal and meet applicable CTDEEP noise standards for a Class A Noise Zone.[16] The Site is located within an Industrial ("I") zone and is abutted by areas zoned Rural Agricultural Residential ("RAR")—therefore, conservatively speaking, the Facility would be considered a "Class C" (Industrial) noise emitter to "Class A" (Residential) receptors. In accordance with this classification, the Project is subject to noise standards of 61dBA during the daytime and 51 dBA at night.

The Facility's only noise generating equipment are the inverters and transformers. Based on the most conservative information provided by specified equipment manufacturers, the loudest proposed equipment items are the two (2) 2,000 kVA transformers that will generate a maximum sound level of approximately 61 dBA (measured at one (1)-foot away). Sound reduces with distance, however, and the inverters and transformers are inactive at night. The closest property line relative to either transformer is currently undeveloped and approximately 880 feet to the northeast. The nearest residence, located at the corner of Griswold Road and Reeves Road, is located approximately 1,800 feet to the northwest.[17]

APT applied the Inverse Square Law[18] to evaluate the relative sound level of the transformers at the nearest property line. Based on these calculations, nearby receptors are of sufficient distance(s) from the proposed Project-related equipment; and once operational, noise levels during Facility operation will meet applicable CTDEEP noise standards for Class A Noise Zones. For additional information regarding the anticipated noise impacts from the Project, please refer to the transformer and inverter specification sheets provided in Appendix H, *Product Information Sheets*.

[15] Currently, the Town of Ellington does not have an ordinance specific to noise.
[16] RCSA 22a-69-3.5. Noise Zone Standards
[17] Both parcels are zoned Rural Agricultural Residential (RAR).
[18] Inverse Square Law states that *the intensity of a force is inversely proportional to the square of the distance from that force*. With respect to sound, this means that any a noise will have a drastic drop-off in volume as it moves away from the source and then shallows out.

J. Lighting

The Site is presently void of structures, except for several temporary structures associated with the Materials Facility in the central and eastern portions of the Site (including a guard shack/operations office along the Site's main access road). Several of these structures have exterior security and safety lighting to aid in the operation of the Materials Facility. While no exterior lighting is planned for the Facility, there will be some small, non-intrusive lighting fixtures within the equipment to aid in maintenance. C-Tec does not expect that such lighting will affect nearby properties.

K. FAA Determination

APT submitted relevant Project information to the Federal Aviation Administration ("FAA") for an aeronautical study to evaluate potential Project-related hazards to air navigation. The FAA, in turn, provided C-Tec with a "Determination of No Hazard to Air Navigation" for the Project. *See* Appendix C, *Environmental Assessment.* Based on this determination, there is no need to conduct a glare analysis, and the Project is not expected to pose any hazard(s) with respect to air navigation.

