ENVIRONMENTAL ASSESSMENT

SOLAR FACILITY INSTALLATION

7 GRACE WAY

NORTH CANAAN, CONNECTICUT

LITCHFIELD COUNTY

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SolarCity Corporation

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June 2016

Table of Contents

PROJECT INTRODUCTION **1**

EXISTING CONDITIONS **3**

Project Location 3
Site Access 3
Wetlands and Watercourses 3
Vernal Pools Assessment 6
Vegetation and Wildlife 12
Rare Species 12
Water Quality 16
Historic and Archaeological Resources 17
Floodplain Areas 18
Noise 19
Lighting 19
Scenic and Recreational Areas, Parks and Other Surrounding Features 19

EFFECTS ON THE ENVIRONMENT **22**

Proposed Project Development 22
Public Health and Safety 24
Local, State and Federal Land Use Plans 24
Existing and Future Development 25
Roads 25
Wetlands 25
Vernal Pools Impact Analysis 26
Vegetation and Wildlife 33
Rare Species 33
Wildlife Impact Mitigation Measures 34
Water Quality 36
Air Quality 36
Historic and Archaeological Resources 36
Geology and Soils 37
Floodplain Areas 37
Noise 37
Lighting 38
Scenic and Recreational Areas, Parks and Other Surrounding Features 38
Visibility 38

CONCLUSION **39**

Figures

Figure No. **Title**

FIGURE 1 PROJECT LOCATION MAP 2
FIGURE 2 EXISTING CONDITIONS MAP 4
FIGURE 3 COVER TYPE MAP 8
FIGURE 4 SURROUNDING FEATURES MAP 21
FIGURE 5 PROPOSED CONDITIONS MAP 23
FIGURE 6 FACILITY REDUCTION 27
FIGURE 7 VERNAL POOL ANALYSIS MAP 29
FIGURE 8 RESTORATION AND MITIGATION AREAS 32

Tables

Table No. **Title**

TABLE 1: AMPHIBIANS AND REPTILES OBSERVED DURING VERNAL POOL SURVEY 10
TABLE 2: EGG MASS SURVEY RESULTS FOR VERNAL POOL INDICATOR SPECIES 10
TABLE 3: SURROUNDING FEATURES WITHIN THE SITE VICINITY 20
TABLE 4 VERNAL POOL IMPACT ANALYSIS 28

Appendices

Appendix **Title**

APPENDIX A CTDEEP NDDB MAPPING AND AGENCY CORRESPONDENCE
APPENDIX B MANAGEMENT SUMMARY FOR THE CULTURAL RESOURCE RECONNAISSANCE SURVEY
APPENDIX C CONSTRUCTION SCHEDULE
APPENDIX D CONSTRUCTION WORK HOURS / DAYS LETTER
APPENDIX E VERNAL POOL MITIGATION AREAS PHOTO-DOCUMENTATION
APPENDIX F NOISE EVALUATION REPORT

Project Introduction

All-Points Technology Corporation, P.C. ("APT") prepared this Environmental Assessment ("EA") on behalf of SolarCity Corporation ("SolarCity") for the proposed installation of an approximately 2.8 megawatt ("MW") solar-based electric generating facility ("Facility") in the Town of North Canaan, Connecticut (the "Project"). The Project is comprised of a mix of ground (±2.28 MW) and rooftop (±0.52 MW) installations.

This EA has been completed to support SolarCity's submission of a petition for declaratory ruling with the Connecticut Siting Council ("Council") that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of the Project.

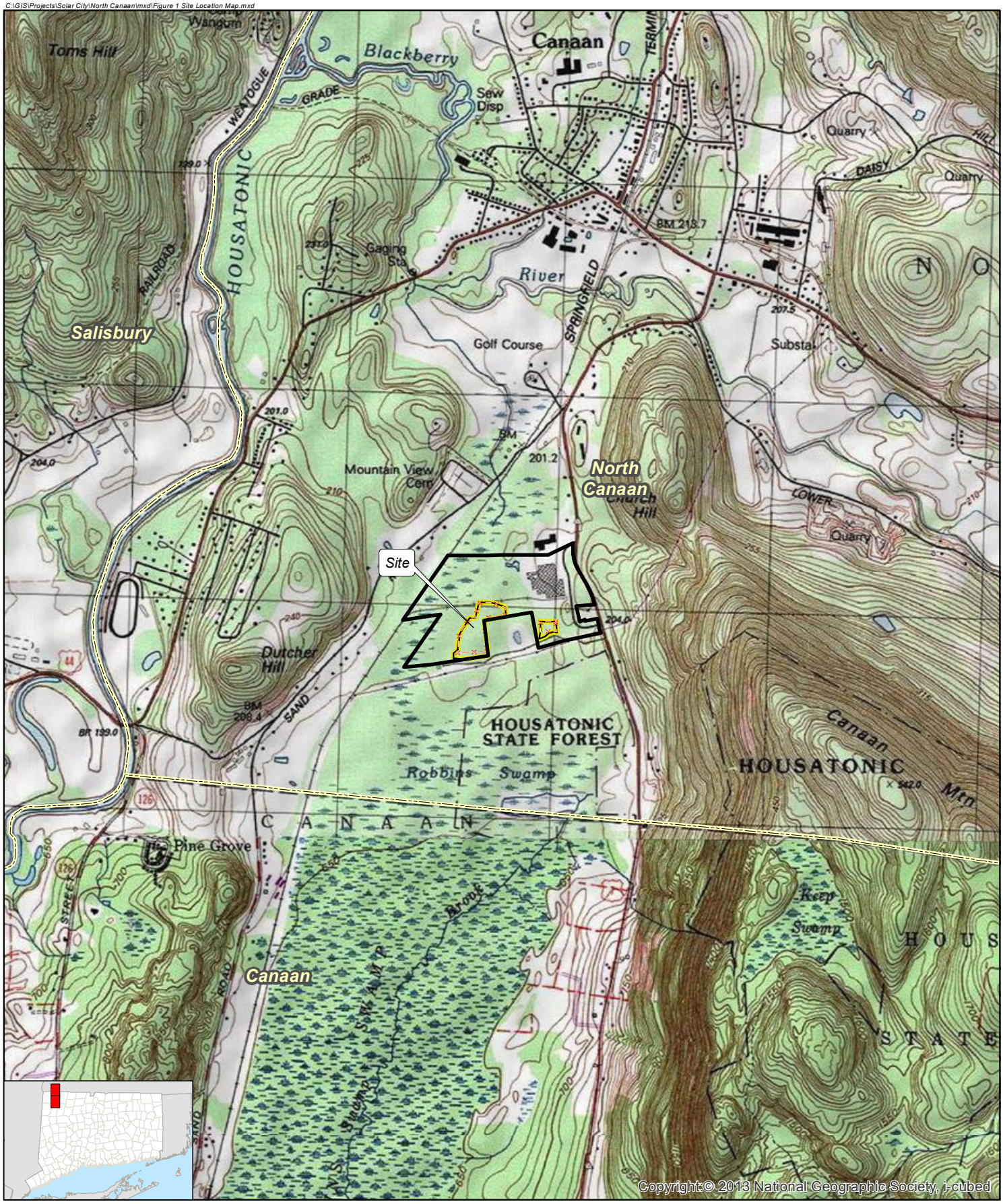
The Project would be located at 7 Grace Way, North Canaan, Connecticut ("Site"). The privately owned Site consists of approximately 77.1 acres, a portion of which is developed with a commercial manufacturing/warehouse/distribution plant and paved parking areas.

The Site is situated south of the intersection of Grace Way and Canaan Road (US Route 7), west of Canaan Road (US Route 7), and east of the New Milford Secondary Rail Line (CDOT) and Sand Road. The Site vicinity is characterized by large expanses of surrounding forest and undeveloped land to the south with commercial development to the immediate north and sparse residential development farther to the north, east and west.

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

The ground portion of the Project would require the clearing of 9.37 (±9) acres of the Site ("Project Area") to accommodate two (2) separate pile-driven, ground-mounted racking system arrays, access and tree removal to minimize shading. The two ground-mounted arrays would be located in the southwest and southeast portions of the Site. Once completed, the fence-enclosed ground-mounted arrays would comprise 7.67 (±8) acres. A third array (measuring ±14,667 square feet) will be installed on the roof of the existing warehouse/distribution industrial building.

C:\GIS\Projects\Solar City\North Canaan\mxd\Figure 1 Site Location Map.mxd



Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Ground-mounted Fenced Facility (+/- 8 acres)

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Ashley Falls and South Canaan, CT (1969)
Site located on the Ashley Falls Quadrangle
Map Scale: 1:24,000
Map Date: June 2016

N W E S

1,000 500 0 1,000 Feet

Figure 1
Project Location Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

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Existing Conditions

The purpose of this section is to describe current conditions of the Site. A detailed discussion of the proposed Project's effects on the environment is provided in following section of this document.

Project Location

The Site consists of a single, privately owned parcel located at 7 Grace Way, North Canaan, CT and encompasses a total of approximately 77.1 acres.

Portions of the Site are developed with the Becton, Dickinson & Company ("BD and Company") medical supply manufacturing, warehousing and distribution plant, as well as a private service rail line. The remainder of the Site is a mix of undeveloped woods, fields and wetlands associated with "Robins Swamp".

The majority of the ±9-acre Project Area, not considering the roof top arrays, is within wooded land.

Site Access

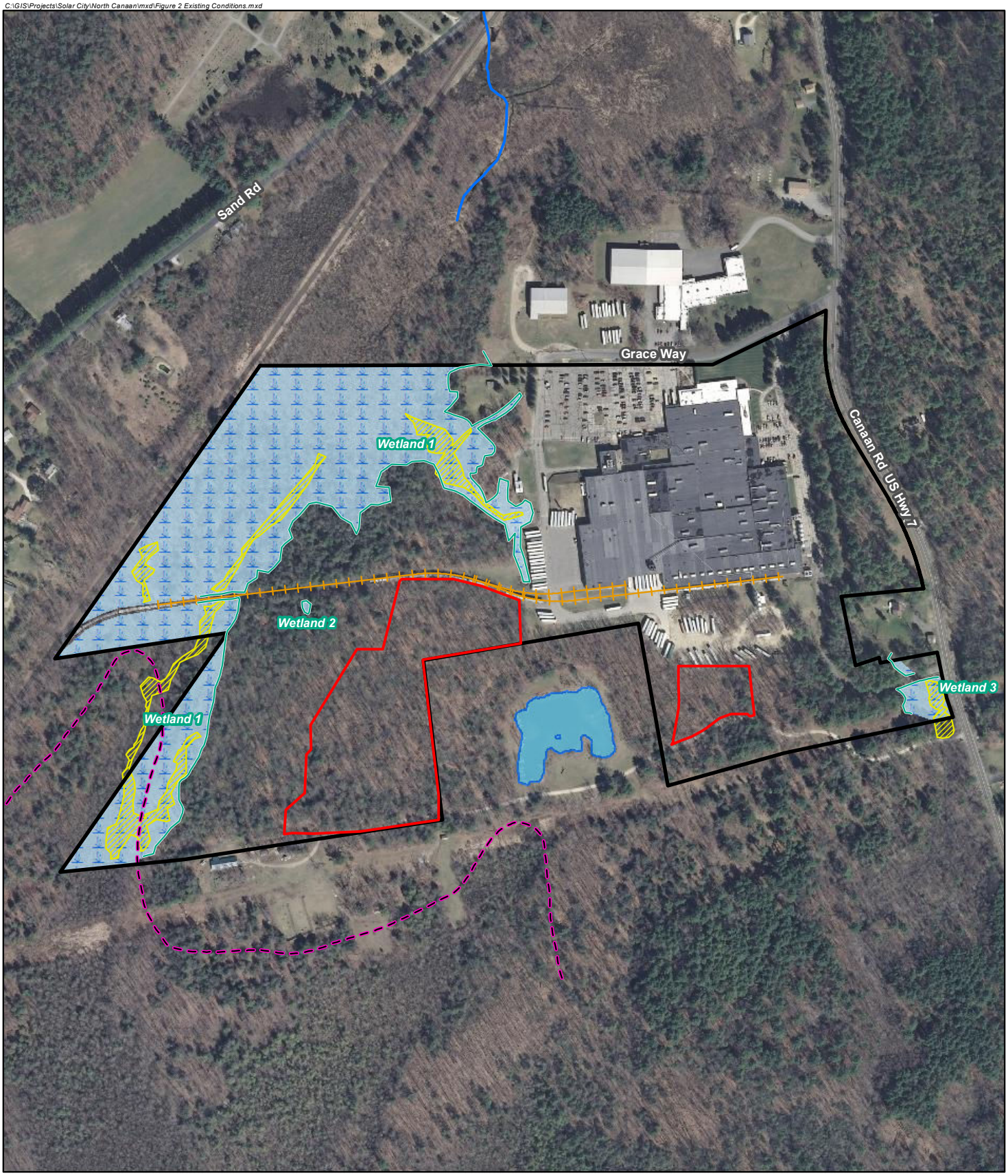
Access to the Site is gained via the existing access roads and parking areas of BD and Company, off Grace Way.

Figure 2, *Existing Conditions Map*, depicts current conditions on the Site, its access, abutting properties, and several key features discussed herein.

Wetlands and Watercourses

Matthew Gustafson, a Connecticut registered Soil Scientist with APT and Eric Davison of Davison Environmental conducted inspections of the Site on November 11, 2015 and March 30, 2016 to determine the presence and extent of wetland resources proximate to the proposed Project Area. Three (3) wetland areas were identified on the Site, as depicted on Figure 2. The Site is located in a geomorphic outwash plain with a relatively static groundwater table. Wetlands identified intercept this local static groundwater table resulting in a mix of seasonally flooded and seasonally saturated hydrological conditions. A majority of the wetlands are dominated by mature forest, emergent vegetation and sparse scrub/shrub habitats.

