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 a Solar-Based Electric Generating Facility, with an Output of 1.3 MW, to be Located at Deming Road, Berlin, Connecticut

Prepared for The Connecticut Siting Council

November 22, 2022

C-Tec Solar, LLC
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Bloomfield, CT 06002

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1 Introduction

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 a solar-based electric generating facility, with an output of approximately 1.3 megawatts ("MW") (the "Project" or "New Britain Landfill Solar Project"), located at a 43.30 acre property, identified as MBLU 10-1-82-2, located on Deming Road in Berlin, Connecticut (the "Project Site" or the "Site").

Conn. Gen. Stat. § 16-50k(a) provides,

> "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. 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. Further, the proposed Project is neither defined as an "affecting

facility"[1] nor located within an "environmental justice community"[2] under Connecticut General Statutes § 22a-20a. The Project will, however, offer a number of environmental and economic benefits to the State of Connecticut and the Berlin community, not the least of which is redeveloping a former landfill into productive re-use. Therefore, C-Tec strongly encourages the Project's approval.

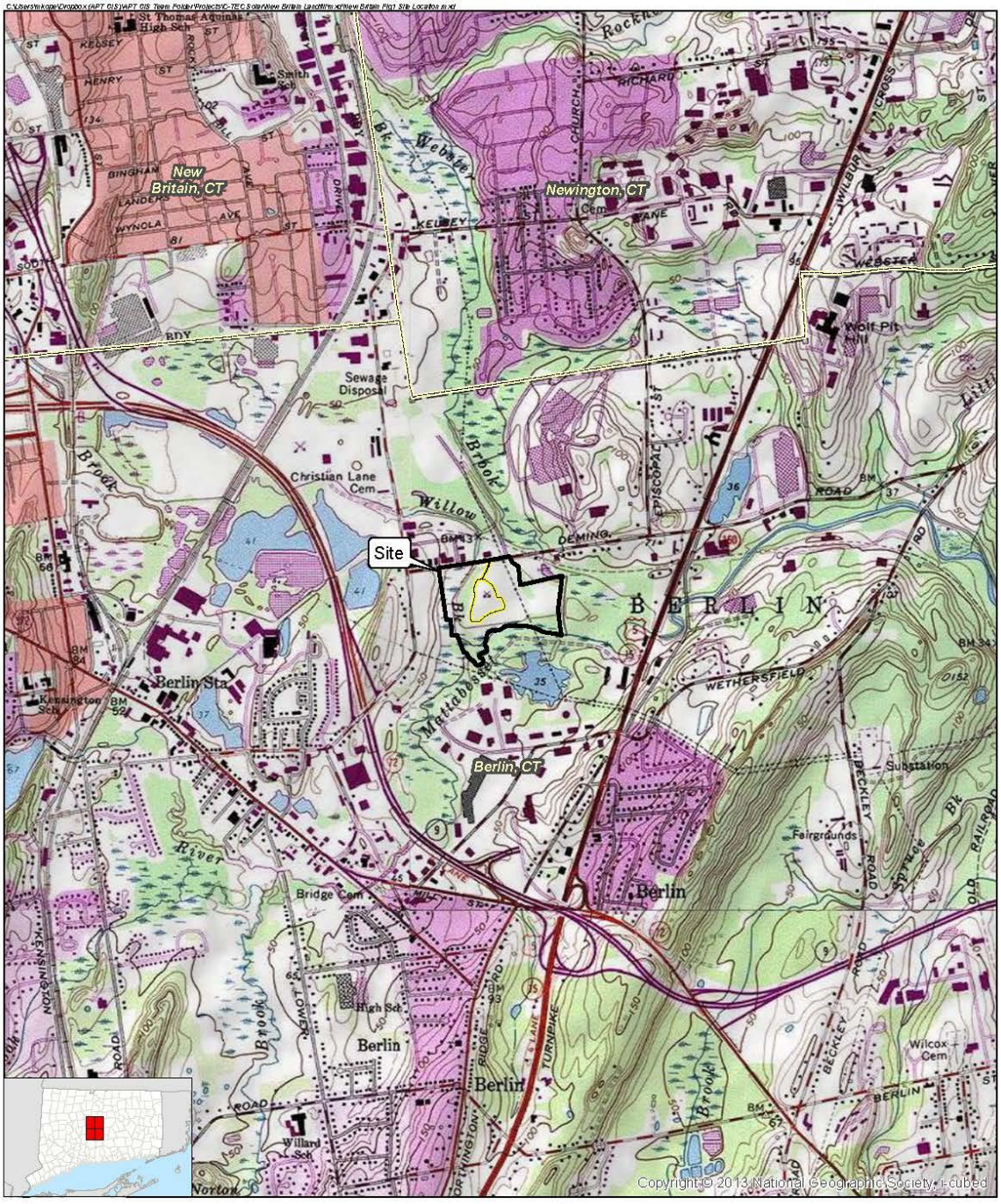
2 Proposed Project

2.1 Project Setting

All-Points Technology Corporation, P.C. ("APT") prepared an Environmental Assessment ("EA") on behalf of C-Tec for the proposed installation and utility interconnection of the Project. The EA is attached as Exhibit A to this Petition. The Project will be developed on a 43.30-acre property south of Deming Road in Berlin owned by the City of New Britain (referred to herein as the "Site"). No street address has been assigned to the Site; the Town Assessor records identify it as MBLU 10-1-82-2. The Site hosts a capped landfill with an electrical transmission corridor occupying the eastern limits. It is zoned General Industrial. Willow Brook is to the west, and the Mattabasset River is to the south. Figure 1, *Site Location Map*, depicts the location of the Site and the surrounding area.

[1] "Affecting facility" is defined, in part, as any electric generating facility with a capacity of more than ten megawatts.

[2] "Environmental justice community" means (A) a United States census block group, as determined in accordance with the most recent United States census, for which thirty per cent or more of the population consists of low income persons who are not institutionalized and have an income below two hundred per cent of the federal poverty level, or (B) a distressed municipality, as defined in subsection (b) of § 32-9p.