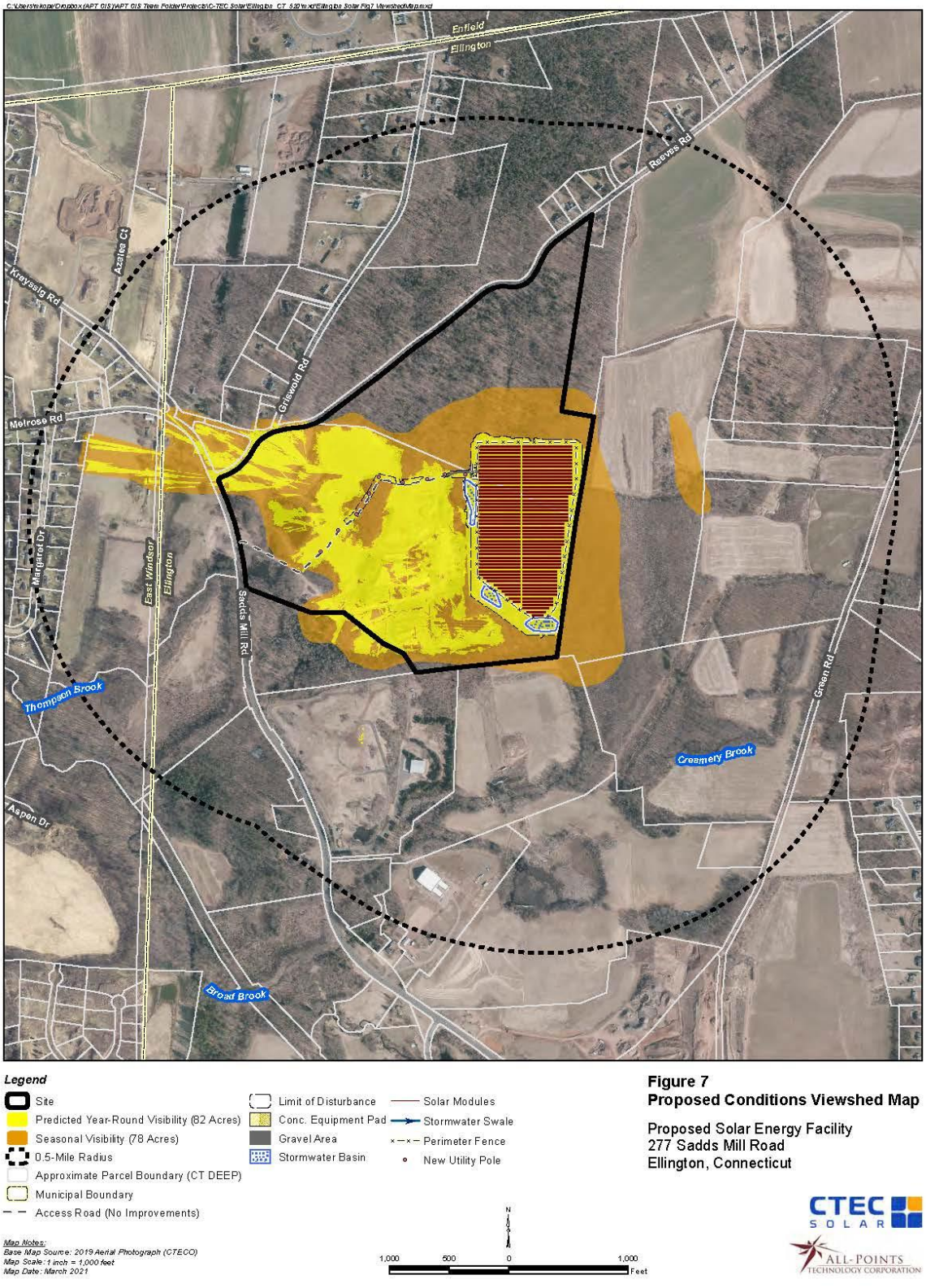
L. Visibility Evaluation

The Project is not expected to result in any material visual/visibility impacts. The Facility itself will consist of 18,432 non-reflective solar panels, measuring approximately ten (10) feet above final grade. The solar modules are designed to absorb incoming solar radiation and minimize reflectivity, such that only a small percentage of incidental light will be reflected off the panels. This incidental light is significantly less reflective than common building materials, such as steel, or the surface of smooth water. The panels will be tilted up toward the southern sky at a fixed angle of twenty-five (25) degrees, thereby further reducing reflectivity.

Year-round visibility of the proposed Facility beyond the property is not expected due to (i) its positioning within the Site, (ii) its relatively low height, and (iii) the existing intervening vegetation. The Petitioner does expect, however, that there is the potential for some limited year-round views of the proposed utility poles for the Project. Specifically, locations to the west and south of the Site may experience potential limited year-round views of the respective "tops" of the new utility poles, with the furthest locations being to the west at distances up to approximately 0.4 mile(s) away, stretching into East Windsor. The majority of these properties, however, are currently undeveloped.

Limited seasonal views, when the leaves have fallen from the deciduous trees, could extend up to approximately 0.4 mile(s) to the west and would be from locations that are similarly (primarily) undeveloped. Such potential views, however, would also be minimized by the Facility's positioning within the Site, its relatively

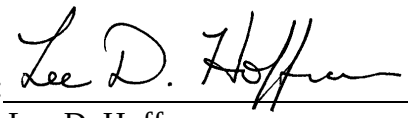
low height, and the existing intervening vegetation. Please refer to Figure 7, *Proposed Conditions Viewshed Map*, for a graphical representation of perceived year-round and seasonal visibility of the Facility.



VI. Conclusion

As demonstrated by the foregoing, the Project satisfies the standards set forth in C.G.S. § 16-50k(a); specifically, the Project will comply with the CTDEEP air and water quality standards, will not have an undue adverse effect on the existing environment and ecology, and will not affect the scenic, historic, and recreational resources located within the vicinity of the Project Site. Because the Project satisfies the requisite standards, and in light of its anticipated benefits, C-Tec Solar, LLC respectfully requests that the Siting Council approve this Petition for the Project, as it is currently designed.