C:\GIS\Projects\Solar City\North Canaan\mxd\Figure 2 Existing Conditions.mxd



Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Wetland Boundary
- Wetland Area (within Site Boundary)
- Railroad
- FEMA 100-Year Flood Line
- Vernal Pool
- CTDEEP Watercourse

Figure 2
Existing Conditions Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

N
W E
S

450 225 0 450
Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 450 feet *Map Date: June 2016*

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Wetland 1, located in the western portion of the Site, is part of a broad complex of wetlands that includes the northerly extent of a large wetland system locally known as Robbins Swamp. Robbins Swamp surrounds Swamp Brook which drains south eventually feeding the Hollenbeck River. Robbins Swamp is a regionally important wetland system which supports a number of rare wetland-dependent species. This wetland system is bisected by an existing rail line that runs east to west through the central portion of the Site. Based on available information and field observations it appears this rail line represents a drainage divide in the local watershed boundary (i.e. north of the rail line drains north, and south of the line drains south). Wetland 1 consists of a complex of scrub shrub, emergent, and edge forested wetland habitats. An interior stream is located south of the rail line and follows a generally slow flowing interior stream channel with little braiding or diffuse flows. Significant hummock/hollow topography is present throughout this system resulting in some interior depressions containing vernal pool breeding habitat. In addition, the interior perennial stream supports areas of vernal pool breeding habitat as a result of the stagnant flows. These areas are characterized by relatively large amounts of downed coarse woody debris with dense emergent cover and open canopies within forested areas. Topography varies north of the rail line resulting in broad depressions with ephemeral flooding that support additional vernal pool habitat. Areas north of the rail line drain north eventually leading to a large broad emergent swamp formed in deep organics. The northeast portion of Wetland 1, adjacent to the existing BD and Company development, have historically been filled and altered, with some areas overlain with spoils from prior excavations. Dominant vegetation within Wetland 1 includes eastern hemlock, red maple, American elm, green ash, yellow birch, tussock sedge, sphagnum moss, skunk cabbage, spicebush, winterberry, sensitive fern, highbush blueberry, and marsh marigold.

Wetland 2 is a small isolated forested wetland pocket located east of Wetland 1, just south of the existing rail line on the Site. This wetland system is dominated by mature hemlock forest with nearly complete canopy closure. The area is seasonally saturated with little to no ponding occurring during most years. It does not appear to support any vernal pool habitat.

Wetland 3 is located in the southeast corner of the Site and consists of two depressional wetland pockets that generally drain south and are confined by an existing paved access road (north) and Route 7 (east). This wetland is dominated by mature hemlock and red maple forest along the transitional areas and emergent and/or scrub/shrub vegetation in the interior

portions. Interior vegetation is dominated by sapling green ash, winterberry, purple loosestrife, common reed, and various sedge species. Wetland 3 is characterized by seasonal flooding resulting in supporting vernal pool breeding habitat. As the system drains south it crosses an existing transmission right-of-way eventually draining into an open water body adjacent to the Northwest CT Rod & Gun Club access road (south).

Wetland vegetation, hydrology, and soils were assessed for all three on-Site wetlands. A man-made pond, located south of and surrounded on three sides by the Site, was neither surveyed nor delineated as it exists off the Site; it was mapped using remote sensing with in-field observation assistance. This pond is of anthropogenic origin with banks consisting of maintained lawn/sandy shoreline. Limited emergent vegetation or aquatic vegetation exists within the pond limits.

Vernal Pools Assessment

Calhoun and Klemens (2002) provide the following operational definition of vernal pools:

> *Vernal pools are seasonal bodies of water that attain maximum depths in the spring or fall, and lack permanent surface water connections with other wetlands or water bodies. Pools fill with snowmelt or runoff in the spring, although some may be fed primarily by groundwater sources. The duration of surface flooding, known as hydroperiod, varies depending upon the pool and the year; vernal pool hydroperiods range along a continuum from less than 30 days to more than one year. Pools are generally small in size (<2 acres), with the extent of vegetation varying widely. They lack established fish populations, usually as a result of periodic drying, and support communities dominated by animals adapted to living in temporary, fishless pools. In the region, they provide essential breeding habitat for one or more wildlife species including Ambystomid salamanders (Ambystoma spp., called "mole salamanders" because they live in burrows), wood frogs (Rana sylvatica), and fairy shrimp (Eubranchipus spp.).*

Vernal pool physical characteristics can vary widely while still providing habitat for indicator species. "Classic" vernal pools are natural depressions in a wooded upland with no hydrologic connection to other wetland systems. Often, vernal pools are depressions or impoundments within larger wetland systems. These vernal pool habitats are commonly referred to as "cryptic" vernal pools. Several species of amphibians depend on vernal pools for reproduction

and development. These species are referred to as indicator vernal pool species and their presence in a wetland during the breeding season helps to identify that area as a vernal pool.

Vernal pool surveys were conducted on March 10, 11, 16, 17 and 30 by APT in cooperation with Davison Environmental, LLC. Survey methods included visual surveys, live trapping, chorus surveys and cover searching. A total of five vernal pools were identified. Areas within 750 feet[1] of the Site were inspected for the potential of supporting vernal pool breeding habitat. Multiple vernal pools were identified on the Site within the wetlands.

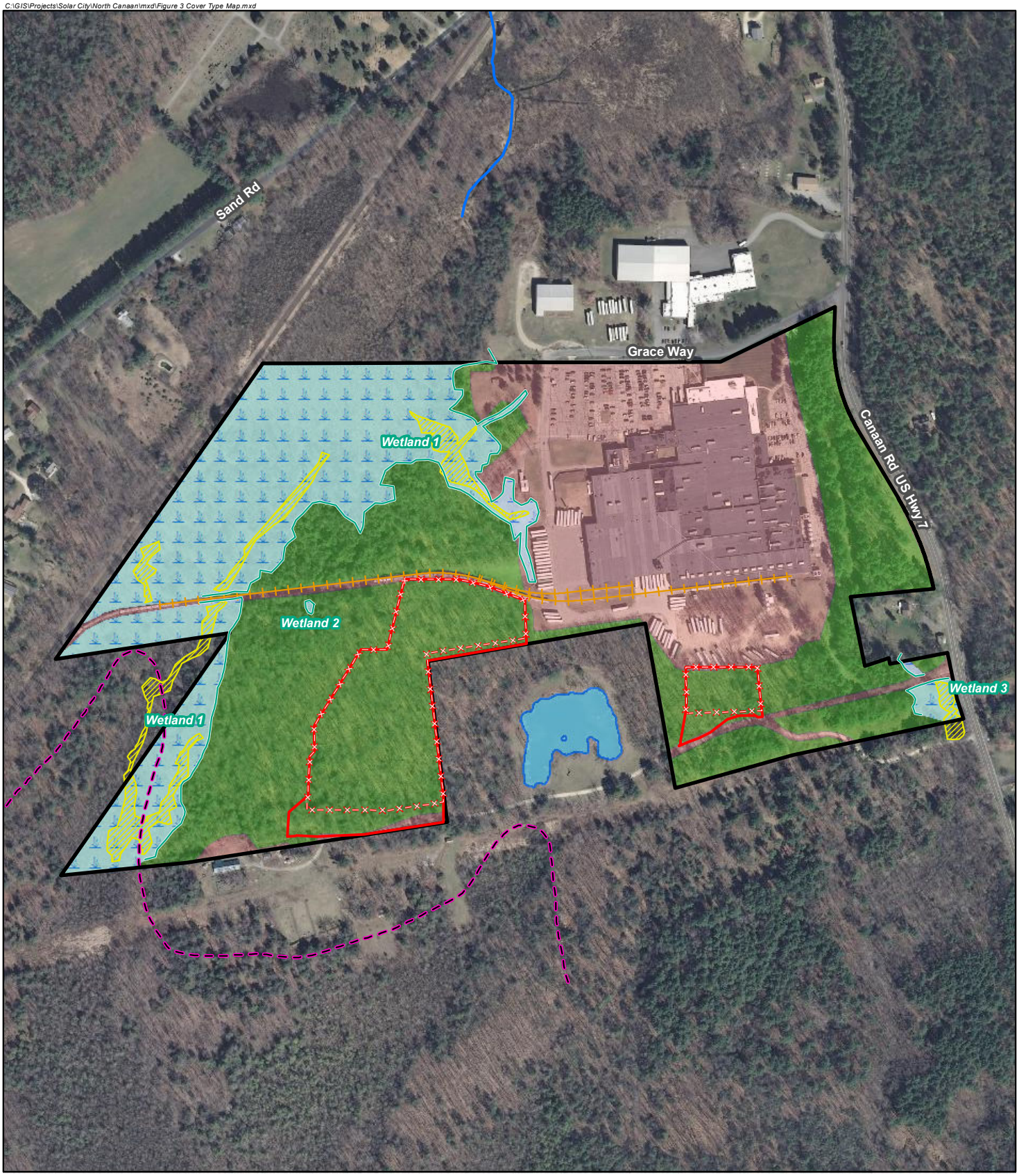
All vernal pools are cryptic vernal pools embedded within larger wetland systems. Vernal pools 1 through 4 are embedded within Wetland 1 while Vernal Pool 5 is embedded within Wetland 5. See Figure 3, *Cover Type Map*.

Three vernal pool indicator amphibian species were confirmed breeding on the Site; the wood frog (*Lithobates sylvaticus*), spotted salamander (*Ambystoma maculatum*) and the blue-spotted salamander complex (*Ambystoma laterale* complex). In addition to the amphibian indicator species observed, one vernal pool invertebrate indicator species was observed, fairy shrimp.
The blue-spotted salamander complex is a state-listed species of special concern. Five adult specimens were collected from the site under a Connecticut Department of Energy and Environmental Protection ("CTDEEP") Scientific Collector's Permit for future genetic analysis. These specimens will be catalogued at the American Museum of Natural History in New York. Additionally, a *Special Animal Survey Form* was completed and submitted to the CTDEEP documenting our observations.

Blue-spotted salamander complex was confirmed breeding within Vernal Pools 1, 2 and 4 and it is likely this species also breeds in Vernal Pool 3 due to its close proximity and suitable conditions. Vernal Pool's 1, 2 and 3 are located north of the rail spur on the Site and within a large wetland system that is part of the northerly extension of Robbins Swamp. The northerly limits of these pools were defined by a change in surface hydrology (lack of standing water or very shallow water) and a lack of egg masses.

[1] Consistent with the extent of the *Critical Terrestrial Habitat* (750 feet) conservation zone surrounding vernal pools as established by Calhoun and Klemens.

C:\GIS\Projects\Solar City\North Canaan\mxd\Figure 3 Cover Type Map.mxd



Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Ground-mounted Fenced Facility (+/- 8 acres)

Cover Type

- Developed
- Mixed Hardwood Forest
- Wetland Boundary
- Wetland Area (within Site Boundary)
- Vernal Pool
- CTDEEP Watercourse
- Railroad
- FEMA 100-Year Flood Line

Figure 3
Cover Type Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

N
W E
S

450 225 0 450
Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 450 feet *Map Date: June 2016*

SolarCity

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While these characteristics were used to map these breeding sites as cryptic vernal pools, it is noted that vernal pool amphibians are expected to breed in the portions of the wetland that lie north of these mapped pools.

Vernal Pool 1 represents the easternmost extension of Wetland 1. The Pool is located close to the existing Site development and is the discharge point for a large portion of the Site's stormwater. As a result, the Pool has a "flashy" storm driven hydrology, particularly the eastern portions of the Pool. Much of the wood frog egg masses observed were found within the discharge channel near the end of the stormwater outlet. Water in this Pool is turbid as a result of the stormwater and areas of scour and sediment deposition are prevalent. Evidence of historic fill was observed in wetland areas bordering Vernal Pool 1.

Vernal Pool 2 supported all three indicator species and also had the highest number of egg masses for each species. Although not confirmed during the field survey, it is likely that blue-spotted salamander complex also breeds in Vernal Pool 3.

Vernal Pool 4 is located south of the rail spur line and while large in size supported limited numbers of *Ambystomid* salamanders. Overall, Vernal Pool 4 has very limited areas with a long hydroperiod, due in part to its location at the watershed divide. There is a small centrally located stream within this Pool that is likely intermittent during the dry summer months. Much of the breeding activity was concentrated in this small headwater stream. Blue-spotted salamander were observed in Vernal Pool 4 during minnow trapping, but were confined to several small borrow pits bordering the railroad tracks that were likely excavated (historically) for fill.

No blue-spotted salamander was observed in Vernal Pool 5 (embedded within Wetland 3) during live trapping, and no egg masses were observed. Based on the lack of observations along with the location of this pool away from the Robbin's Swamp system and near the toe-of-slope on Church Hill, blue-spotted salamander are not likely breeding within Vernal Pool 5.

Tables 1 and 2 summarize the amphibians, reptiles and egg masses observed on the Site.

Table 1: Amphibians and reptiles observed during vernal pool survey

Common Name	Scientific Name
Blue-spotted salamander complex*	*Ambystoma laterale*
Spotted salamander*	*Ambystoma maculatum*
Wood frog*	*Rana sylvatica*
Red spotted newt	*Notopthalmus viridescens*
Green frog	*Lithobates clamitans*
bullfrog	*Lithobates catesbeiana*
Spring peeper	*Pseudacris crucifer*
Garter snake	*Thamnophis sirtalis*
Fairy shrimp*	*Anostraca sp.*

* Vernal Pool Indicator Species

Table 2: Egg mass survey results for vernal pool indicator species

Pool	Total Egg Masses		
	Wood Frog	Spotted Salamander	Blue-spotted Salamander complex
1	189	31	2
2	290	46	23
3	181	13	0
4	149	16	1
5	105	39	0

Notes

Blue-spotted salamander complex egg masses can be difficult to locate and differentiate from the egg masses of Spotted salamander. Therefore the egg mass totals should be considered approximate and conservative.