Legend

- Site
- Project Area
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map: Hartford South, CT (1992), Meriden, CT (1992), Middletown, CT (1992), and New Britain, CT (1992)
Map Scale: 1 inch = 2,000 feet
Map Date: September 2022

2,000 1,000 0 2,000 Feet

Figure 1
Site Location Map

Proposed Solar Energy Facility
New Britain Landfill
Deming Road
Berlin, Connecticut

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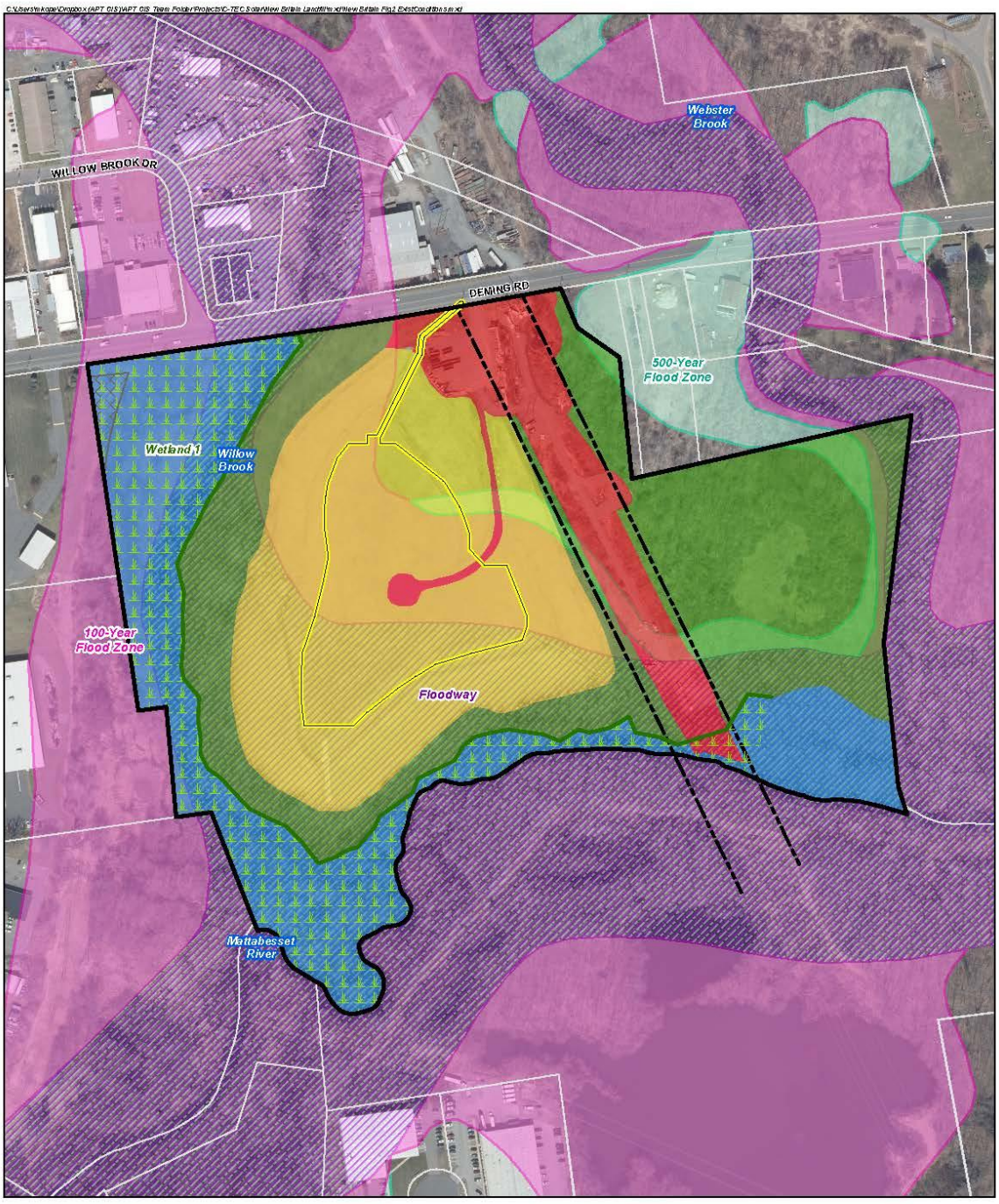
The Project will occupy ±5.02 acres (the "Project Area") of the ±43.4-acre Site and would include the solar facility (the "Facility") and an electrical service interconnection line. Access to the Facility will extend south over an existing gravel drive from Deming Road into the center/top of the existing landfill. The electrical interconnection will extend north from the Facility over the existing landfill to the access entrance off Deming Road.

The Site's existing topography is generally sloping consistent with a closed landfill, ranging from approximately 32 feet to 105 feet above mean sea level ("AMSL"). Figure 2, *Existing Conditions*, depicts current conditions within the Project Area.

The surrounding area includes commercial and industrial development mixed with wooded areas to the north, south and west, dense residential development to the northeast and southwest, and open land occupied by the Mattabasset River and Willow Brook to the south and west, respectively. U.S. Route 5 (Berlin Turnpike) and State Route 9 extend in generally north-south directions to the east and west of the Site, respectively.



Legend

- Site
- Project Area
- Approximate Parcel Boundary
- Prime Farmland Soils
- Overhead Electrical Utility Right-of-Way
- Delineated Wetland Boundary
- Approximate Wetland Area

Habitat Cover Type

- Developed
- Edge Forest
- Open Field
- Riparian

FEMA Flood Zones

- 100-Year Flood Zone
- 500-Year Flood Zone
- Floodway

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 300 feet
Map Date: September 2022

N

300 150 0 300 Feet

Figure 2
Existing Conditions Map

Proposed Solar Energy Facility
New Britain Landfill
Deming Road
Berlin, Connecticut

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2.2 Project Development and Operation

The Facility is anticipated to consist of 3,228 540W photovoltaic modules generating 1.30 MW AC, and associated equipment, including one (1) 10'x20' concrete equipment pad that houses the inverter and transformer. A ballast-mounted racking system will be used to secure the panel arrays. The Site is currently surrounded by an eight (8)-foot tall chain link fence; no additional fencing is required for the Facility. More specifically, the Facility is currently planned to consist of 3,228 Vikram Paradea VSMDH.72/540.05 540W photovoltaic modules ("panels"); 13 CPS SCH100KTL-DO/US-600 inverters; one pad mounted switchgear; one (1) 1,500 kVA transformer, and one (1) service interconnection line. The Facility's panels and inverters have an anticipated service life of twenty (20) to thirty-five (35) years. The Facility has an expected net AC capacity factor of approximately 21.87 percent.