Respectfully Submitted,
C-Tec Solar, LLC

By: 

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Its Attorneys

Appendix A

Project Plans

(Note: a full sized set of plans is included separates as well)

Appendix B

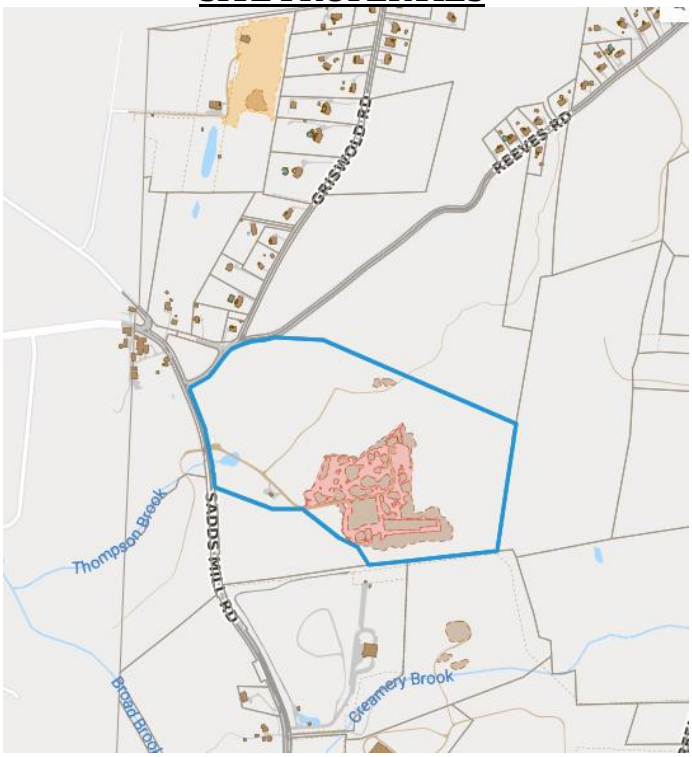
Notices to Abutters and Governmental Officials

CTEC SOLAR – Sadds Mill Road, Ellington
ABUTTER NOTIFICATION VIA CERTIFIED MAIL
NOTE: TWO MAILINGS; 12/14/20 AND 04/06/21

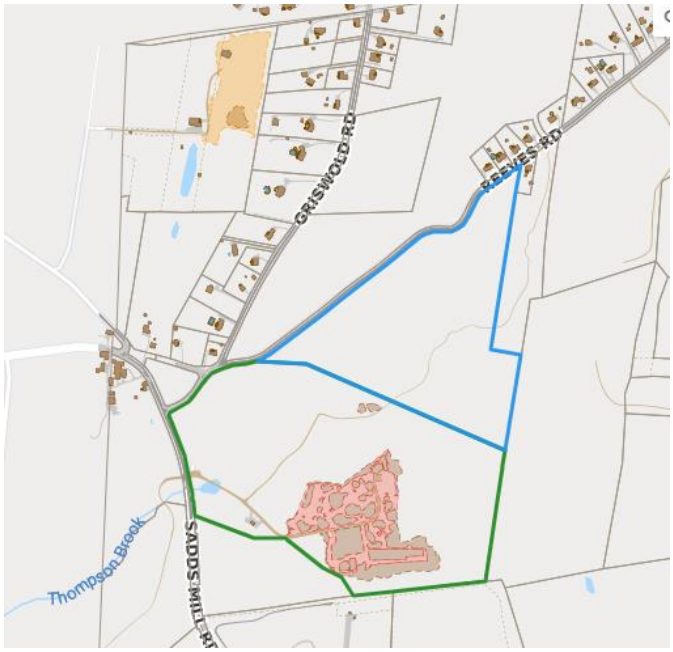
SITE ADDRESS	**ABUTTERS**: ADDRESS PROPERTY ID	**ABUTTING PROPERTY OWNER (MAILING ADDRESS FOR NOTIFICATION)**	**MAILED From P & C via Certified Mail**	**RETURN RECEIPT BACK [Green Card]**	**NOTES:**
277 SADDS MILL RD **MBL : 136 004 0000** **UID: 0036900** **99.63 acres** **Zone – I**	OWNER OF SITE PROPERTY: DERHAM JOHN+ BISSELL SALLY+ LAWRENCE TRS OF THOMPSON FAMILY LAND TRUST	JOHN DERHAM SALLY & LAWRENCE BISSELL TRUSTEES OF THOMPSON FAMILY LAND TRUST PO BOX 808 FARMINGTON, CT 06032	**12/14/2020** **04/06/2021**	**12/24/2020**	ONE OF TWO SITE PROPERTIES (southerly) MAP DESIGNATION 1
REEVES RD **MBL : 157 006 0000** **UID: 00422500** **57.69 acres** **Zone – I**	OWNER OF SITE PROPERTY: DERHAM JOHN+ BISSELL SALLY+ LAWRENCE TRS OF THOMPSON FAMILY LAND TRUST	JOHN DERHAM SALLY & LAWRENCE BISSELL TRUSTEES OF THOMPSON FAMILY LAND TRUST PO BOX 808 FARMINGTON, CT 06032	**12/14/2020** **04/06/2021**	**12/24/2020**	TWO OF TWO SITE PROPERTIES (northerly) MAP DESIGNATION 2
NOTE: These abutter parcels begin with the parcel immediately south of 277 Sadds Mill Rd. and proceed in a counter-clockwise circle up to Reeves Rd.					
	SADDS MILL RD MBL: 136 004 0002 UID: 20070065	MATERIALS INNOVATION AND RECYCLING AUTHORITY 200 CORPORATE PLACE STE 202 ROCKY HILL, CT 06067	**12/14/2020** **04/06/2021**	**12/24/2020**	SOUTH OF 277 SADDS MILL MAP DESIGNATION 3