In order to assess these pools qualitatively, the methodology described in *Best Development Practices, Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States* (Calhoun and Klemens, 2002, a.k.a. the "BDP") was used. This assessment methodology utilizes a three-tiered rating system, with the tier designation determined by examining the biological value of the pool in conjunction with the condition of the habitat surrounding the pool, which is the area used by vernal pool amphibians during the

non-breeding season. The higher the species diversity and abundance coupled with an undeveloped and forested landscape surrounding the pool, the higher the tier rating. Tier 1 pools are considered the highest quality pools, while Tier 3 pools are the lowest.

All Vernal Pools meet the biological criteria (pg. 9, Section A) of Tier 1 vernal pools. This is due to the fact that all pools met one of the three following criteria:

1. Supported a minimum of two breeding indicator species;
2. Supported a state-listed species (i.e., blue-spotted salamander complex); and
3. Egg mass abundance exceeded the minimum egg mass threshold of 25.

The landscape condition portion of the BDP assessment (pg. 9, Section B) considers the level of development within 750 feet surrounding vernal pools. The assessment considers two management zones, referred to as the *Vernal Pool Envelope* ("VPE", 0-100ft) and the *Critical Terrestrial Habitat* ("CTH", 100-750ft).

Vernal pools 1 through 4 met the criteria for Tier 1 pools as they had no more than 25% development in the VPE and less than 50% development within the CTH. The landscape surrounding Pool 5 is heavily developed resulting in a Tier 3 rating. This Pool's VPE zone has 37% development along with another 7% (total 55%) considered biologically compromised[2] due to its location on the east side of Route 7. The CTH zone has 22% development with another 35% (total 57%) considered biologically compromised.

Vernal Pool 1 currently has a high level of development within both the VPE (25%) and the CTH (36%). The landscape condition in the VPE zone is at the threshold of 25% for a Tier 1 vernal pool.

Vernal pools 2, 3 and 4 have essentially no development within the VPE zone with the exception of the railroad spur line. However, the rail spur has a narrow footprint, approximately 30 feet wide and the tree canopy is nearly closed.

[2] Because the traffic volumes on Route 7 are expected to exceed 5-10 cars per hour, the terrestrial habitat located on the east side of the road is considered compromised as individuals utilizing such habitat will suffer higher vehicle mortality rates. Therefore this habitat is not considered in the undeveloped category as it cannot contribute in a positive manner to the long-term viability of the pool.

Vegetation and Wildlife

The Project Area is located primarily within areas of mature, upland mixed conifer and hardwood forest. As discussed in the previous sections, the Site includes numerous complex wetland habitats and vernal pools. These vegetative communities are depicted on Figure 3 and described below.

Mixed Hardwood Forest: A majority of the non-developed areas of the Site (51.5 acres) are dominated by mixed hardwood forest. The canopy composition consists of eastern white pine (*Pinus strobus*) and red oak (*Quercus Rubra*) with components of eastern hemlock (*Tsuga Canadensis*), trembling aspen (*Populus Tremuloids*), and red maple (*Acer rubrum*). The understory is dominated by a mixture of honeysuckle (*Lonicera sp.*), highbush blueberry (*Vaccinium corymbosum*), and mountain laurel (*Kalmia latifolia*). During the referenced inspections, it was noted that logging activities were occurring throughout a majority of the forested areas on the Site. Logging activities included a large overstory thinning (upwards of 75% canopy tree removal). Trees remaining in the overstory included red oak, eastern white pine, and trembling aspen. As part of the logging activities high amounts of slash was left down increasing cover and stabilizing any disturbed soils. Understory vegetation will likely rebound and remaining overstory trees will seek to fill in the large canopy gaps. Discussions with BD personnel revealed that similar, selective harvesting has periodically occurred at the Site over the past 25 years.

***Developed Land*:** Approximately 25.6 acres of the Site is developed with the BD and Company plant and surrounding paved areas (parking, storage and access).

Rare Species

The CTDEEP 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. State agencies are required to ensure that any activity authorized, funded or performed by a state agency does not threaten the continued existence of endangered or threatened species. Maps have been developed to serve as a pre-screening tool to help applicants determine if there is a potential impact to state listed species.

The NDDB maps represent approximate locations of endangered, threatened and special concern species and 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 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 landowner's rights whenever species occur on private property.

APT reviewed a *State-Listed Rare, Threatened & Endangered Animal & Plant Survey ("RTE")* report prepared by others[3] (dated July 14, 2015) that assessed the potential presence of numerous species identified by the CTDEEP NDDB (in an agency response letter dated January 12, 2015). The 2015 NDDB response letter identified the following vascular plant species potentially occurring on the Site:

- (*Asplenium montanum*) Mountain spleenwort
- (*Asplenium ruta-muraria*) Wallrue spleenwort
- (*Carex alopecoidea*) Foxtail sedge
- (*Carex aquatilis var. aquatilis*) Sedge
- (*Carex castanea*) Chestnut-colored sedge
- (*Coeloglossum viride*) Long-bracted green orchid
- (*Desmodium cuspidatum*) Large-bracted tick-trefoil
- (*Uvularia grandiflora*) Large-flowered bellwort

One state-listed plant species (Large-flowered bellwort) was documented south of the Site within the transmission line corridor. Reportedly, no additional listed plant species were observed during the July 6, 2015 survey. Ken Metzler a field ecologist experienced in identifying rare species in Connecticut performed an investigation of the Site and Project Area for the occurrence of the above listed rare plant species on June 2, 2016. The results of Mr. Metzler's investigation revealed that the Project Area does not support suitable habitat for any

[3] *State-Listed Rare, Threatened & Endangered Animal & Plant Survey* report prepared by TRC, Lowell, Massachusetts. This report included a Memorandum regarding rare plant species at the Site, prepared by Art Gilman, Biologist with Gilman & Briggs Environmental of Barre, Vermont.

of the listed plant species. Mr. Metzler confirmed the presence of Large-flowered bellwort off-site within the transmission corridor.

The NDDB letter also listed the following vertebrates:

- (*Ambystoma laterale*) Blue-spotted salamander
- (*Empidonax alnorum*) Alder flycatcher
- (*Liochlorophis vernalis*) Smooth green snake
- (*Lota lota*) Burbot
- (*Rana pipiens*) Northern leopard frog

Blue-Spotted Salamander

The blue-spotted salamander complex (*Ambystoma laterale complex*) is a medium-sized mole salamander with a narrow head, dark black ground coloration with bright blue flecks. Throughout southern New England, hybridization with the Jefferson Salamander (*Ambystoma jeffersonianum*) has occurred, resulting in a variety of genotypes and corresponding phenotypes (Klemens, 1993). Blue-spotted salamanders favor herbaceous-dominated floodplain wetlands for breeding but also breed in riparian wooded swamps. This species was observed in several of the vernal pools on the Site.

The potential for the Project area to support the other vertebrate species identified by CTDEEP (including alder flycatcher, leopard frog, green snake) is limited due to the fact that these three species are associated with early-successional habitats (i.e., non-forested habitats) which do not occur within or immediately adjacent to the Project area. These species were identified in the NDDB query based on their known occurrence within the overall Robbins Swamp wetland system. However, suitable habitat for these species lays offsite.

Alder Flycatcher

The alder flycatcher (*Empidonax alnorum*) is a state-listed avian species of special concern that inhabits wet thickets, breeding in brushy and shrubby wetlands (Lowther, 1999). Small patches of suitable habitat lie within the early-successional utility right-of-way south of the Project Area, with more optimal habitat lying in the large open canopy wetlands which lie a considerable distance north and south of the Site.

Smooth Green Snake

The smooth green snake (*Opheodrys vernalis*) is a species of special concern. Green snake favor open, un-forested habitats including meadows, pastures, fens, coastal grasslands, and mountaintop balds, but can also be found in transitional and lightly forested habitats such as grassy old fields with scattered shrubs and trees, as well as oak-pitch pine woodlands (Klemens, 1993). Suitable habitat for smooth green snake lies along the utility line corridor to the south of the Site as well as within the hunting club property to the south.

Burbot

Burbot (*Lota lota*) is a state-listed endangered fish species typically restricted to colder water similar to lake trout. Burbot is a member of the cod family and typically lives in freshwater deep lakes and cool water streams, which contain rock and log shelters. Suitable burbot habitat includes cold water streams, unrestricted free-flowing streams and large rivers and their associated riparian zones. Burbot primarily feed on crayfish, aquatic insects and smaller fish species. No suitable burbot habitat exists on the Site.

Leopard Frog

The northern leopard frog (*Lithobates pipiens*) is a species of special concern. In southern New England, Leopard Frogs are restricted to open, grassy habitats either along the floodplain of a large stream or river, in wetlands around the margins of large lakes, or in meadows adjoining tidal wetlands (Klemens 1993). While leopard frogs are known to occur in the larger Robbins Swamp system, no suitable habitat was found on the Site. The wetlands present are forested and lack marsh vegetation favored by this species. Suitable leopard frog habitat lies adjacent to floodplain wetlands associated with the Hollenbeck and Housatonic Rivers.

Spotted Turtle and Wood Turtle

Although not directly observed during the vernal pool survey, based on the habitat conditions present at the Site two additional species are potentially present.

The spotted turtle (*Clemmys guttata*) is a vernal pool associated species recently listed as a species of special concern in the State. The habitats present on the Site, particularly Wetland 1 and the adjacent forested habitat, represent suitable habitat for this species. Suitable open and early-successional habitats used for nesting and basking can be found within the railroad bed and the utility right-of-way located primarily on the adjacent parcels to the west and south.

Another species of special concern, Wood turtle (*Glyptemys insculpta*) are also known to occur in the watershed (Klemens, 1993). The Site contains no perennial streams which are the primary habitat used by wood turtle. Therefore, significant Site use is not anticipated. However, given the known movement patterns of this species, utilization of the western portions of the Site in particular cannot be ruled out.

Unusually cold weather blanketed the state after vernal pool breeding had commenced and remained during the vernal pool survey efforts which decreased the likelihood of observing reptiles such as the spotted turtle and wood turtle.

As part of this assessment, APT reviewed the most recent CTDEEP NDDB mapping (December 2015) to determine the extent of potential species or habitats occurring within the vicinity of the Site. APT submitted an updated request to the CTDEEP NDDB in February 2016 which included a description of the Project, Site plans, photographs, the recent mapping and the RTE report. No response has been received from the agency to date. Copies of the current CTDEEP NDDB mapping and agency correspondence (January 12, 2015 initial response letter) are provided in Appendix A.

Water Quality

Groundwater underlying the majority of the Site is classified by the CTDEEP as "GA". This classification indicates groundwater within the area is presumed to be suitable for human consumption without treatment. Designated uses in GA-classified areas include existing private and potential public or private supplies of drinking water and base flow for hydraulically-connected surface water bodies. A portion of the Site, generally in the area of the existing Site development (south of Grace Way, west of Route 7, and north of the railroad siding) is classified by the CTDEEP as "GA, GAA may not meet current standards".

Based upon a review of available CTDEEP mapping, the Site is not located within a mapped preliminary or final Aquifer Protection Area ("APA"). A final (Level A Adopted) APA (North Canaan (Eddy) A 26) is located approximately 2,000' northeast of the Site.

Based upon CTDEEP mapping, the Site is located in Major Drainage Basin 6 (Housatonic River). The northern portion of the Site is located in Regional Basin 61 (Blackberry River); Subregional Drainage Basin 6100 (Blackberry River); and Local Drainage Basin 6100-00 (Blackberry River).

The southern portion of the Site is located in Regional Basin 62 (Hollenbeck River); Subregional Drainage Basin 6200 (Hollenbeck River); and Local Drainage Basin 6200-07 (Swamp Brook at mouth above Hollenbeck River).

No surface water bodies are located on the Site. The nearest open water is the man-made pond on the adjacent property to the south. This pond is not depicted on CTDEEP mapping, and is therefore considered to be classified by the CTDEEP as a Class A surface water body. 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.

Historic and Archaeological Resources

APT and Heritage Consultants, LLC ("Heritage") reviewed relevant historic and archaeological information to determine whether the Site holds potential cultural resource significance. Based on the results of Heritage's Preliminary Archeological Assessment report (dated February 8, 2016), no reported historical resources sites exist at or within 0.5 mile of the Site. There are numerous reported archaeological sites[4] near the Site, as identified by the American Indian Archaeological Institute as part of its investigations of the Robbins Swamp Basin. One reported archaeological site lies close to the proposed eastern-most ground mount solar array. APT submitted Project information and the Heritage report to the State Historic Preservation Office ("SHPO") for review and comment. The SHPO responded in writing on April 4, 2016, requesting a professional cultural resource reconnaissance survey be completed prior to construction.

Heritage completed the cultural resource assessment reconnaissance survey field work in May, 2016. Completion of the subsurface testing in the Project Area failed to produce any evidence of cultural resources. Thus, Heritage recommended no additional fieldwork in the Project Area. A Management Summary of the results of the professional cultural resource assessment and reconnaissance survey has been submitted to the SHPO and are currently under review.

The *Management Summary* for the Cultural Resource Reconnaissance Survey report is included in Appendix B.

[4] These "reported sites" consist of locations that have been buffered so as not reveal the specific locations of potentially sensitive artifacts/human remains.