The Project also requires an electrical service interconnection to the local distribution system. This will be accomplished through the combination of a ground-mounted cable tray and a transition to overhead near Deming Road. As the Site is currently occupied by a closed landfill stabilized with turf grasses and the Project will not significantly change that existing cover, limited stormwater measures are proposed. Once complete, the Project (consisting of the fenced Facility, interconnection, and vehicular and utility access) will occupy approximately 5.02 acres. 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. Proposed development drawings are provided in Appendix A, *Project Plans*.

The leading edge of the panels will be at least 3' 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. C-Tec does not envision requiring any "snow removal" operations; rather, the snow will be allowed to melt or slide off.

Construction activities within the Project Area will require the following:

- installing erosion and sedimentation control measures;

- installing ballast supports, racking, and modules;
- installing a ground-mounted cable tray to house the electrical service lines; and
- installing four (4) overhead utility poles for interconnection to the existing electrical distribution system along Deming Road.

Since earthwork is avoided/limited due to areas outside the limits of the capped landfill, the Project development complies with DEEP's *Appendix I, Stormwater Management at Solar Array Construction Projects*. ("Appendix I") to the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* ("General Permit"). C-Tec applied for a General Permit with DEEP on November 21, 2022. The application ID for C-Tec's submittal is 2663951.

It is anticipated that the Facility will be completed in accordance with the schedule listed below. It should be noted, however, that while this schedule is a reasonable approximation of construction activities given current knowledge, it is possible that the schedule may change somewhat depending on continuing supply chain and/or labor issues.

- Apply for Landfill Post Closure Use/Landfill Disruption Permit Approval – on or before December 7, 2022
- Receive Siting Council Declaratory Ruling - on or before April 1, 2023
- Receive Landfill Post Closure Use/ Landfill Disruption Permit Approval - on or before June 1, 2023
- Complete Procurement of Long Lead Equipment - September 30, 2023
- Site mobilization – beginning February 1, 2024
- Delivery of racking and PV modules – February 1 through March 1, 2024
- Racking installation completion – April 13, 2024
- PV module installation completion – May 10, 2024
- DC electrical installation completion – May 31, 2024
- AC electrical installation completion – June 10, 2024
- Cold commissioning – January13, 2024
- Mechanical completion – June 21, 2024
- Hot commissioning – June 28, 2024

- Commercial operation date – June 28, 2024
- Final punch list and site demobilization – from June 21 through September 10, 2024

The Facility is unstaffed; after construction is complete and the Facility is operable, traffic associated with this Project will be minimal. It is anticipated that the Facility will require routine maintenance of the electrical equipment one (1) time per year. Annual maintenance will typically involve two (2) technicians for a day. Repairs will be made on an as-needed basis. It is expected that mowing would occur, at a minimum, one (1) time per year to suppress woody growth and maintain a meadow environment in accordance with the current vegetation maintenance schedule for the capped landfill.

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.

2.2.1 Access

The Facility will be accessed from Deming Road via an existing gravel drive on the landfill. This single existing gravel access will serve for both construction and permanent access to the Facility.

2.2.2 Public Health and Safety

The Project will meet applicable local, state, national and industry health and safety standards and requirements related to electric power generation. The Facility will not consume any raw materials, will not produce any by-products and will be unstaffed during normal operating conditions.

The Site is currently secured by an eight (8)-foot tall chain link fence with anti-climb mesh. The entrance is gated, limiting access to authorized personnel only. All Town emergency response personnel will be provided training by C-Tec related to any issues that may arise at the Facility. The Facility will be remotely monitored and will have the ability to remotely de-energize in the case of an emergency.

2.2.3 Federal, State, and Local 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 of 45 percent by 2030 and 80 percent by 2050. 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 Berlin's land use regulations (the "Zoning Regulations"). Although the Town's proposed 2023 Plan of Conservation and Development ("POCD") does not specifically address the use and/or promotion of renewable energy sources in Berlin, the Petitioner nonetheless believes that the Town endorses these efforts. Based on the foregoing, the Project is consistent with local, and state policies.

2.3 Community Relations

C-Tec has been in communication with and has had informal interactions with municipal officials regarding the design and development of the Project. C-Tec contacted officials from the Town of Berlin regarding permitting in May of 2022. Subsequently, the Town of Berlin and the Town of New Britain coordinated a meeting to discuss the project and associated energy incentives. APT provided a draft civil plan for the Project for that discussion. In October of 2022, the Town of New Britain requested an additional discussion involving C-Tec. It is C-Tec's understanding that the Towns are continuing to discuss the project with one another. C-Tec sent notices of the proposed project to applicable governmental officials and the owners of properties adjacent to the Facility on November 18, 2022. An example is provided in Exhibit C to this Petition.

2.4 Project Benefits

If approved, the Project will provide a range of environmental and economic benefits to the State of Connecticut and the Town of Berlin, 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 Berlin, with no additional burden on Town services and/or infrastructure (e.g., education/schools, highway maintenance, water and/or wastewater). The Project will also place a capped landfill back into productive re-use, which is a land use benefit.

2.5 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:

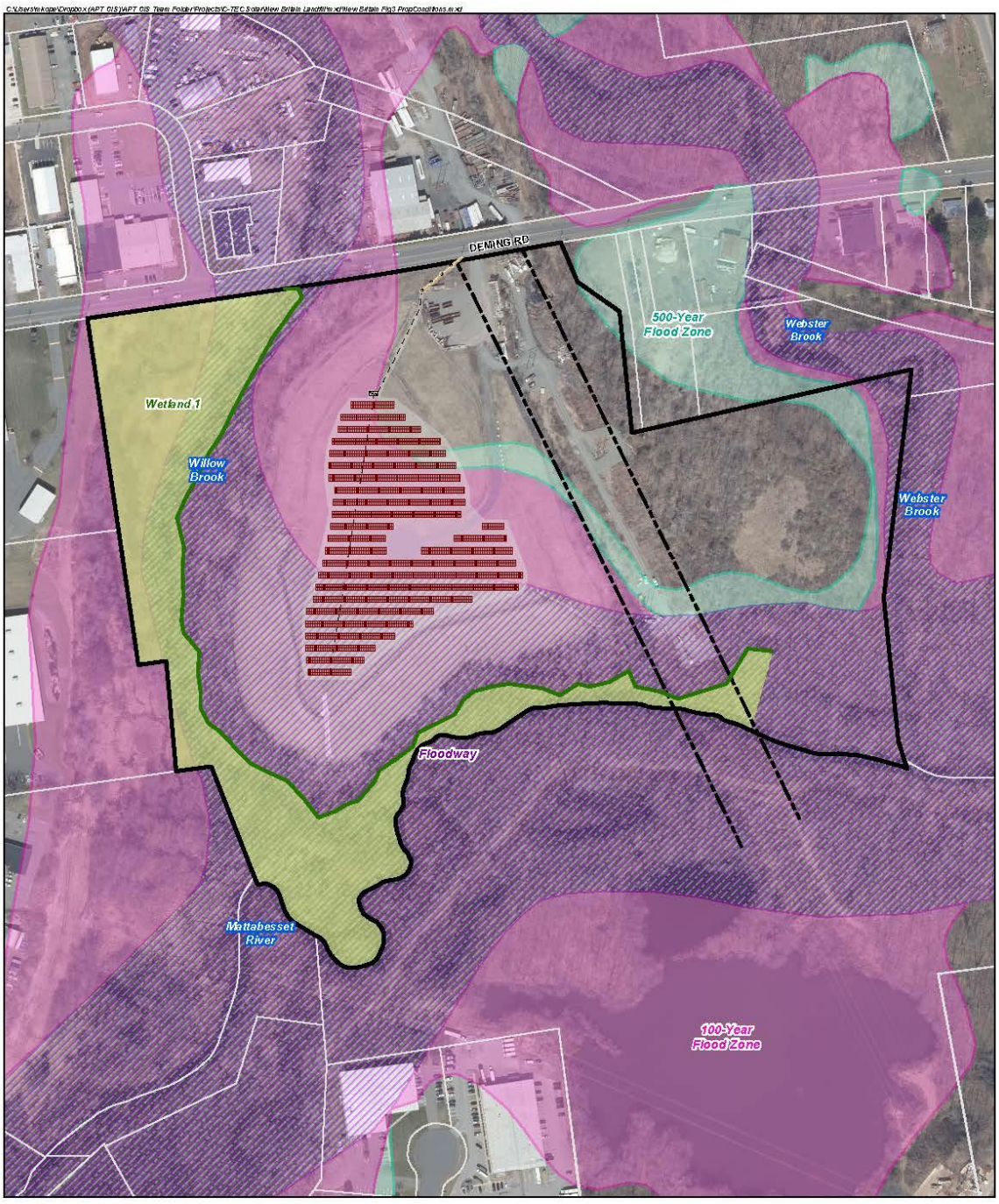
Michael Morrison
C-Tec Solar, LLC
1 Griffin Road South, Suite 200 Bloomfield, CT 06002
michael.morrison@ctecsolar.com
(860) 580-7174 ext. 121

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

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

3 Environmental Conditions

This section provides an overview of the current environmental conditions at the Site and an evaluation of the Project's potential impacts on the environment. The following information demonstrates that the Project will comply with the DEEP air and water quality standards and will not have an undue adverse effect on the existing environment and ecology. Please refer to Figure 3, *Proposed Conditions* for a depiction of the Project and its relationship with the resources discussed herein.



Legend

- Site
- Approximate Parcel Boundary
- Overhead Electrical Utility Right-of-Way
- Delineated Wetland Boundary
- Interconnection Utility Pole
- Solar Modules
- Interconnection Path
- Underground Electrical Path
- Concrete Pad
- Project Area

FEMA Flood Zones

- 100-Year Flood Zone
- 500-Year Flood Zone
- Floodway

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 300 feet
Map Date: September 2022

300 150 0 300 Feet

Figure 3
Proposed Conditions Map
Proposed Solar Energy Facility
New Britain Landfill
Deming Road
Berlin, Connecticut

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3.1 Air Quality

Due to the nature of a solar energy generating facility, no air emissions will be generated during operations and, therefore, the operation of the Facility will have no adverse effects on air quality and no permit is required.

Temporary, potential, construction-related mobile source emissions will include those associated with construction vehicles and equipment. Any potential air quality impacts related to construction activities can be considered *de minimis*. Such emissions will be mitigated using available measures, including limiting idling times of equipment; proper maintenance of all vehicles and equipment; and watering/spraying to minimize dust and particulate releases. In addition, all on-site and off-road equipment will meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency.

3.2 Water Resources

APT Registered Soil Scientists identified and delineated portions of one (1) wetland on or proximate to the Site during a field inspection completed on August 3, 2022. The results of this inspection are discussed below; the locations of wetland and watercourse resources are depicted on Figure 2, *Existing Conditions*.

3.2.1 Wetlands and Watercourses

The Site wetlands consists of two perennial watercourses with bordering, primarily forested, floodplain wetlands. Willow Brook enters the western side of the Site via three (3) 6-foot metal culverts and drains south until converging with the Mattabesset River in the southwestern corner. The narrow bordering forested wetlands associated with Willow Brook consist of a 10-15' wide stream channel. Fill areas along the western bank of Willow Brook present evidence of historic manipulation and narrowing of the once natural channel. Upon converging with the Mattabesset River the bordering wetlands transition to a broader floodplain system with inclusion pockets of emergent vegetation. The Mattabesset River corridor is located in the southern portion of the Site, flowing in a southwesterly direction. This river is similar in character to Willow Brook, being comprised of a sandy/cobble bottom, but is a more active and broader floodplain system, containing backwater wetlands and historic river meander scars.

Soils within bordering wetlands throughout both riparian systems consist of recent alluvial deposits overlain by colluvium material in some areas facing the landfill. Evidence of historic dumping was observed along the southern boundary abutting the delineated wetland, apparently associated with the former active landfill operation. Forested areas are dominated by box elder (*Acer negundo*), American elm (*Ulmus americana*), American sycamore (*Platanus occidentalis*), northern catalpa (*Catalpa speciosa*), and shagbark hickory (*Carya ovata*). A scrub/shrub area dominated by grey dogwood (*Cornus racemosa*), bush honeysuckles (*Lonicera spp.*), and autumn olive (*Elaeagnus umbellata*) are present within the southeastern corner associated with the electrical transmission right-of-way.

3.2.2 Wetland Impacts

The Facility will be located in the central portion of the Site within an area that is a former landfill. The landfill has been capped and currently consists of maintained open field. No direct wetland impacts or tree clearing are associated with the proposed development activities. The Facility would be located approximately 190 feet east of the nearest wetland boundary.