	217 SADDS MILL RD MBL: 117 002 0000 UID: 00326100	MATERIALS INNOVATION AND RECYCLING AUTHORITY 200 CORPORATE PLACE STE 202 ROCKY HILL, CT 06067	**12/14/2020** **04/06/2021**	**12/24/2020**	MAP DESIGNATION 4
	SADDS MILL RD MBL: 100 008 0003 UID: 20060015	DECARLI INC. 152 SADDS MILL RD ELLINGTON, CT 06029	**12/14/2020** **04/06/2021**	**12/21/2020**	MAP DESIGNATION 5
	GREEN RD. MBL: 138 001 0000 UID: 00370000	ANDREW, GREGORY & PHILIP GALE 84 SADDS MILL RD ELLINGTON, CT 06029	**12/14/2020** **04/06/2021**	**12/21/2020**	MAP DESIGNATION 6
	REEVES RD. MBL: 157 005 0000 UID: 00422400	JOHN J. OCONNOR, III 25 DUST HOUSE RD ENFIELD, CT 06082	**12/14/2020** **04/06/2021**	**12/21/2020**	MAP DESIGNATION 7
	97 REEVES RD. MBL: 157 005 0001 UID: 00422401	STEPHEN & JOCELYNE ALLEN 97 REEVES RD ELLINGTON, CT 06029	**12/14/2020** **04/06/2021**	**12/21/2020**	MAP DESIGNATION 8