Geology and Soils

Soils encompassing the Site and surrounding area are classified as a mix of depression, outwash and urban soils consisting of the following types: Udorthents-Urban Land complex, Hinckley, Deerfield, Scarboro, Catden and Freetown soils, based digitally available soil survey information obtained from the Natural Resources Conservation Service ("NRCS")[5].

Bedrock geology beneath the Site is identified as Unit A – Stockbridge Marble Formation of the Lower Cambrian era. The Stockbridge Marble Formation is described as a white to gray, massive to layered marble, generally dolomitic but containing calcite marble in its upper part, locally interlayered with schist or phyllite and with calcareous siltstone or sandstone. Unit A of this bedrock type is described as a white to pale-gray, massive, smooth-weathering dolomite marble[6].

Floodplain Areas

APT reviewed the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("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 community. The area of the Site is mapped on FIRM PANEL #0901490014C, dated January 2, 2008. Based upon the reviewed FIRM Map, the Site is designated as Zone X, which is defined as an area of minimal flooding. The extreme southwestern portion of the Site, beyond the Project Area, is designated as Zone A, which is defined as a Special Flood Hazard Area.

[5] NRCS Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/, accessed on April 29, 2016.

[6] Bedrock geologic information obtained from the United States Geological Survey Web Mineral Resources On-Line Spatial Data, Connecticut Geologic Map Data, https://mrdata.usgs.gov/geology/state/state.php?state=CT, accessed February 8, 2016

Noise

A Noise Evaluation Study was prepared for the Project by HMB Acoustics LLC of Avon, Connecticut[7]. Based on sound measurements obtained at the Site and adjacent locations, the average levels range from 50 to 55 dBA[8].

Lighting

Lighting exists at the BD and Company facility today, which operates on a 24/7 basis.

Scenic and Recreational Areas, Parks and Other Surrounding Features

The locations of these resources within the Site vicinity are listed in Table 3. Figure 4, *Surrounding Features Map*, depicts these locations relative to the Site.

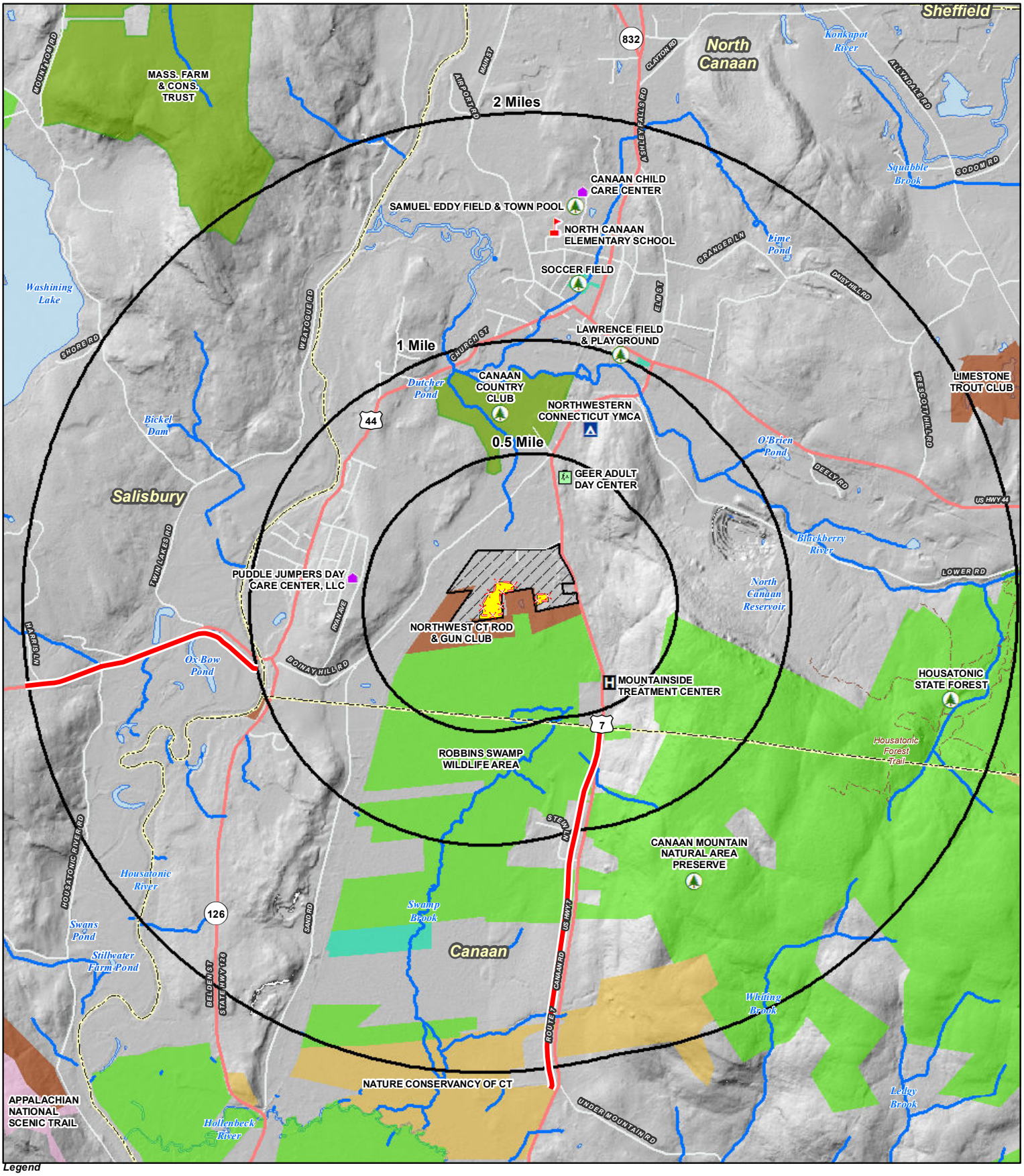
[7] The HMB report is provided in Appendix F. See also the Noise discussion in Effects on Environment section of this document.

[8] Sound measurements obtained on January 26, 2016 by HMB Acoustics LLC, of Avon, Connecticut.

Table 3: Surrounding Features within the Site Vicinity

Resource Type	Name	Address*	Distance from Project Area
Daycare	Puddle Jumpers Day Care Center, LLC	19 Park Avenue	0.56 mile W
	Canaan Child Care Center	20 Whiting Drive	1.7 miles N
Community Center	None		
Senior Center	Geer Adult Day Center	83 South Canaan Road	0.4 mile N
Hospital	Mountainside Treatment Center - Drug Addiction Treatment	187 South Canaan Road, Canaan	0.59 mile SE
School	North Canaan Elementary School	90 Pease Street	1.45 miles N
Recreational / Park	Appalachian National Scenic Trail Protected Open Space Area	Salisbury	3 miles SW
	Samuel Eddy Field	Whiting Drive	1.6 miles N
	Canaan Country Club	74 High Street	0.4 mile N
	Housatonic State Forest	Route 7	0.5 mile SE
	Nature Conservancy of CT	Access off Legeyt Road, Canaan	1.6 miles S
	Robbins Swamp Wildlife Area	North Canaan and Canaan	300 feet S
	Canaan Mountain Natural Area Preserve	Access point off of Lower Road	0.8 mile SE
	Limestone Trout Club	29 Allyndale Road, Canaan	2.47 miles NE
	Massachusetts Farm & Conservancy Trust	Salisbury	2.12 miles NW
National Register of Historic Places	Canaan Village Historic District	Canaan	1 mile N
	Samuel Forbes Homestead	89 Lower Road	1.2 miles NE
	Lawrence Isaac House	Elm Street	1 mile NE
	Union Depot	US Route 44	1.16 miles N
Scenic Highways	Route 44	Salisbury	1 mile W
	Route 7	Canaan	0.6 mile S
Youth Camp	Northwestern Connecticut YMCA	77 South Canaan Road	0.66 miles NE

***All locations in North Canaan, except where noted.**



Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Ground-mounted Fenced Facility (+/- 8 acres)
- 0.5-2-Mile Radii
- Open Water
- Scenic Highway
- Municipal Boundary
- Municipal and Private Open Space Property (CTDEEP GIS)

Protected Open Space Property (CTDEEP GIS)

- Federal
- Land Trust
- Municipal
- Private
- State
- Trail

Surrounding Features

- Licensed Child Day Care
- Hospital
- Public School
- Recreation / Park
- Senior Center
- Youth Camp

N W E S

3,000 1,500 0 3,000 Feet

Base Map Source: ESRI & CTECO Shaded Relief
Map Date: June 2016

Figure 4
Surrounding Features Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

SolarCity
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Effects on the Environment

This section analyzes and discusses the Project's potential impacts on the environment and demonstrates that it will have no significant adverse environmental effects.

Proposed Project Development

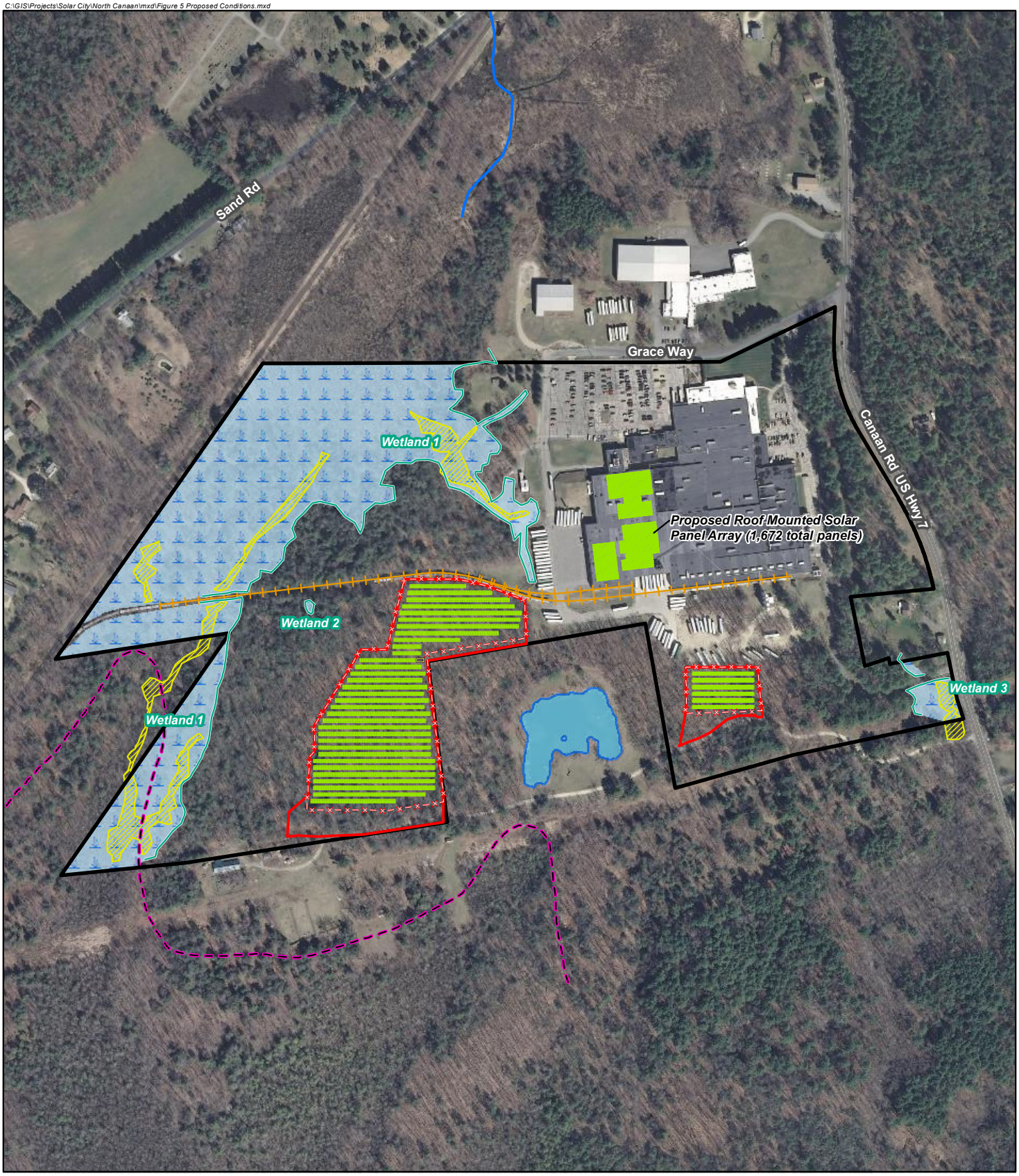
The 2.8 MW Project will provide ±7% of the electric power needs of the BD and Company operations and includes three (3) separate solar arrays. Two arrays will be ground-mounted while the third will be constructed on the rooftop of the existing BD and Company warehouse/distribution building. The larger of the two ground mounted arrays will be developed on the southwest portion of the Site, while a smaller ground-mounted component will occupy the southeast corner of the Site. The ground-mounted portion of the Project requires approximately ±9 acres of disturbance and upon its completion the fence-enclosed arrays would cover ±8 acres of the 77.1-acre Site. The western array will occupy ±7 acres and the eastern array ±1 acre.

The Project design has changed substantially over the past several months due to physical Site constraints imposed by nearby environmental resources. Initially, SolarCity envisioned developing a 3.9-MW Facility that required an expanded ground area totaling ±15.5 acres (with the arrays occupying ±12.5 of those acres once constructed). Based on the presence of nearby wetlands and vernal pools, and the potential for impacts to these resources, ground disturbances to accommodate the Facility were reduced to ±9 acres resulting in a decrease of electric power generation to 2.28 MW. SolarCity worked with the Site owner, BD and Company, to design a ±14,667 square foot, ±0.52-MW solar array installation on available areas of the building roof to make up for the loss of additional ground-mounted arrays.