Construction activities would not be expected to result in an adverse impact to the Site's wetland resources based on the minimal ground disturbance proposed, 190-foot separating distance, and protection measures depicted on the sedimentation and erosion control plan (see sheet number EC-3 of the Project Plans). Table 1, *Summary of Project Wetlands*, provides a summary of distances to wetland resources.

Table 1: Summary of Project Wetland

Wetland Impacts	
Direct Impacts to Site Wetland (±sq.ft.)	0
Project Proximity to Site Wetland (± feet)	190

3.2.3 Floodplain Areas

The United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("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 community. The Site is mapped on FIRM PANEL #09003C 0513 F, dated September 26, 2008. Based upon the reviewed FIRM Map, the majority of the Site is located within the 100-year flood zone with its southern and western

portions located within floodways associated with Willow Brook and the Mattabesset River. A small portion of the 500-year flood zone extends into the eastern portion of the Site. The mapping suggests portions of these resources all lie within the Project Area.

Based on a recent survey and field observations, FEMA mapping does not reflect the current ground elevation of the capped landfill, which sits substantially higher than the 100-year base flood elevation. For example, the majority of the proposed Facility sits at elevation 90 feet or higher while the highest base flood elevation within or proximate to the Project Area is at 43 feet. As such, the Facility is situated approximately 47 feet higher than the highest base flood elevation. C-Tec is in discussions with both the Town of Berlin Engineering Department and the DEEP to determine how best to resolve this mapping discrepancy. The proposed Facility will not impact any flood hazard zones or downstream areas so no special design considerations or precautions relative to flooding are required for the Facility.

3.3 Water Quality

The Project will comply with DEEP's water quality standards. Once operative, the Facility will be unstaffed, and no potable water uses or sanitary discharges are planned. No liquid fuels are associated with the operation of the Facility. Stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 *Connecticut Stormwater Quality Manual* and Appendix I. As mentioned above, the Project applied for its General Permit on November 21, 2022.

3.3.1 Groundwater

Groundwater underlying the Site is classified by publicly available DEEP mapping as "GB". This classification is indicative of the Site's development as a landfill. This classification indicates groundwater within the area is presumed not suitable for human consumption without treatment. Designated uses in GB-classified areas include industrial process water and cooling waters and base flow for hydraulically connected surface water bodies. An area classified as "GA, GAA may not meet current standards" abuts the Site to the south.

Based upon a review of available DEEP mapping, the Site is not located within a mapped (preliminary or final) DEEP Aquifer Protection Area. The Project will have no adverse environmental effect on ground water quality.

3.3.2 Surface Water

DEEP mapping indicates the Site is located in Major Drainage Basin 4 (Connecticut River) and Regional Drainage Basin 46 (Mattabesset River). The southeastern portion of the Site is located in Subregional Drainage Basin 4600 (Mattabesset River) and Local Drainage Basin 4602-00 (Mattabesset River). The western portion is located in Subregional Drainage Basin 4602 (Willow Brook) and Local Drainage Basin 4602-00 (Willow Brook). The northern portion is located in Subregional Drainage Basin 4603 (Webster Brook) and Local Drainage Basin 4603-00 (Webster Brook). A summary of the drainage for the Project can be found in Exhibit B, *Drainage Memorandum.*

Willow Brook traverses the western portion of the Site and the Mattabesset River traverses the southern portion of the Site. Based upon DEEP mapping, the portions of Willow Brook and the Mattabesset River within the Site are classified as Class B surface waterbodies. Designated uses for Class B surface water bodies include habitat for fish and other aquatic life and wildlife; recreation; navigation; and water supply for industry and agriculture. Webster Brook is downgradient and approximately 80 feet east of the Site. Webster Brook is classified as a Class A surface waterbody by the DEEP. Designated uses for Class A surface water bodies include habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; and water supply for industry and agriculture. Based on the separating distance from these resources, ±190 feet at the nearest point, the Project will have no effect on these surface waterbodies.

Connecticut Department of Public Health mapping indicates the Site is not located within a Public Water Supply Watershed. The Site is located within the Berlin Water Control Commission service area.

During construction, erosion and sediment ("E&S") controls will be installed and maintained in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. The Facility will utilize a concrete ballast racking system that generally avoids soil disturbance thereby limiting the need for extensive E&S controls. With proper installation and

maintenance of these controls, and the separating distances to any of the aforementioned water resources, the Project will have no adverse environmental effect on surface water quality.

3.3.3 Stormwater Management

In addition to the 2004 Connecticut Stormwater Quality Manual and 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, the Project has been designed to meet DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (GP) Appendix I. Combined, these address three (3) main concerns: stormwater runoff peak attenuation, water quality volume treatment, and E&S control during construction.

Stormwater Runoff Peak Attenuation

The Project will incorporate the installation of ballast mounted solar modules and associated equipment. No ground disturbance or penetrations are proposed on the landfill to maintain the integrity of the existing cap. The capped landfill is considered to be impervious. As such, no increase in stormwater runoff is anticipated for this Project. The landfill has existing stormwater management features that will be maintained and is anticipated to be sufficient.

Water Quality Volume Treatment

The Project is not anticipated to increase the effective impervious cover of the Site. As such, it would likely not require additional water quality volume treatment.

Erosion and Sediment Control During Construction

Since the Project is not anticipating any ground disturbance or penetration on the capped landfill, no protective measures are proposed as no sediment should be generated during construction. A construction entrance is proposed along the beginning of the gravel drive and a stockpile location will be provided as needed. With the incorporation of these protective measures, stormwater runoff from Project development is not anticipated to result in adverse impacts to water quality associated with nearby surface water bodies.

3.4 Habitat and Wildlife

Four (4) distinct habitat types (vegetative communities) separated by transitional ecotones are located on the Site and identified within the Project Area. These habitats were assessed using remote sensing and publicly available datasets and were physically inspected during the August 3, 2022 field inspection.

The habitats occupying the Site are as follows.

- Open Field;
- Edge Forest;
- Riparian; and
- Developed.

Open Field

Open Field habitat encompasses the central portion of the Site, consisting of a regularly mowed/maintained grass field associated with the capped landfill. Routine maintenance of this field suppresses other herbaceous and shrub species. This habitat is dominated by cool season grasses and typical forbs like red clover (*Trifolium pratense*). A transitional scrub/shrub and/or late old field successional ecotones exist between the edge Open Field and surrounding forested habitats (Edge Forest and Riparian) dominated by golden rod (*Solidago spp.*) and mugwort (*Artemisia vulgaris*) where less frequent mowing occurs.