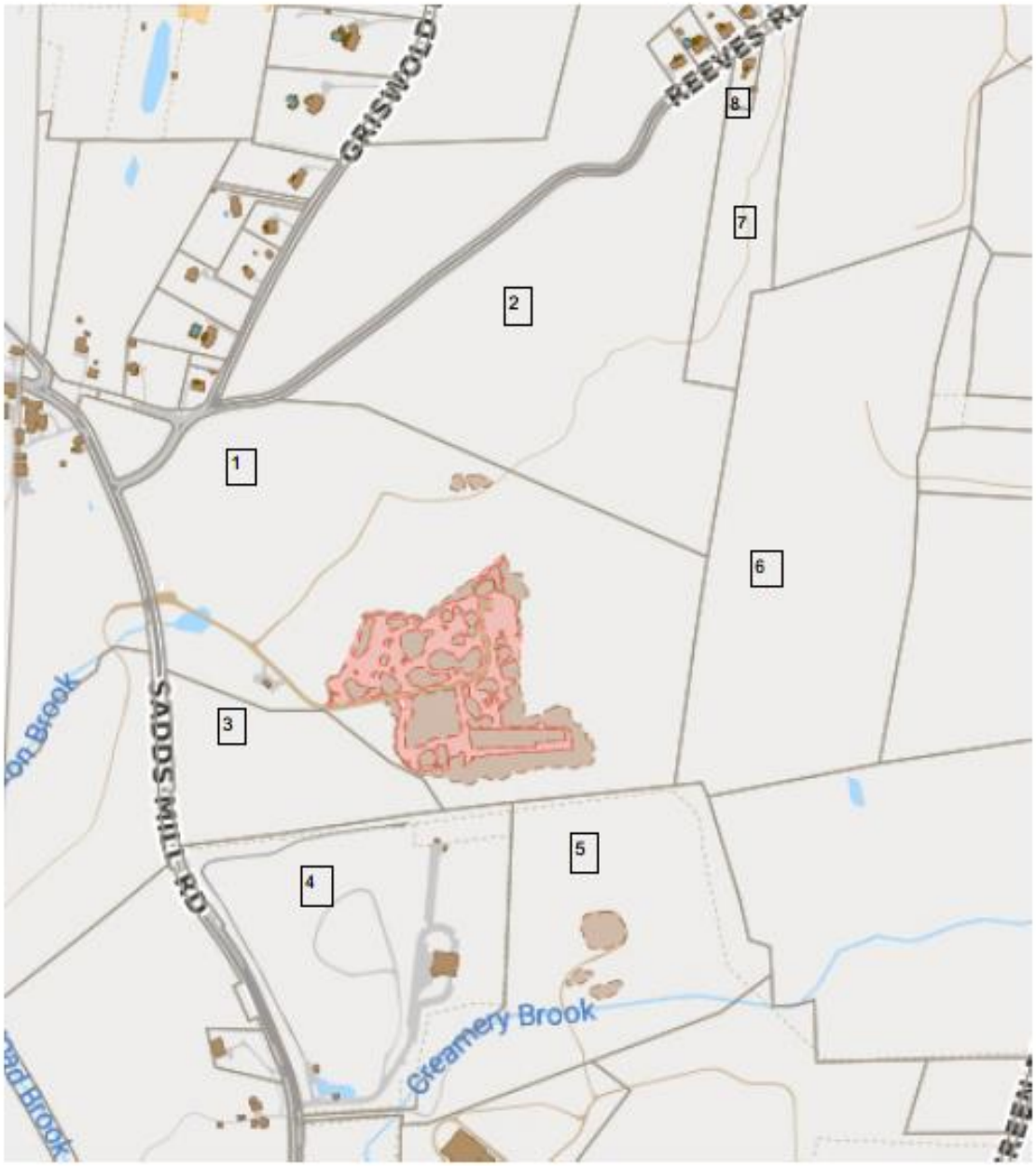
SITE PROPERTIES



277 SADDS MILL



REEVES ROAD


GRISWOLD
REEVES
8
7
2
1
6
3
SADDS MILL RD
5
4
Creamery Brook

+

CTEC SOLAR – Sadds Mill Road, Ellington
GOVERNMENT ENTITIES NOTIFICATION VIA CERTIFIED MAIL
NOTE: TWO MAILINGS; 12/14/20 AND 04/06&07/21

GOVERNMENT NAME / ENTITY	MAILED From P & C via Certified Mail	RETURN RECEIPT BACK [Green Card]
TOWN OF ELLINGTON		
Lori Spielman, First Selectman 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Diane H. McKeegan, Town Clerk 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Rebecca Quarno, Chairman Conservation Commission 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Arlo Hoffman, Chairman Planning and Zoning Commission 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Sean Kelly, Chairman Economic Development Commission 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Lisa M. Houlihan, AICP, Town Planner 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
John D. Colonese, Zoning & Wetlands Officer 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Raymond Martin III, Building Official 55 Main St. Ellington, CT 06029	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**

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GOVERNMENT NAME / ENTITY	MAILED From P & C via Certified Mail	RETURN RECEIPT BACK [Green Card]
TOWN OF EAST WINDSOR		
Jason Bowza, First Selectman 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Amy Lam, Town Clerk 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Albert Grant, Chair Conservation Commission 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Joseph Ouellette, Chairman Planning and Zoning Commission 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Robert K. Lyke, Jr., Vice Chairman Economic Development Commission 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Rebecca Talamini, Chair Inland Wetlands & Water Courses Agency 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Mike D'Amato Director of Planning & Development 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**