The Project Area is comprised primarily of woodlands, which will be removed to accommodate the pile-driven ground mounted racking system units. Beyond the tree removal activities, new soil disturbances will be minimized to facilitate the installation of the solar arrays and associated equipment. The Project Area is relatively uniform and areas where regrading is necessary can be generally accomplished without significant cuts and/or fills.

Figure 5, *Proposed Conditions Map*, depicts the proposed Project layout.

C:\GIS\Projects\Solar City\North Canaan\mxd\Figure 5 Proposed Conditions.mxd



Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Ground-mounted Fenced Facility (+/- 8 acres)
- Solar Module Array
- Electrical Equipment
- Wetland Boundary
- Wetland Area (within Site Boundary)
- Vernal Pool
- CTDEEP Watercourse
- Railroad
- FEMA 100-Year Flood Line

Figure 5
Proposed Conditions Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

N
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450 225 0 450
Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 450 feet *Map Date: June 2016*

SolarCity

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Public Health and Safety

The Project would be designed to applicable industry, State, and local codes and standards and would not pose a safety concern or create undue hazard to the general public. The Facility would not consume any raw materials, would not produce any by-products and would be unstaffed during normal operating conditions. The individual modules of the Facility will be secured behind the existing fence enclosures that surround the Site.

Overall, the Project will meet or exceed all health and safety requirements applicable to electric power generation. Each employee working on Site will:

- Receive required general and Site specific health and safety training;
- Comply with all health and safety controls as directed by local and state requirements;
- Understand and employ the Site health and safety plan while on the Site;
- Know the location of local emergency care facilities, travel times, ingress and egress routes; and
- Report all unsafe conditions to the construction manager.

Construction equipment will be required to access the Site during normal working hours. Please refer to the *Construction Schedule* and *Construction Work Hours/Days Letter* provided in Appendix C and Appendix D, respectively. After construction is complete and the Facility (unstaffed) is operable, traffic at the Site will be minimal. Four times per year the site will be mowed. Routine maintenance of the electrical equipment will occur once per year. Any equipment that breaks down will be repaired on an as needed basis. Annual maintenance will typically involve two technicians at the Facility for a day. 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 25 degrees, further reducing reflectivity.

Local, State and Federal Land Use Plans

The Project is consistent with local, State, and Federal land use plans, including the Northwest Connecticut Council of Government's 2008 Regional Plan of Conservation and Development, which outlines the need to protect the rural nature and pristine views of the region. This Project will allow the region to benefit from the renewable energy it produces while keeping in sync

with the recommendations of the Northwest Connecticut Council of Government's Regional Plan. The Project also supports the State's energy policy by developing a renewable energy resource while not having a substantial adverse environmental effect.

Existing and Future Development

The Project will supply BD and Company with approximately 7% of its overall electrical power requirements through use of "green energy" while reducing the company's carbon footprint.

Roads

The existing interior parking areas and service roads at the Site will provide access into the Project Area. The Project's primary access will originate off Grace Way.

Wetlands

No wetlands or watercourses will be directly impacted by the Project. The closest construction activity to a wetland or watercourse resource would occur within approximately 70 feet (south) of the eastern end of Wetland 1 where it adjoins the developed portions of the Site; however, this portion of the wetland is physically separated from the Project Area by the elevated rail line. More importantly, the Project's limits of disturbance will be set back a minimum of 345 feet to the remaining portions of Wetland 1. No activities will occur within 200 feet of Wetland 2 or within ±500 feet of Wetland 3.

Potential short term temporary impacts associated with the Project's construction activities will be minimized by the proposed sedimentation and erosion controls, which would be designed, installed and maintained during construction activities in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. Potential long term secondary impacts to wetland resources possibly associated with the operation of this Facility are minimized by the fact that it will be unstaffed (generating negligible traffic) and avoids the installation of impervious surfaces by using existing access drives and treating the majority of the surface around the solar installation with native grass/vegetation. Based on a review of the Project plans and the Stormwater Management Report (please see Attachments 3 and 4 of the Petition), the stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 *Connecticut Stormwater Quality Manual*. By implementing these protective measures, the Project will not result in an adverse impact to wetlands.

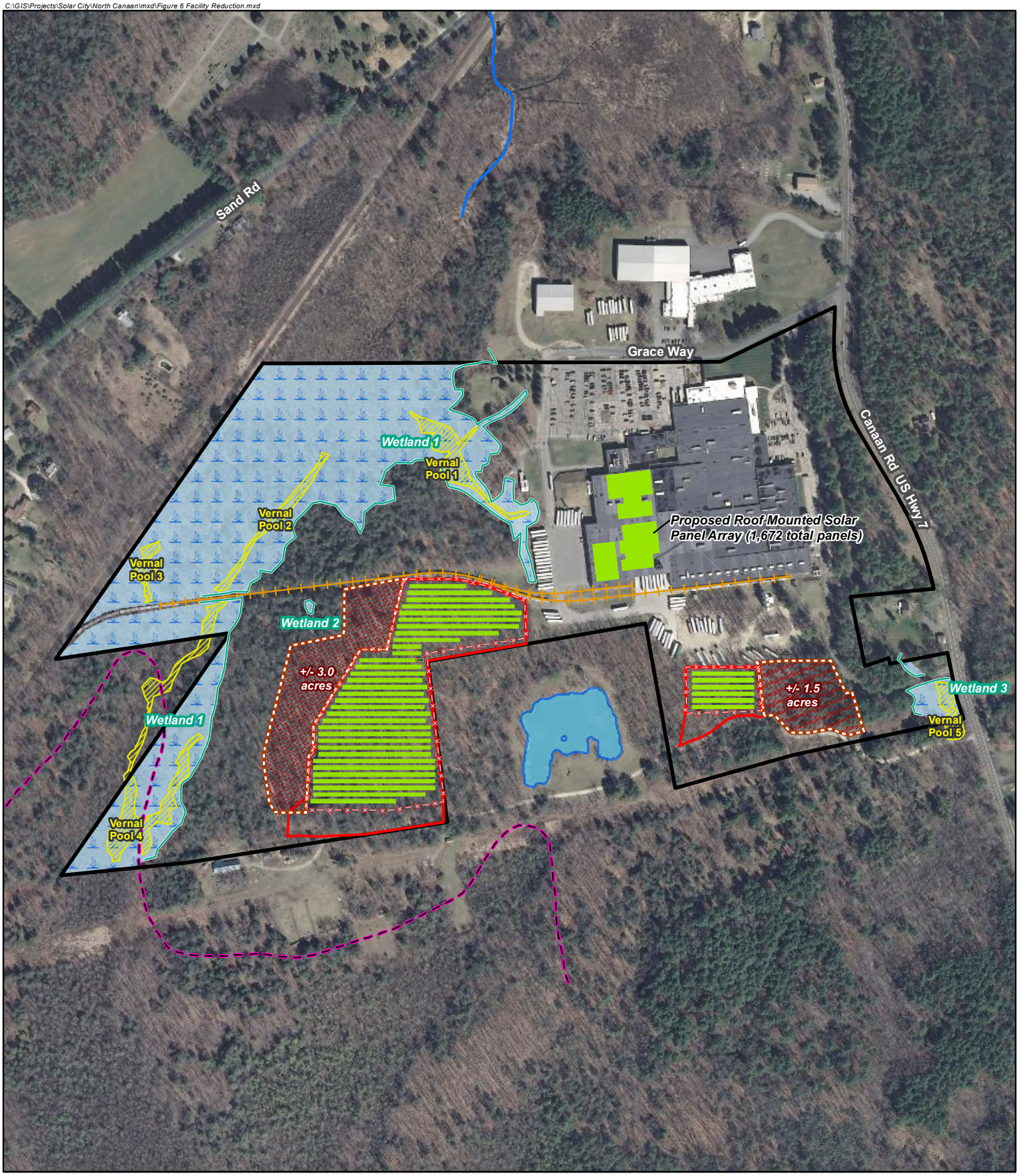
Vernal Pools Impact Analysis

The Project design has changed substantially over the past several months due to physical Site constraints. Initially, SolarCity and BD and Company envisioned developing a 3.9-MW Facility using expanded ground locations requiring ±15.5 acres of disturbance to accommodate a 12.5-acre Facility that would have provided over 10% of the electric power needs of the BD and Company operations. Based on the presence of nearby wetland and vernal pool resources, and the potential for impacts, the solar Facility was reconfigured and reduced in size by ±4.5 acres (and eliminated nearly 6.5 acres of additional ground disturbance). This required down-sizing the western array by ±3 acres and the eastern array by ±1.5 acres, resulting in a Facility capacity of ±2.28 MW. The revised layout significantly reduces potential impacts to wetlands and vernal pool CTH Areas on the Site. To compensate for the loss of capacity, SolarCity worked with BD and Company to use available portions of the roof of the existing building. The proposed rooftop arrays would allow SolarCity to gain back approximately 0.52 MW of electric generating capacity. It is important to note that this proposed modification reduces potential electrical power generation down to ±7% of BD and Company's load. SolarCity and BD and Company are in agreement with this design change to minimize potential impacts to CTH areas. The original and reduced ground-mounted layouts are depicted on Figure 6, *Facility Reduction*.

No activity is proposed within any vernal pool VPE management zone. This will protect habitat that is critical to preserving vernal pool water quality and detritus sources. These areas also provide habitat for breeding adults as well as emerging metamorphs. A small level of development (less than 10%) is proposed within the CTH zones of all pools.

Table 4 summarizes Project impacts within the CTH management zones, comparing the original ground-mount layout and the proposed revised Project.

C:\GIS\Projects\Solar City\North Canaan\mxd\Figure 6 Facility Reduction.mxd



Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Ground-mounted Fenced Facility (+/- 8 acres)
- Solar Module Array
- Electrical Equipment
- Ground-mounted Facility Reduction (+/- 4.5 acres)
- Wetland Boundary
- Wetland Area (within Site Boundary)
- Vernal Pool
- CTDEEP Watercourse
- Railroad
- FEMA 100-Year Flood Line

Figure 6
Facility Reduction

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

N
W E
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450 225 0 450
Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 450 feet *Map Date: June 2016*

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Table 4 Vernal Pool Impact Analysis

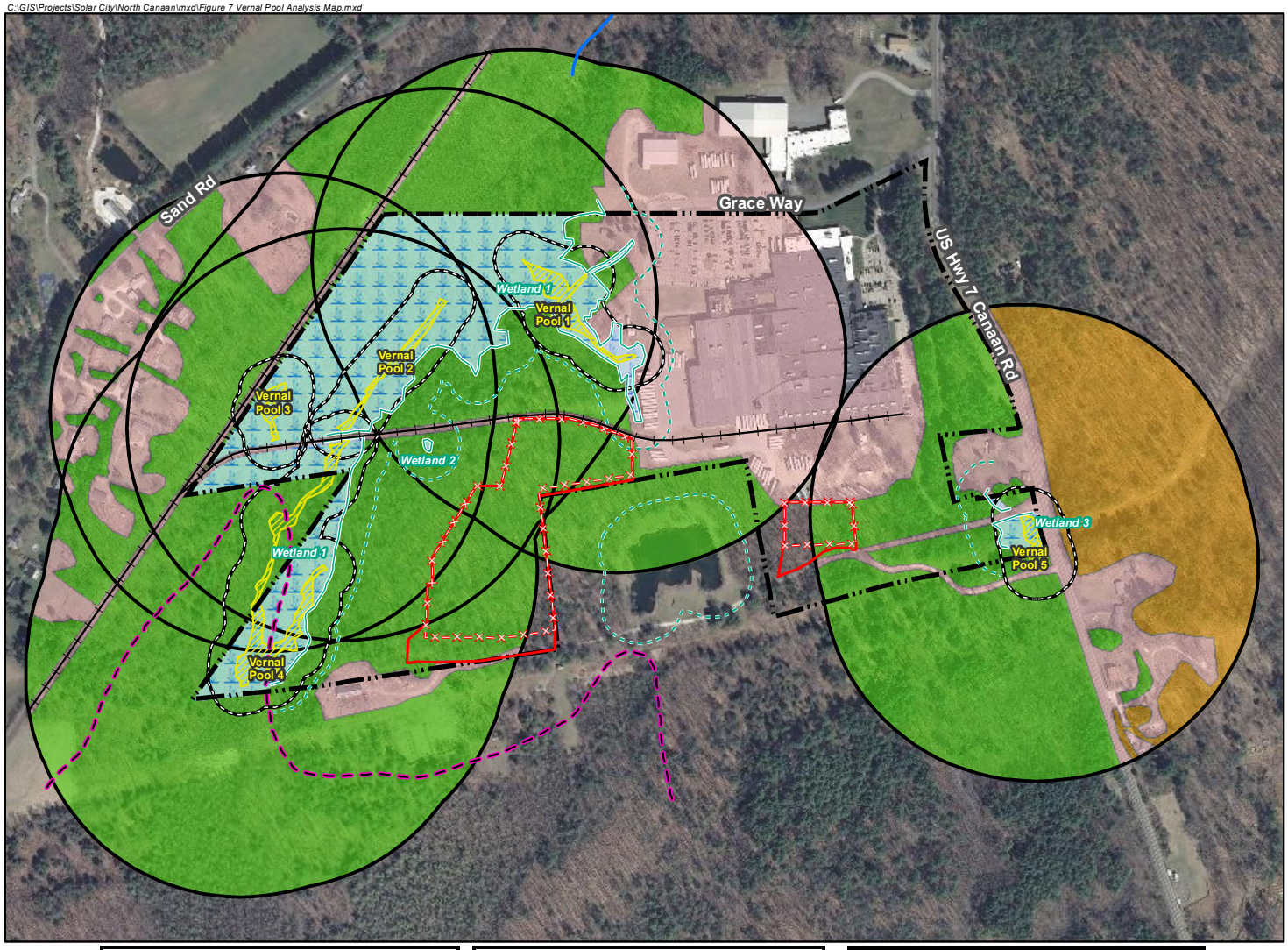
Vernal Pool	Percent Existing CTH Development	Percent Increase in CTH Development as Proposed	Percent Increase in Original Layout	Percent Change Reconfigured Project	Total Post-Development CTH Final
1	36%	6%	8%	-2%	42%
2	14%	8%	11%	-3%	22%
3	23%	1%	2%	-1%	24%
4	11%	9%	10%	-1%	20%
5	22%	1%	3%	-2%	23%

Vernal pools 2, 3 and 4 comply with the BDP manual in that no development is proposed within the VPE and less than 25% development is proposed within the CTH zone. This will protect the aforementioned function of the VPE habitat, and will also protect ample CTH habitat which is used by blue-spotted salamander and other vernal pool indicator species during the non-breeding season for foraging, dispersal, breeding migration and hibernation. Most notably, Vernal Pool 2, which was identified as the principal breeding area for blue-spotted salamander on the Site, will be protected.