Project impacts will mostly be within the Open Field habitat with the total area of disturbance of ±4.8 acres. This area is the capped landfill, with a high level of disturbance from historic landfill use, capping, and routine vegetation maintenance activities. As a result, the Project will not result in a significant adverse impact to the existing Open Field habitat. The Project will generally retain this Open Field habitat post-construction between and under the proposed solar panels, excepting for the concrete ballast supports.

Edge Forest

Edge Forest habitat exists generally around the Open Field habitat, particularly along the southern and western portions of the Site, and serves as transitional ecotone between the Open Field and wetland forested habitats associated with the Riparian habitat. The Edge Forest habitat is characterized by mature even-aged hardwood forest and a dense shrub layer. In combination with the adjacent wetland forested habitats, it forms a contiguous forested block. The Edge Forest habitat differs from those adjacent areas by occurring entirely within well-drained upland areas and consisting of a significantly different vegetative species composition. Dominant species within the Edge Forest habitat include red oak (*Quercus rubra*) sugar maple (*Acer saccharum*) with areas of black cherry (*Prunus serotina*), black birch (*Betula lenta*), and red maple (*Acer rubrum*). A moderately dense understory is dominated by bush honeysuckle, witch hazel (*Hamamelis virginiana*), multiflora rose (*Rosa multiflora*), spicebush (*Lindera benzoin*), and Japanese barberry (*Berberis thundergii*). The forest floor consists of hayscented fern (*Dennstaedtia punctilobula*), cinnamon fern (*Osmunda cinnamomea*), and Canada mayflower (*Maianthemum canadense*).

The Project does not involve any clearing and thus will have no impact to the Edge Forest habitat. The proposed racking system will be installed on ballast footings to avoid disturbance to the landfill cap. Any potential secondary short-term impacts during construction activities associated with the installation of the Facility entrance and concrete pads will be minimized by proper stabilization of any disturbed soils through strict adherence to the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*.

Riparian

Riparian habitat occurs throughout the Site, occupying the western and southern extents. Details of this Riparian habitat are provided in Section 3.2.1. The on-Site wetland consists of a large complex riparian system with diverse hydrology, morphology and vegetative communities. Intermittently flooded backwater riparian areas border the two perennial watercourses and consist of complexes of mature forest, emergent, and scrub/shrub habitats. Evidence of some filled/altered areas along the jurisdictional wetland boundaries appear within this complex as observed by colluvial deposits overlying alluvial material.

No permanent direct impacts to Riparian habitat are proposed from the development of the Facility, which will generally maintain a minimum ±190-foot setback from surrounding wetlands. There is no proposed mature vegetation clearing associated with the Facility and E&S control measures will be installed and maintained during construction activities to avoid potential secondary impacts to the Riparian habitat.

Developed

Developed areas are located in the northeastern portion of the Site fronting on Deming Road and consist of a parking lot, access road to the capped landfill, and gravel access road associated with the adjacent electrical transmission right-of-way. With the exception of installing the proposed electrical interconnection along Deming Road, no impacts to Developed areas will occur. Table 2, *Habitat Areas* provides the total acreages of each habitat type located on the Site and within the Project Area.

Table 2: Habitat Areas

Habitat Areas		
Habitat Type	Total Area On-Site (±ac.)	Area Occupied by Project (±ac.)
Open Field	13.87	4.8
Edge Forest	14.15	0.00
Riparian	10.75	0.00
Developed	4.64	0.22

3.4.1 Core Forest Determination

The Project Area is fully cleared; no tree removal is required for development of the Project. Therefore, the Project will not affect core forest resources.

3.4.2 Wildlife

Development of the Project will occur within portions of two (2) of the Site's four (4) habitats: Open Field and Developed Areas. Open Field habitat areas currently provide limited value from a wildlife utilization standpoint as a result of routine vegetation management associated with the capped landfill and the relatively small patch-size (±13.87 ac) of this cool season grass habitat. Furthermore, the Project will not substantially change the character of this habitat type

because the majority of underlying field vegetation will be retained. Therefore, Project-related impacts within this habitat would be limited and are not anticipated to result in a likely adverse effect to wildlife. The Developed Area does not support wildlife habitat.

Based on the surrounding land uses, the adjacent Edge Forest located in proximity to the Project Area is likely utilized by species that prefer this habitat and are more tolerant of human disturbance and habitat fragmentation. Generalist wildlife species, including several song birds and mammals common throughout Connecticut, could be expected to use this area. Short-term wildlife impacts to this edge habitat due to construction-related noise may temporarily displace wildlife that are more sensitive to these types of disturbances. However, due to the relatively small size of this habitat patch, and given the abundance of higher quality habitat surrounding the Site (e.g., Riparian Forest) which wildlife could move into during construction activities, the Project is not anticipated to result in a significant impact to wildlife.

The Project Area will not encroach into the southern/western Riparian habitats. Project development will occur entirely within Developed and Open Field areas. In addition, the Project is buffered from the nearby Riparian habitats by the intervening Edge Forest habitat. As a result, wildlife utilization within the Riparian aquatic habitats is expected to continue relatively uninterrupted. Noise and associated human activities during construction may result in limited, temporary disruption to wildlife using nearby Riparian habitat, although as previously discussed, such temporary impacts would be more likely to occur to the Edge Forest habitat. Any temporarily displaced wildlife are expected to relocate into similar adjacent wetland habitats to the south and west. Post construction, operation of the Facility will not result in a likely adverse effect to wildlife using these habitats since the Facility is unoccupied and would not generate any significant noise or traffic.

3.5 Rare Species

APT reviewed publicly available information to determine the potential presence of state/federally listed species and critical habitat on or proximate to the Site. A discussion is provided in the following sections.

3.5.1 Natural Diversity Data Base

The DEEP Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state-listed species and to help landowners conserve the state's biodiversity. In furtherance of this endeavor, the DEEP also developed maps to serve as a pre-screening tool to help Petitioners 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 and (ii) significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by DEEP 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) polygons on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowner's rights whenever species occur on private property.