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GOVERNMENT NAME / ENTITY	MAILED From P & C via Certified Mail	RETURN RECEIPT BACK [Green Card]
Zoning Enforcement Officer 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
Rand Stanley, Building Official 11 Rye Street Broad Brook, CT 06016	**12/14/2020** **04/06/2021**	**12/18/2020** **04/12/2021**
CAPITOL REGION COUNCIL OF GOVERNMENTS Attn: Lyle Wray, Executive Director 241 Main Street Hartford, CT 06106	**12/14/2020** **04/06/2021**	**12/21/2020** **04/12/2021**
STATE GOVERNMENT		
Office of the Attorney General State of Connecticut Attorney General William Tong 55 Elm Street Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**
Senator Richard Blumenthal 90 State House Square, 10th Floor Hartford, CT 06103	**12/15/2020** **04/07/2021**	**12/21/2020**
Senator Christopher Murphy Colt Gateway 120 Huyshope Avenue Suite 401 Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**
US Representative John Larson 221 Main Street Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**

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GOVERNMENT NAME / ENTITY	MAILED From P & C via Certified Mail	RETURN RECEIPT BACK [Green Card]
US Representative Joe Courtney 55 Main Street, Suite 250 Norwich, CT 06360	**12/15/2020** **04/07/2021**	**12/24/2020** **04/12/2021**
State Senator Saud Anwar Legislative Office Building 300 Capitol Avenue Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020**
State Representative Christopher Davis Legislative Office Building 300 Capitol Avenue Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020**
State Representative Carol Hall Legislative Office Building 300 Capitol Avenue Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020**
State Senator Daniel Champagne Legislative Office Building 300 Capitol Avenue Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020**
STATE AGENCIES		
State of Connecticut Department of Energy and Environmental Protection Katie Dykes, Commissioner 79 Elm Street Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020**

CTEC SOLAR – Sadds Mill Road, Ellington
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GOVERNMENT NAME / ENTITY	MAILED From P & C via Certified Mail	RETURN RECEIPT BACK [Green Card]
State of Connecticut Department of Public Health c/o Deidre S. Gifford, Acting Commissioner 410 Capitol Avenue Hartford, CT 06134	**12/15/2020** **04/07/2021**	**12/21/2020** **04/13/21**
State of Connecticut Council on Environmental Quality c/o Peter Hearn, Exec. Director 79 Elm Street Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020**
State of Connecticut Department of Agriculture c/o Bryan P. Hurlburt, Commissioner 450 Columbus Blvd, Suite 701 Hartford, CT 06103	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**
State of Connecticut Public Utility Regulatory Authority c/o Marissa Gillett, Chairman Ten Franklin Square New Britain, CT 06051	**12/15/2020** **04/07/2021**	**04/12/2021**
State of Connecticut Office of Policy and Management Melissa McCaw, Secretary 450 Capitol Avenue Hartford, CT 06106	**12/15/2020** **04/07/2021**	**12/21/2020** **04/13/21**
State of Connecticut Department of Economic and Community Development David Lehman, Commissioner 450 Columbus Boulevard Hartford, CT 06103	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**

CTEC SOLAR – Sadds Mill Road, Ellington
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State of Connecticut Department of Transportation c/o Joseph Giuletti, Commissioner 2800 Berlin Turnpike Newington, CT 06111	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**
Connecticut Department of Emergency Services and Public Protection James Rovella, Commissioner 1111 Country Club Road Middletown, CT 06457	**12/15/2020** **04/07/2021**	**04/12/2021**
State of Connecticut Department of Consumer Protection Michelle Seagull, Commissioner 450 Columbus Boulevard, Suite 901 Hartford, Connecticut 06103-1840	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**
Connecticut Department of Administrative Services Josh Geballe, Commissioner 450 Columbus Boulevard Hartford CT, 06103	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**
Connecticut Department of Labor Kurt Westby, Commissioner 200 Folly Brook Boulevard Wethersfield, CT 06109	**12/15/2020** **04/07/2021**	**12/21/2020** **04/12/2021**

Appendix C

Environmental Assessment

(Note: The Environmental Assessment is contained in a separate binder)

Appendix D

Stormwater Management Report

(Note: The Stormwater Management Report is contained in a separate binder.)