The landscape surrounding Vernal Pool 5 will remain essentially unchanged, with no development proposed within the VPE and only 1% development proposed within the CTH.

Vernal Pool 1 is a Tier 1 pool using the pre-development assessment methodology, but already contains 36% development within the CTH. Because the BDP guidelines recommend no more than 25% development within the CTH, Pool 1 is currently not in compliance with the BDP. A strict interpretation of the guidelines would indicate that no additional development should occur within this Vernal Pool's CTH. The Project has been through numerous iterations and was re-designed to minimize development within this area, resulting in a small increase of 6% within the Pool's CTH. *See* Figure 7*, Vernal Pool Analysis Map*.

C:\GIS\Projects\Solar City\North Canaan\mxd\Figure 7 Vernal Pool Analysis Map.mxd



Vernal Pool 1
100' Vernal Pool Envelope: ±4.24 acres
100'-750' Critical Terrestrial Habitat Area: ±58 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±1.08 acres	25%
Undeveloped	±3.16 acres	75%
Existing Critical Terrestrial Habitat Areas:		
Developed	±21 acres	36%
Undeveloped	±37 acres	64%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±24.45 acres	42%
Undeveloped	±33.55 acres	58%

Vernal Pool 2
100' Vernal Pool Envelope: ±4 acres
100'-750' Critical Terrestrial Habitat Area: ±58 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.2 acres	5%
Undeveloped	± 3.8 acres	95%
Existing Critical Terrestrial Habitat Areas:		
Developed	±8 acres	14%
Undeveloped	±50 acres	86%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±12.3 acres	21%
Undeveloped	±45.7 acres	79%

Vernal Pool 3
100' Vernal Pool Envelope: ±2 acres
100'-750' Critical Terrestrial Habitat Area: ±47 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.2 acres	10%
Undeveloped	±1.8 acres	90%
Existing Critical Terrestrial Habitat Areas:		
Developed	±10.7 acres	23%
Undeveloped	±36.3 acres	77%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±11.1 acres	24%
Undeveloped	±35.9 acres	76%

Vernal Pool 4
100' Vernal Pool Envelope: ±8.2 acres
100'-750' Critical Terrestrial Habitat Area: ±71 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.2 acres	2%
Undeveloped	±8 acres	97%
Existing Critical Terrestrial Habitat Areas:		
Developed	±8 acres	11%
Undeveloped	±63 acres	89%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±13.9 acres	20%
Undeveloped	±57.1 acres	80%

Vernal Pool 5
100' Vernal Pool Envelope: ±2.08 acres
100'-750' Critical Terrestrial Habitat Area: ±47 acres

No Impact to 100' Vernal Pool Envelope		
Developed	±0.77 acres	37%
Undeveloped	±1.16 acres	56%
Restricted Habitat	±0.15 acres	7%
Existing Critical Terrestrial Habitat Areas:		
Developed	±10.2 acres	22%
Undeveloped	±20.5 acres	43%
Restricted Habitat	±16.3 acres	35%
Proposed Critical Terrestrial Habitat Areas:		
Developed	±10.8 acres	23%
Undeveloped	±19.9 acres	42%
Restricted Habitat	±16.3 acres	35%

Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Ground-mounted Fenced Facility (+/- 8 acres)
- Railroad
- CTDEEP Watercourse
- FEMA 100-Year Flood Line
- Wetland Boundary
- 100' Wetland Buffer
- Wetland Area (within Site Boundary)
- Vernal Pool
- 100' Vernal Pool Envelope
- 100'-750' Critical Terrestrial Habitat Area

Habitat Type

- Developed
- Undeveloped
- Restricted Habitat

N W E S

600 300 0 600 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale:1 inch = 600 feet
Map Date: June 2016

Figure 7
Vernal Pool Analysis Map

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

SolarCity

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Vernal Pool 1 is a Tier 1 pool using the pre-development assessment methodology, but already contains 36% development within the CTH. Because the BDP guidelines recommend no more than 25% development within the CTH, Pool 1 is currently not in compliance with the BDP. A strict interpretation of the guidelines would indicate that no additional development should occur within this Vernal Pool's CTH. The Project has been through numerous iterations and was re-designed to minimize development within this area, resulting in a small increase of 6% within the Pool's CTH. *See* Figure 7*, Vernal Pool Analysis Map*.

At present, the VPE zone of Vernal Pool 1 is constricted to the east, with disturbed/degraded habitat present along the pool's perimeter. Recognizing the Project's encroachment into the CTH, a Vernal Pool Mitigation Plan is proposed to offset habitat loss through habitat restoration. The mitigation plan will reestablish portions of this important habitat zone, resulting in a single contiguous band of available VPE habitat post-restoration. This Vernal Pool Mitigation Plan is discussed in the following section.

Vernal Pool Mitigation Plan

As a result of the Project encroaching within the CTH of vernal pools, a mitigation plan is proposed that will enhance currently degraded areas adjacent to vernal pool habitat.

The proposed mitigation strategy is to improve these historically filled wetland areas bordering Vernal Pool 1, which contains impacts within the eastern portions of both the VPE and CTH (primarily in the form of existing development associated with the BD and Company facility). Impacts within the VPE currently total approximately 25% of the area. As established in Calhoun and Klemens "Best Development Practices", the first 100 feet bordering a vernal is the most critical area for protection. Upon inspection of the VPE of Vernal Pool 1 it was noted that a large area immediately to the east contained historically filled and altered areas (classified as in the existing 'developed' condition in the Vernal Pool Impact Analysis).

Areas bordering Vernal Pool 1 were overlain with spoils likely originating from the digging of the drainage ditch that feeds the wetland system supporting this resource. Areas north and south of these filled areas contain bordering vegetated wetlands, while areas to the west border Vernal Pool 1. As such, this area was identified as a potentially high value mitigation area that, if enhanced, could rehabilitate a large portion of the VPE. The net total of all filled areas

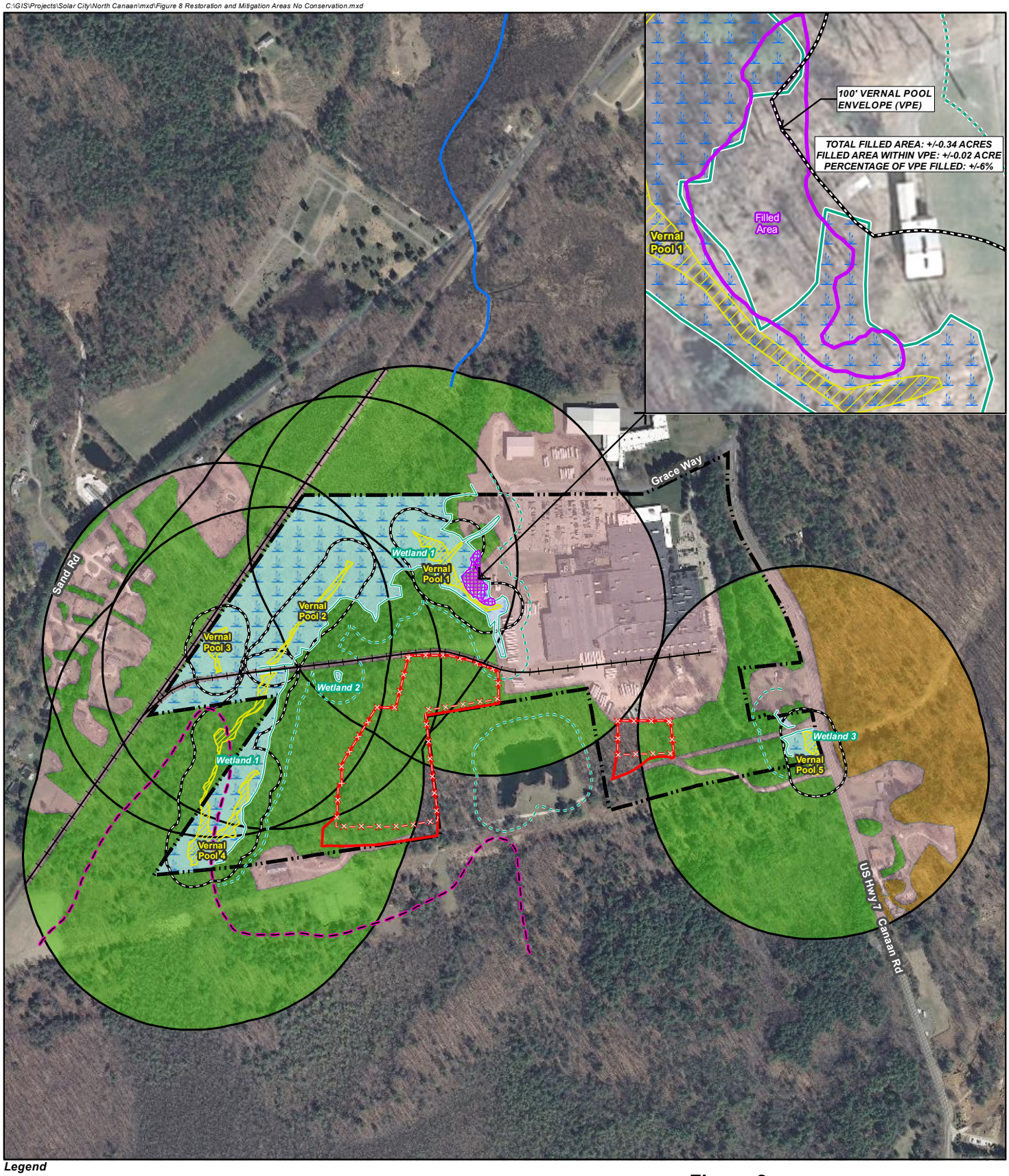
located within the VPE is 0.32 acre. See the *Vernal Pool Mitigation Areas Photo-documentation* in Appendix E depicting representative conditions of the proposed restoration area.

Enhancement of historically filled wetland areas bordering Vernal Pool 1 would include the spreading/leveling of any large fill piles placed in Wetland 1, as noted on Figure 8 *Restoration and Mitigation Areas*.

Portions of the filled areas are currently vegetated with a mix of trembling aspen, red maple, and red oak. Any mature trees will be protected during the enhancement. Understory areas are composed of some invasive species dominance including honeysuckle. Existing invasive shrubs will be treated and eradicated prior to planting of the enhancement area. In addition, considering these filled areas are compacted, the surface will be broken up using a tiller or suitable alternative to allow for easier plant growth. Topsoil will then be placed within all mitigation areas to a sufficient depth to establish new plant growth. In areas were trees will be planted, prior over excavation of the planting hole will be performed and additional placement of topsoil will be utilized to assist planted tree survivorship.

Subsequently, upland forest plantings will be installed throughout the enhancement area to stabilize and revegetate forest the affected areas. A planting plan will be developed under the direction of an environmental professional experienced in wetland mitigation/enhancement that will promote the regeneration of terrestrial forest habitat. Enhanced terrestrial areas will be protected by a leaf, straw or other suitable alternative mulch and under sown with the seed mix "New England Conservation Seed Mix" or an approved substitute. In addition, signage will be installed at the edge of the enhancement areas identifying them as protected and sensitive to promote the prevention of potential future impacts and degradation.

C:\GIS\Projects\Solar City\North Canaan\mxd\Figure 8 Restoration and Mitigation Areas No Conservation.mxd



Legend

- Site Boundary
- Project Area (and limit of demo/clearing; ±9 acres)
- Ground-mounted Fenced Facility (+/- 8 acres)
- Railroad
- CTDEEP Watercourse
- FEMA 100-Year Flood Line
- Wetland Boundary
- 100' Wetland Buffer
- Wetland Area (within Site Boundary)
- Vernal Pool
- 100' Vernal Pool Envelope
- 100'-750' Critical Terrestrial Habitat Area
- Developed Habitat
- Undeveloped Habitat
- Restricted Habitat
- Proposed Mitigation Area (+/- 0.34 acres)

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Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 600 feet
Map Date: June 2016

Figure 8
Restoration and Mitigation Areas

Proposed Solar Facility
7 Grace Way
North Canaan, Connecticut

SolarCity

ALL-POINTS TECHNOLOGY CORPORATION

Vegetation and Wildlife

The Project will consist of approximately ±9 acres of ground disturbance, the entirety of which is located within mature forested uplands. The solar arrays and gravel and grass surfaces associated with the construction of the Project will alter the habitat types present on the Site. Provided below is an analysis of impact to the Site habitats.