The most recent DEEP NDDB mapping (August 2022) revealed that an NDDB polygon encompasses the majority of the Site. Because state-listed species or communities are documented on or in the vicinity of the Site, consultation with NDDB was performed. A response was received from NDDB on October 13, 2022 (NDDB Determination No. 202210240) indicating negative impacts to State-listed species (RCSA Sec. 26-306) resulting from the proposed activity are not anticipated; a copy of the letter is provided in Appendix B, *USFWS and NDDB Compliance Statement*.

3.5.2 USFWS Consultation

Federal consultation was completed in accordance with Section 7 of the Endangered Species Act through the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC"). Based on the results of the IPaC review, one federally-listed[3] threatened species is known to occur in the vicinity of the Site, northern long-eared bat ("NLEB";

[3] Listing under the federal Endangered Species Act

Myotis septentrionalis). 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 DEEP's publicly available *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map (February 1, 2016) to determine the locations 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 Morris, approximately 20.7 miles to the west.

APT completed a determination of compliance with Section 7 of the Endangered Species Act of 1973 for the Project. In compliance with the USFWS criteria for assessing NLEB, the Project will not likely result in an adverse effect or incidental take[4] of NLEB and does not require a permit from USFWS. A USFWS letter dated July 26, 2022 confirmed compliance; thus, no further consultation with USFWS is required for the proposed activity. [5] A full review of the *Endangered Species Act (ESA) Compliance Determination* and USFWS's Response Letter is provided in Appendix B, *USFWS and NDDB Compliance Statement*, of the Environmental Assessment found in Exhibit A.

3.6 Soils and Geology

Surficial materials on the Site are classified as deposits of sand and gravel overlying fines. However, portions of the Site have been historically utilized as a landfill and prolonged disturbance to and filling of the original soil profile has occurred. The Project Area now consists of fine clays and imported material utilized to cap the closed landfill. Due to the requirement to protect the landfill cap, no penetrations of the ground surface are associated with the proposed development. Bedrock beneath the Site is identified as Portland Arkose. Portland Arkose is described as a reddish-brown to maroon micaceous arkose and siltstone and red to black fissile silty shale. The

[4] "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.

[5] It should be noted that, since issuance of the letter, the USFWS published a proposal to reclassify the NLEB as Endangered under the Endangered Species Act. The proposed reclassification, if finalized, is anticipated to take effect by December 30, 2022. It is possible that the Project would be subject to additional review through a formal procedure that has yet to be established.

Site grades eastward into coarse conglomerate (fanglomerate). C-Tec does not anticipate encountering bedrock during Project development.

3.6.1 Prime Farmland Soils

Pursuant to 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. They represent the most suitable land for producing food, feed, fiber, forage, and oilseed crops. According to the Connecticut Environmental Conditions Online Resource Guide[6], no Prime Farmland Soils are found within the Project Area. See Figure 2, *Existing Conditions Map.*

3.7 Historic and Archaeological Resources

On behalf of C-Tec, Heritage Consultants, LLC ("Heritage") reviewed relevant historic and archaeological information to determine whether the Site holds potential historic or cultural resource significance. Their 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") listing located within 1.0 mile of the Site. Five State Register of Historic Places properties are located within 1.0 mile of the Site. Due to their distances from the Site, there will be no effect on any of those resources. In a report dated September 6, 2022, Heritage determined due to the existing disturbed nature of the Site, "no nearby cultural resources will be impacted negatively by the proposed construction" and "no further investigation of the project area is recommended prior to construction". SHPO concurred in a letter dated October 28, 2022, stating that "no additional archeological investigations are warranted and that no historic properties will be affected by the proposed solar project." The Heritage report and the SHPO response are included in Appendix C, *Cultural Resources Review,* found in Exhibit A.

3.8 Scenic and Recreational Areas

No state or local designated scenic roads or scenic areas are located near or within one (1) mile of the Site and therefore none will be physically or visually impacted by development of the

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

Project. There are no Connecticut Blue Blaze Hiking Trails located proximate to the Site. Town of Berlin open space is located across the Mattabesset River just south of the Site identified as the "Water Tank – Woodland Road Municipal Open Space." The Project will have no effect on this resource. See Figure 4, *Surrounding Features Map,* for these and other resources located within one mile of the Project Area.