Mixed Hardwood Forest: Forested habitats impacted by the proposed Project exist in two patches located in the southeast and southwest portions of the Site. A majority of the ±9 acres of forest proposed to be cleared is located in 'edge' forest habitat resulting from peripheral access roads, the rail line, the proximate existing developments and varying degrees of logging impacts. However, the west side of the western module supports some core forest habitat. In addition, a majority of the forested areas affected by the Project are located within CTH associated with nearby vernal pools. As a result of the removal of some edge forest habitat and potential impacts to wildlife populations that may be using these areas, SolarCity has proposed the mitigation strategy introduced above.

Rare Species

No suitable habitat exists within the Project Area to support State-listed plant species.

With respect to vertebrates, the blue-spotted salamander complex was observed in several of the vernal pools on the Site and utilizes both these resources and adjoining uplands. As discussed previously, SolarCity and BD and Company are committed to protecting habitat favored by blue-spotted salamander complex to the extent practicable and have proposed mitigation designed to enhance previously degraded portions of the Site proximate to Vernal Pool 1.

Ample habitat for spotted turtle will remain post-development, and critical movement corridors between habitats will not be severed. The remainder of the vertebrate listed species identified by CTDEEP should not be affected by the Project because their habitat preferences are associated with early-successional habitats (i.e., non-forested habitats in the case of alder flycatcher, leopard frog, green snake) which do not occur within or immediately adjacent to the Project area. No suitable burbot habitat exists at the Site.

Pending APT's review of CTDEEP's Site evaluation and potential impact on State-listed species, appropriate mitigation strategies would be developed put in place to prevent potential risk of harm to those populations, if necessary. A copy of the CTDEEP's response letter will be provided to the Council upon receipt.

Wildlife Impact Mitigation Measures

Habitat Enhancement Measures: Once the perimeter fence has been installed, a narrow strip of land (of varying widths bordering vegetated community types) between the perimeter fence and the newly-created forest edge will need to remain clear (non-forested) to prevent shading of the solar arrays. This area can be managed for wildlife by restricting mowing on a rotation basis every 4 to 7 years. This will create a "soft" ecotone that will provide cover and habitat for a number of "edge" species.

Northern Long–Eared Bat: One federally listed[9] threatened species (*Myotis septentrionalis*) may occur within the vicinity of the Site. The range of northern long-eared bat ("NLEB") encompasses the entire State of Connecticut. Suitable NLEB roost habitat includes trees (live, dying, dead, or snag) with a diameter at breast height ("DBH") of three (3) inches or greater. The proposed activity will result in the clearing of trees greater than three (3) inches DBH. As a result, SolarCity evaluated the proposed activity's compliance with Section 10 of the Endangered Species Act ("ESA") through initial consultation with the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC").[10]

To determine whether the planned activity complies with Section 10 of the ESA, SolarCity assessed the Project using the USFWS's *Key to the Northern Long-Eared Bat 4(d) Rule for Non-Federal Activities Key* ("USFWS Key"; January 13, 2016), as detailed below.

1. *Will your activity purposefully take northern long-eared bats? For example, are you removing bats from a human structure or capturing bats for research?*

   Response: No, the proposed activity does not include a purposeful take of northern long-eared bats.

2. *Is your activity located outside the White-nose Syndrome Zone?*

   Response: No, the proposed activity is located inside the white-nose syndrome zone.

[9] Listing under the federal Endangered Species Act.

[10] IPaC Consultation Tracking Number: 05E1NE00-2016-SLI-1095; dated March 15, 2016.

3. *Will your activity take place within a cave or mine where northern long-eared bats hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?*

   Response: No, the proposed activity will not take place within a northern long-eared bat hibernaculum or alter its entrance or environment.

4. *Will your action involve tree removal[11]?*

   Response: Yes.

5. *Is your activity the removal of hazardous trees for protection of human life or property?*

   Response: No, the proposed activity is not removing hazardous trees.

6. *Will your tree removal activities include one or both of the following: 1) removing a northern long-eared bat known occupied maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31; or 2) removing any trees within 0.25 miles of a northern long-eared bat hibernaculum at any time of year?*

   Response: No. There are currently no known NLEB maternity roost trees in Connecticut.[12] The nearest NLEB habitat resource to the proposed activity is located in Salisbury, Connecticut approximately 1.28 miles to the west.

In accordance with the USFWS Key for NLEB, the Project would not result in an adverse effect or incidental take[13] to NLEB and does not require a permit from USFWS.

Although this species was not identified in the CTDEEP's January 2015 letter, SolarCity anticipates that conservation measures will be recommended by the agency in its pending response. As a result, should the Project be approved by the Council, SolarCity plans to conduct tree removal activities only between October 1 and March 31, when NLEB are in hibernation.

[11] "Tree removal" is defined in the 4(d) rule as cutting down, harvesting, destroying, trimming, or manipulating in any other way the trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bats.

[12] *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map (February 1, 2016)

[13] "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.

General Breeding Bird Protection Measures: The proposed construction activities will result in the clearing of trees, shrubs and mature vegetation that has the potential to support breeding birds. The tree clearing restrictive period described above for NLEB will also serve to avoid potential disturbance during periods of high bird activity.

Water Quality

The SolarCity Facility will be unstaffed and no potable water uses or sanitary discharges are planned. No liquid fuels are associated with the operations of the Project. Therefore, the Project would have no adverse environmental effect on water resources or water quality

Prior to and throughout the duration of construction, sedimentation and erosion controls will be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. Once operative, the stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 *Connecticut Stormwater Quality Manual*. Therefore, the proposed Project development will not result in an adverse impact to wetlands or watercourse resources.

Air Quality

No emission sources are associated with the operations of the Project. Therefore, no impacts to air quality are anticipated as part of the proposed Project.

Historic and Archaeological Resources

At the request of the SHPO, Heritage completed a professional cultural resource reconnaissance survey at the Project Site in May, 2016. Completion of the subsurface testing in the Project Area failed to produce any evidence of cultural resources. Thus, Heritage recommended no additional fieldwork in the Project Area. The results of the Heritage assessment have been provided to SHPO and SolarCity is currently waiting for the agency's response. The *Management Summary* for the Cultural Resource Reconnaissance Survey report is included in Appendix B. A copy of the SHPO response will be provided to the Council upon receipt.

Geology and Soils

No adverse effects are anticipated on surface and subsurface materials occurring at and/or nearby the Site. Once vegetative clearing activities are completed, minimal grading is required for construction of the Project. No deep intrusions are planned as part of the Project.

Floodplain Areas

The Site is located entirely outside of the 100-year and 500-year floodplains. Therefore, no special design elements are necessary with respect to flooding concerns. In addition, no impacts to floodplains are associated with the proposed Project.

Noise

The only equipment proposed for the Project that would generate noise consists of the fans associated with the inverters. The Noise Evaluation Study prepared by HMB Acoustics LLC of Avon, Connecticut, determined that after the Project is constructed and in service, the combined noise levels will comply with applicable CTDEEP criteria. The Project would be considered a Class "B" Commercial Zone Emitter. Surrounding properties are Class "B" Commercial Zone Receptors.

After the Project is constructed and in service, the highest noise levels at adjacent property lines are anticipated to be 40 dBA. The allowable noise level from a Class "B" Commercial Zone Emitter to a Class "B" Commercial Zone Receptor's property line is 62 dBA daytime and nighttime (Sec. 22a-69-3.5 (b)) as established by the State of Connecticut Noise Control regulations (CGS 22a/22a-69-1 through 7). It is important to note that the projected noise levels associated with the Project will also be below the most conservative (residential) criteria of 45 dBA for nighttime and 55 dBA for daytime. The inverters are inactive at night. During those times when the inverters are operative, noise levels at nearby property lines would not change and continue to be well below applicable criteria (ranging from 50 to 55 dBA based on existing background noise measurements obtained in January 2016).

Please refer to the *Noise Evaluation Report* provided in Appendix F.

Lighting

No additional lighting is planned or required for the Facility.

Scenic and Recreational Areas, Parks and Other Surrounding Features

No adverse effects are anticipated to the facilities and land uses identified in Figure 4, due primarily to their overall distances from the Project Area.

Visibility

The Facility will include three (3) separate solar arrays, two (2) ground mounted and one (1) roof mounted. Covering approximately nine (9) acres in total, the two fence-enclosed (2) ground mounted solar arrays will consist of ±7,160 solar panels. An additional ±1,700 solar panels will be located on the roof of the BD and Company industrial building. Each solar panel will measure approximately 64.95 inches by 39.05 inches by 1.37 inches. The large ground mounted array that will occupy the southwest portion of the Site is set back sufficiently from abutting properties and public roads such that it will not be visible from locations off the Site. The southeast array will be located near the existing property line along the southeastern property boundary, adjacent to the access drive for one (1) neighboring residence along Canaan Road (US Route 7), where views of the solar arrays may occur during certain times of year when the leaves are off the deciduous trees. The roof-mounted array, located on the roof of the BD and Company industrial building, is approximately 750 feet to the west of Canaan Road (US Route 7). This array is also set back sufficiently from abutting properties and public roads and will not be visible from most locations off the Site.

Conclusion

As demonstrated in this EA, the Project will comply with CTDEEP air and water quality standards and will not have a substantial adverse effect on existing environment and ecology, nor would it affect the scenic, historic and recreational resources in the vicinity.

SolarCity worked closely with the Site owner to redesign the Project's ground-mounted components to minimize development within sensitive resource areas. This required down-sizing the ground-mounted footprint substantially and compensating for some of that loss by using roof areas on the existing industrial building. The reconfigured Project now includes ground-mounted solar arrays that will be located within portions of CTH associated with vernal pools but, with the exception of one location, will be in compliance with BDPs established by Klemens and Calhoun. To offset the minor increase in development within the CTH surrounding Vernal Pool 1, SolarCity has proposed a mitigation plan to offset habitat loss by restoring previously degraded areas and reestablishing a contiguous band of available vernal pool habitat.

The reconfigured Project meets the need for green energy alternatives, offsetting carbon-based sources at the plant, while minimizing the overall effects on the environment.

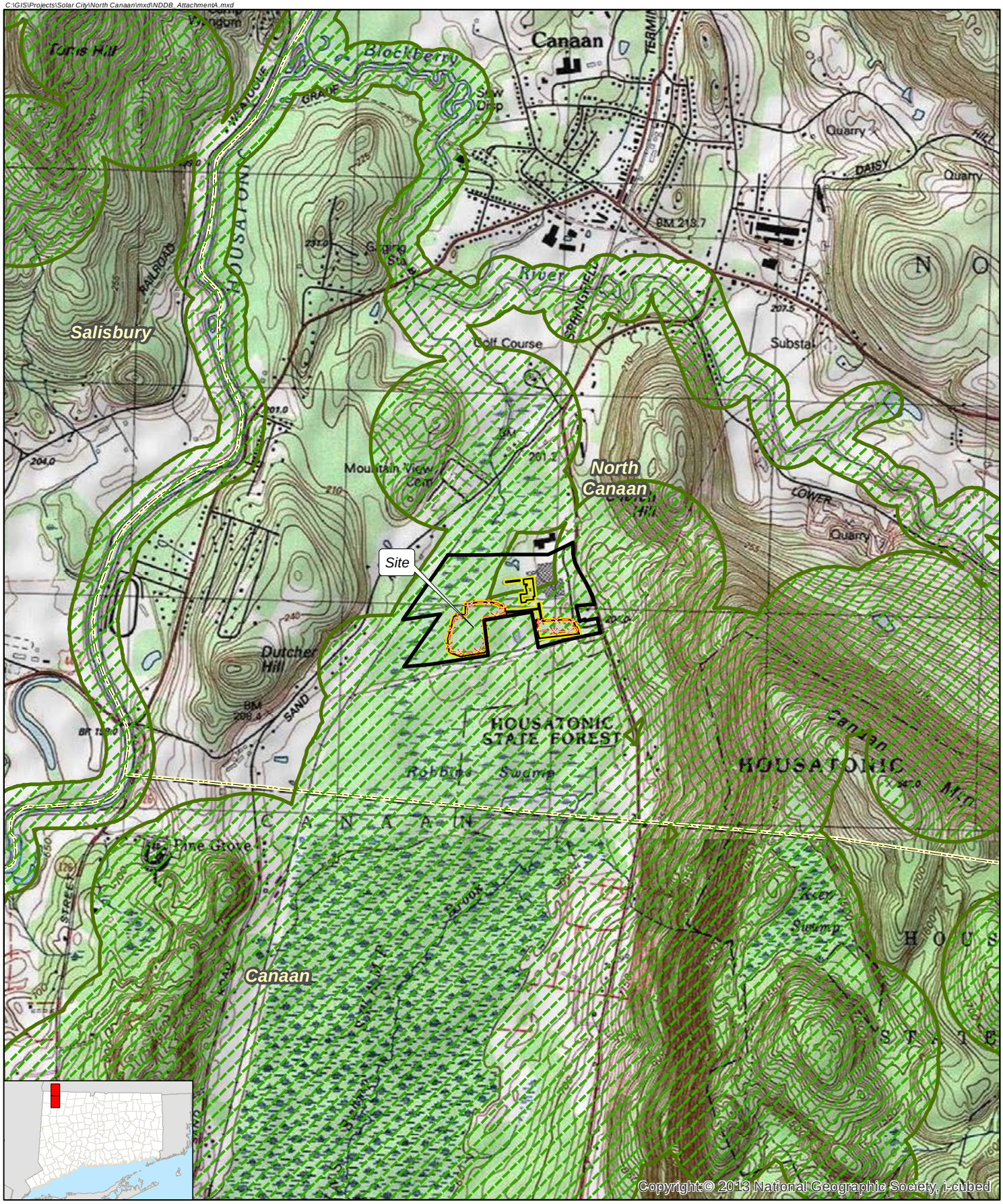
APPENDIX A

CTDEEP NDDB Mapping

and

Agency Correspondence

C:\GIS\Projects\Solar City\North Canaan\mxd\NDDB_AttachmentA.mxd



Legend

- Site Boundary
- Proposed Project Area (+/-16 acres)
- Proposed Fenced Facility (+/- 12 acres)
- CTDEEP Natural Diversity Database (NDDB; Sept. 2015)

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Ashley Falls and South Canaan, CT (1969)
Site located on the Ashley Falls Quadrangle
Map Scale: 1:24,000
Map Date: February 2016

N W E S

1,000 500 0 1,000 Feet

Attachment A: Overview Map

Proposed Becton Dickinson Solar Project
7 Grace Way
North Canaan, Connecticut

SolarCity

ALL-POINTS TECHNOLOGY CORPORATION

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

January 12, 2015

Mr. Todd Parsons
Lenard Engineering, Inc.
140 Willow Street
Winsted, CT 06098
parsons@lenard-eng.com

Project: Preliminary Site Assessment and Project Feasibility Study for the Installation of a Solar Array at Becton Dickinson and Company Located at 7 Grace Way in North Canaan, Connecticut
NDDB Preliminary Assessment No.: 201500171

Dear Todd Parsons,

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map provided for the proposed preliminary site assessment and project feasibility study for the installation of a solar array at Becton Dickinson and Company located at 7 Grace Way in North Canaan, Connecticut. According to our records there are known extant species that occur within or very close to the boundaries of this property. I have attached a list of species to this letter. Please be advised that this is a preliminary review and not a final determination. A more detailed review will be necessary to move forward with any subsequent environmental permit applications submitted to DEEP for the proposed project. This letter cannot be used or submitted with your permit applications at DEEP. This preliminary assessment is good for one year.
If you require a DEEP permit for this project you must re-submit a NDDB review. With the NDDB resubmission please include either site surveys of the property or a protection plans for the species included on the attached list. If you choose to do field surveys of the site they should be performed by a qualified botanist or biologist (for animals) when each of the species is most likely present on site. A report summarizing the results of such surveys should include:

1. Survey date(s) and duration
2. Site descriptions and photographs
3. List of component vascular plant species within the survey area (including scientific binomials) or animals present
4. Data regarding population numbers and/or area occupied by State-listed species
5. Detailed maps of the area surveyed including the survey route and locations of State-listed plant or animal species
6. Statement/résumé indicating the botanist's or biologist's qualifications

The report should be sent to the Natural Diversity Data Base (deep.nddbrequest@ct.gov) for further review. **Please note that incomplete reports may not be accepted.**

Species List for NDDB Request

Scientific Name	Common Name	State Status
Freshwater Community - Other Classification		
Circumneutral northern white cedar basin swamp		
Vascular Plant		
Asplenium montanum	Mountain spleenwort	SC
Asplenium ruta-muraria	Wallrue spleenwort	T
Carex alopecoidea	Foxtail sedge	T
Carex alopecoidea	Foxtail sedge	T
Carex aquatilis var. aquatilis	Sedge	SC
Carex castanea	Chestnut-colored sedge	E
Coeloglossum viride	Long-bracted green orchid	E
Desmodium cuspidatum	Large-bracted tick-trefoil	E
Uvularia grandiflora	Large-flowered bellwort	E
Vertebrate Animal		
Ambystoma laterale	Blue-spotted salamander	E/SC
Empidonax alnorum	Alder flycatcher	SC
Liochlorophis vernalis	Smooth green snake	SC
Lota lota	Burbot	E
Rana pipiens	Northern leopard frog	SC

E = Endangered, T = Threatened, SC = Special Concern, * Extirpated

APPENDIX B

Management Summary for the Cultural Resource Reconnaissance Survey

June 9, 2016

Mr. Michael Libertine
Allpoints Technology Corporation
3 Saddlebrook Drive
Killingworth, CT 06419

RE: Management Summary for Phase IB Cultural Resources Reconnaissance Survey of a Proposed Solar Panel Facility at 7 Grace Way in North Canaan, Connecticut

Mr. Libertine:

This letter summarizes the results of a Phase IB cultural resources reconnaissance survey for the above-referenced project. This parcel of land will be developed as part of solar panel facility sponsored by Solar City. Field investigations for this project were completed by Heritage Consultants, LLC in May of 2016. During the course of the current investigation, all work was performed in accordance with the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act of 1969, as amended; and the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987). The remainder of this document presents a description of the proposed project parcel, the methods by which the current reconnaissance survey was completed, preliminary results of the investigation, and management recommendations.

Project Area Description and Archaeological Assessment of the Area of Potential Effect

The proposed project parcel, which is divided into two areas designated as impact areas A and B, measures approximately 11 ac in size. It is bounded to the north the Becton Dickson Company, to the east by Route 7, to the south by properties owned the North Canaan Rod and Gun Club, and to the west by existing railroad tracks. At the time of survey this parcel of land was characterized by mixed deciduous forest, some of which had recently been clear cut. The pre-fieldwork archaeological assessment of the proposed project parcel was completed through an examination of previous archaeological studies and resources recorded in the region, a review of historic maps depicting the proposed project parcel, and an examination of pertinent aerial images showing the Areas of Potential Effect. A review of previously recorded cultural resources on file with the Connecticut State Historic Preservation Office revealed that while no National Register of Historic Places properties have been identified within 0.8 km (0.5 mi) of the proposed solar power generation facility, 20 prehistoric and historic period archaeological sites are situated nearby. Of these five are located within 1.6 km (1 mi) of the proposed facility and one (Site 100-11) is located very close to the eastern solar array area. All of the sites known in this area were identified by the American Indian Archaeological Institute in the 1970s, 1980s, and 1990s as part of their ongoing investigations of the Robbins Swamp Basin. This area was first investigated archaeologically by Dr. George Nicholas, who, in his book entitled *The Archaeology of Early Place: Early Postglacial Land Use and Ecology at Robbins Swamp, Northwestern Connecticut*, documented in detail the archaeology of much of the area. Dr. Nicholas made persuasive arguments in his book pertaining to the fact that large wetland areas such as Robbins Swamp were prime habitats that Native Americans exploited and lived in at the close of the last Ice Age and during the Early Holocene era. Robbins swamp and the surrounding area played a key role

to the establishment of early Native American populations in northwestern Connecticut, and many landforms around the swamp. As a result, the landform on which the proposed solar array areas are located were considered sensitive from an archaeological perspective.

Field Methods

Following the completion of preliminary background research, the proposed impact areas were subjected to a Phase IB cultural resources reconnaissance survey utilizing pedestrian survey, photo-documentation, mapping, and shovel testing. During the current fieldwork effort, the two proposed impact areas were examined using transect survey where shovel tests were situated at 15 m (49.2 ft) intervals along two survey transects. Each shovel test measured 50 cm (19.7 in) in diameter and each was excavated to a depth of 50 cmbs (19.7 inbs) or until sterile subsoil or glacial till was encountered. Each shovel test was excavated in 10 cm (3.9 in) arbitrary levels within natural strata, and the fill from each level was screened separately. All shovel test fill was screened through 0.635 cm (0.25 in) hardware cloth and examined visually for cultural material. Soil characteristics were recorded in the field using Munsell Soil Color Charts and standard soils nomenclature. Each shovel test was backfilled immediately upon completion of the archeological recordation process. Finally, the Areas of Potential Effect was photographed using digital media and all man-made features and shovel test locations were mapped.

Results of the Investigation and Management Recommendations

During Phase IB survey, 147 of 194 (100 percent) planned shovel tests were excavated successfully throughout impact areas A and B. The 47 planned bunt unexcavated fell within areas that were previously disturbed by clear cutting or beneath large piles of dead fall that could not be moved. A typical shovel test in both impact areas A and B contained two strata and it extended to a depth of 40 cmbs (16 inbs). Stratum I, which extended from 0 to 10 cmbs (0 to 4 inbs), consisted of a layer of dark brown (10YR 3/3) sandy loam. Stratum II reached from 10 to 40 cmbs (4 to 16 inbs) and it was characterized as a deposit of dark yellowish brown (10YR 5/4) sand and gravel. The C-Horizon was reached at 40 cmbs (16 inbs) and it was described as a deposit of light gray (5YR 5/1) coarse sand and gravel. Completion of the subsurface testing in the both impact area A and impact area B failed to produce any evidence of cultural resources. Thus, no additional fieldwork is recommended in either of the proposed impact areas.

A Final Report of Investigations for the above-referenced Phase IB cultural resources survey will be forthcoming. If you have any questions regarding this End-of-Fieldwork management summary, please do not hesitate to call us at 860-667-3001 or email me at dgeorge@heritage-consultants.com. Thank you for your time and consideration.

Sincerely,

David R. George

David R. George, M.A., R.P.A.

P.O. Box 31249 • Newington, Connecticut 16131
Phone (860) 667-3001 • Fax (860) 667-3008
Email: info@heritage-consultants.com

APPENDIX C

Construction Schedule

Construction Schedule for North Canaan Solar Arrays

Activity	Prerequisites to Construction	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Siting Council Approval	X												
Town Building/Electrical Permits	X												
State Permits	X												
Remove Brush and Trees		X	X										
Establish Erosion Control			X	X									
Site Grading			X	X	X	X	X						
Install Racking and Solar Panels					X	X	X	X	X	X	X	X	
Install Utility Equipment									X	X	X		
Install Perimeter Fence										X	X	X	
Local Inspections													X

APPENDIX D

Construction Work Hours/Days Letter

6/14/2016

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Solar Application, North Canaan, CT
Work Hours at Site

To Whom It May Concern:

The following work schedule will be maintained during the construction of the North Canaan solar arrays:

Working hours will be 7am-7pm, 6 days a week, Monday through Saturday.

Best regards,

Kevin Angers
Project Manager
SolarCity

APPENDIX E

Vernal Pool Mitigation Areas Photo-documentation

Photo 1: View of Wetland 1 looking north.

Photo 2: View of interior of Wetland 1 looking south.

Photo 3: View of uplands west of Wetland 2 looking east.

Photo 4: View of upland forest south of Wetland 2 looking east.

Photo 5: View of upland forest located west of Wetland 3 looking east.

Photo 6: View of Wetland 2 looking east with railroad cars in left side of photo.

Photo 7: View of Vernal Pool 4 looking west.

Photo 8: View of Vernal Pool 2 looking west.

Photo 9: View of spotted salamander adults located adjacent to Wetland 1.

Photo 10: View of Blue Spotted Salamander located adjacent to Wetland 1.

Photo 11: View of Blue Spotted Salamander egg masses within Vernal Pool 1.

Photo 12: View of Spotted Salamander egg masses within Vernal Pool 2.

Photo 13: View of Proposed Vernal Pool Mitigation Area looking west.

Photo 14: View of edge of Proposed Vernal Pool Mitigation Area looking south.

Photo 16: View of Proposed Vernal Pool Mitigation Area looking west.

APPENDIX F

Noise Evaluation Report

HMB

HMB Acoustics LLC 3 Cherry Tree Lane, Avon, CT 06001 860-677-5955

Noise Evaluation Report

Proposed Solar Farm Facility
Solar City
7 Grace Way
North Canaan, CT

May 12, 2016

Prepared For:
All-Points Technology Corporation
3 Saddlebrook Drive
Killingworth, CT 06419

Prepared By:
Allan Smardin
HMB Acoustics LLC
3 Cherry Tree Lane
Avon, CT 06001

Introduction

I have reviewed site plans and specifications regarding the inverters that are being proposed for the Solar Farm. The proposed Solar Farm is to be located at 7 Grace Way, North Canaan, CT. The site location is commercial in nature. On January 26, 2016, existing background noise measurements were taken near the proposed site and in adjacent areas. The average noise levels were 50-55 dBA.

The purpose of the noise evaluation is to determine whether the proposed inverters will comply with the State of CT Noise Regulations. This report and the noise regulations utilize a dBA scale. This scale is used because it closely approximates the response characteristic of the human ear to loudness, and is the scale most commonly used in the measurement of community noise.

Noise Regulations

The State of CT has enacted regulations which limit the amount of noise which may be transferred from one property to another. In pertinent part, the Regulations provide as follows:

The allowable noise level from a Class “B” Commercial Zone Emitter to a Class “B” Commercial Zone Receptor’s property line is 62 dBA daytime and nighttime. (Sec. 22a-69-3.5 (b)).

Noise Evaluation

The noise levels listed in TABLE 1 take into account the effect of acoustical shielding provided by other structures on the property. The noise levels have been projected to the nearest property lines in the directions listed.

TABLE 1

The combined acoustical effect of 9 Inverters, in the Eastern Array, projected to the nearest property lines.

Direction	Property Line dBA Level
North (Becton Dickinson)	40 dBA
South (Wooded Area)	39 dBA
East (Route 7)	32 dBA
West (Open Pond)	38 dBA

The combined acoustical effect of 2 Inverters, in the Western Array, Projected to the nearest property lines.

Direction	Property line dBA Level
North (Becton Dickinson)	34 dBA
South (Wooded Area)	32 dBA
East (Route 7)	28 dBA
West (Wetlands)	31 dBA

Noise Evaluation Results

The noise level data shown in TABLE 1 demonstrates that the noise levels meet the conditions for compliance as set forth in the State of CT Noise Regulations at or near adjacent property lines. The 2 arrays (Eastern and Western) do not conflict with each other acoustically, due to location and distance.