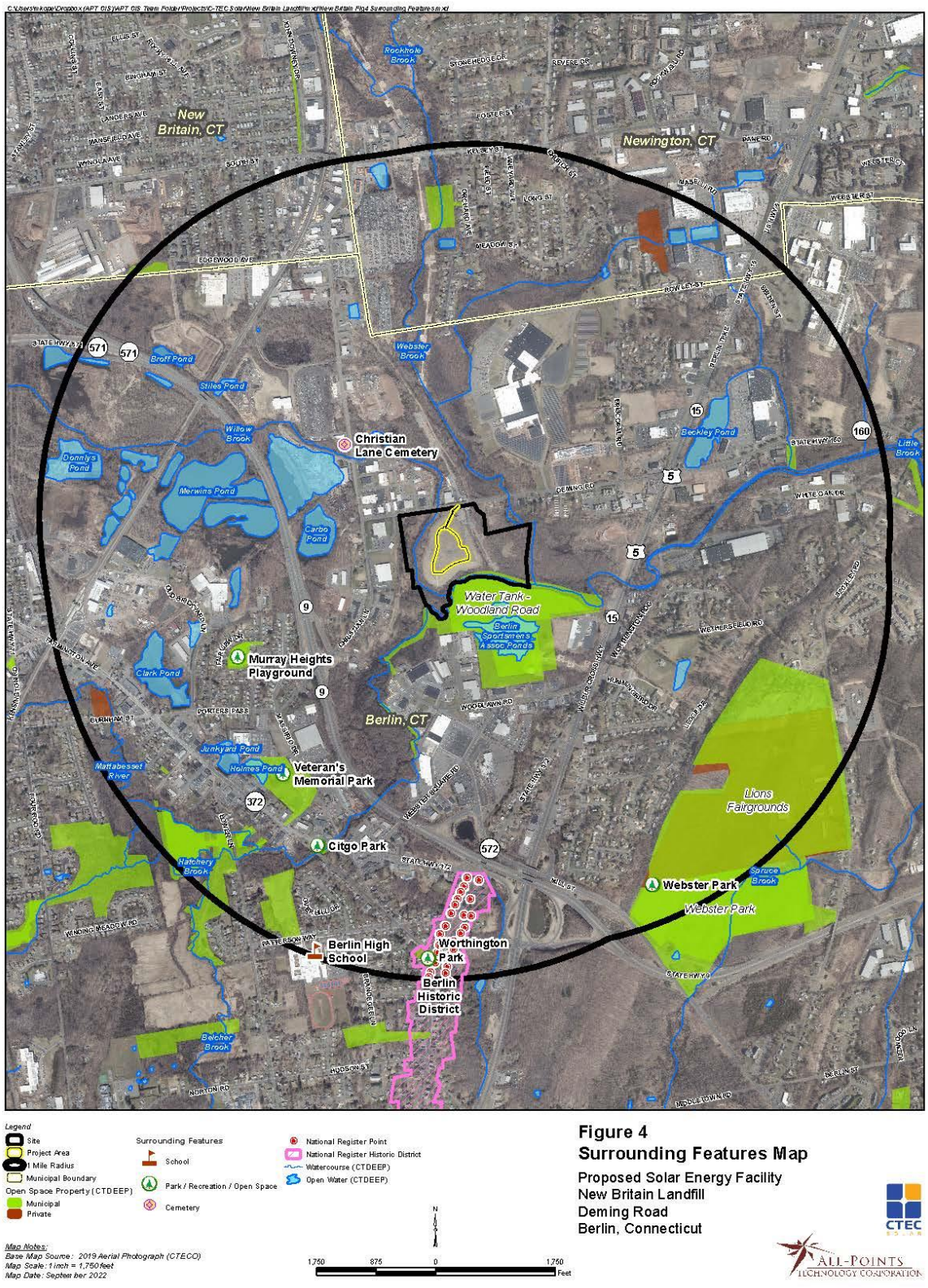

Figure 4
Surrounding Features Map

Proposed Solar Energy Facility
New Britain Landfill
Deming Road
Berlin, Connecticut

3.9 Noise

The Site contains a landfill and associated infrastructure. Noise associated with human activities is currently generated on the Site.

Construction noise is exempted under State of Connecticut regulations for the control of noise, RCSA 22a-69-1.8(h). The Town noise ordinance regulates the time in which construction activity may be conducted to between 7:00 a.m. and 8:00 p.m. Monday through Saturday and noon to 6:00 p.m. on Sunday. During construction of the Facility, the temporary increase in noise would likely raise localized ambient sound levels immediately surrounding the Project Area. Standard types of construction equipment would 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 Facility will be minimal; the Facility's only noise generating equipment are the inverters and transformers. Based on the most conservative information provided by equipment manufacturers, the loudest piece of equipment could be a 100/125kW, 1500Vdc String Inverter that will generate a maximum sound level of approximately 65 dBA measured at one (1) meter away.

The Site is located within a general industrial zoning district and the Facility would be considered a Class C (Industrial) noise emitter. The nearest off-Site property line from the inverters and transformer is ±329 feet to the north-northwest, a residential property at 131 Deming Road. The nearest residence is located ±221 feet to the northwest at 604 Berlin Turnpike. Both residential properties would be considered a Class A Noise Receptor Zone.[7] As such, noise standards of 61 dBA during the daytime and 51 dBA at night apply.

The Project applied the Inverse Square Law[8] to evaluate the relative sound level of the inverters at the nearest property lines. Based on these calculations, nearby receptors are of sufficient distances from the proposed Project-related equipment and noise levels during Facility

[7] RCSA 22a-69-3.5. Noise Zone Standards

[8] 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.

operation will be below 51 dBA at surrounding property lines. Please refer to the transformer and inverter specification sheets provided in Appendix D of Exhibit A, *Product Information Sheets*.

3.10 Lighting

No lighting currently exists on the Site although a street light is located at the Site entrance off Deming Road. No exterior lighting is planned for the Project.

3.11 FAA Determination

C-Tec submitted relevant Project information to the Federal Aviation Administration ("FAA") for an aeronautical study to evaluate potential hazards to air navigation. The nearest airport is the Robertson Airport located approximately 6.2 miles to the southeast. The FAA provided Determinations of No Hazard to Air Navigation on September 30, 2022. See Appendix E of Exhibit A, *FAA Determinations.* Based on this determination, there is no need to conduct a glare analysis.

3.12 Visibility

The Facility will consist of 3,228 non-reflective solar panels measuring approximately 8 feet above grade. The proposed electrical interconnection will require the installation of four (4) new utility poles in the northcentral area of the Site off the landfill adjacent to Deming Road. 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, thereby further reducing reflectivity.

APT assessed the predicted visibility of the Facility with a Project-specific computer analysis of a one-mile radius around the Site. As depicted on the resulting viewshed maps, year-round visibility of the proposed Facility is limited to the Site itself, with limited views potentially extending to areas directly north of the Site across Deming Road. Seasonal visibility may be experienced along portions of Deming Road west and east of the Site at distances up to 0.25 mile away. The incremental impact on views is not anticipated to be significant. Please see Appendix F of Appendix A, *Visibility Documentation* for viewshed maps.

4 Conclusion

The Project will comply with the DEEP air and water quality standards. Further, it will not have an undue adverse effect on the existing environment and ecology; nor will it affect the scenic, historic and recreational resources in the vicinity of the Project. The Project Area is cleared as a result of the maintained capped landfill; no vegetative removal is required for development of the Project. Therefore, it will have no significant impact on existing habitats and wildlife. The northern long-eared bat was identified as potentially occurring within the vicinity of the Site but the Project is not expected to result in an adverse effect or an incidental take since no tree clearing would occur. The Project Area contains no Prime Farmland Soils or Core Forest.

Once operative, the Facility will be unstaffed and generate minimal traffic. Predicted visibility of the proposed Facility is limited to a small segment along Deming Road that has an existing view of the landfill. The Facility will comply with State and local noise regulations and have no noticeable impact on nearby residences or surrounding properties. There are no impacts, direct or indirect, to wetlands. The nearest wetland boundary to the Project Area is ±190 feet away. E&S controls will be installed and maintained throughout constructions. The distance from the Facility to wetlands and implementation of protective management techniques will mitigate potential impacts to these resources during construction. Implementation of the Project avoids grading and excavation. The Project will be located on existing impervious surface; therefore, no change to existing water volume measures is required. Project plans include provisions for monitoring of development activities and the establishment of E&S controls to be installed and maintained throughout construction in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*.

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

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