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December 24, 2024

VIA ELECTRONIC MAIL AND HAND DELIVERY
Melanie Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re:

Re: **Petition of 391 Durham LLC for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is Required for the Proposed Construction, Operation and Maintenance of a +/- 1.975 MW AC Ground-Mounted Solar Photovoltaic Electric Facility Located at 391 Durham Road in Madison, Connecticut**

Dear Ms. Bachman:

I am writing on behalf of my client, 391 Durham LLC, which is submitting the enclosed petition for a facility to be located at the above-referenced location in Madison, Connecticut. With this letter, I am enclosing the original and fifteen copies of the Petition, including Exhibits 1-4. I am also enclosing a check for $625.00, made payable to the Connecticut Siting Council.

Should you have any questions concerning this submittal, please contact me at your convenience.

Sincerely,

Very truly yours,

Kate Boucher

Kathryn E. Boucher
Enclosures

Cc: Town Clerk, Town of Madison, Connecticut

Petition of 391 Durham LLC for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is Required for the Proposed Construction, Operation and Maintenance of a ±1.975 MW AC Ground-Mounted Solar Photovoltaic Electric Facility Located at 391 Durham Road in Madison, Connecticut

Prepared for:

The Connecticut Siting Council

December 24, 2024

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1 Introduction

This is a Petition for a declaratory ruling, pursuant to Connecticut General Statutes §§ 4-176 and 16-50k, and submitted by 391 Durham LLC (the "Petitioner"), that no Certificate of Environmental Compatibility and Public Need ("Certificate") is required for the development, construction, operation, and maintenance of a proposed solar photovoltaic electric generating facility (the "Project"), with an output of approximately 1.975 megawatts[1] ("MW") located in the Town of Madison, Connecticut (the "Town").

The Petitioner, 391 Durham LLC, is a wholly-owned subsidiary of Clean DG CT LLC, which shares the same principals and development team as Independence Solar LLC ("Independence Solar"). The team has successfully developed and installed over 70 MW of commercial solar projects across New England and the Mid-Atlantic since 2007.

Correspondence and communications regarding this Petition should be addressed to the following individuals, all of whom agree to accept service of electronic documents in connection with this Petition:

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The Connecticut Siting Council's (the "Council") approval of this Petition would allow the Petitioner to assist the State of Connecticut in achieving its goals of energy conservation and sustainability. The Project was selected in the Year 4 solicitation for the Shared Clean Energy Facility ("SCEF") program and awarded a SCEF contract by Eversource, which was approved by the Public Utilities Regulatory Authority on December 7, 2022 in Docket No. 22-08-04. Projects participating in the SCEF program not only provide the state with clean energy generation under a twenty-year, fixed

[1] The output referenced is Alternating Current (AC).

price agreement, but also provide utility bill savings credits to Connecticut ratepayers, particularly low- and moderate-income ("LMI") customers. If approved, the Project will commence with financing, detailed engineering, procurement, and construction in 2025, and with commercial operation planned for the first half of 2026.

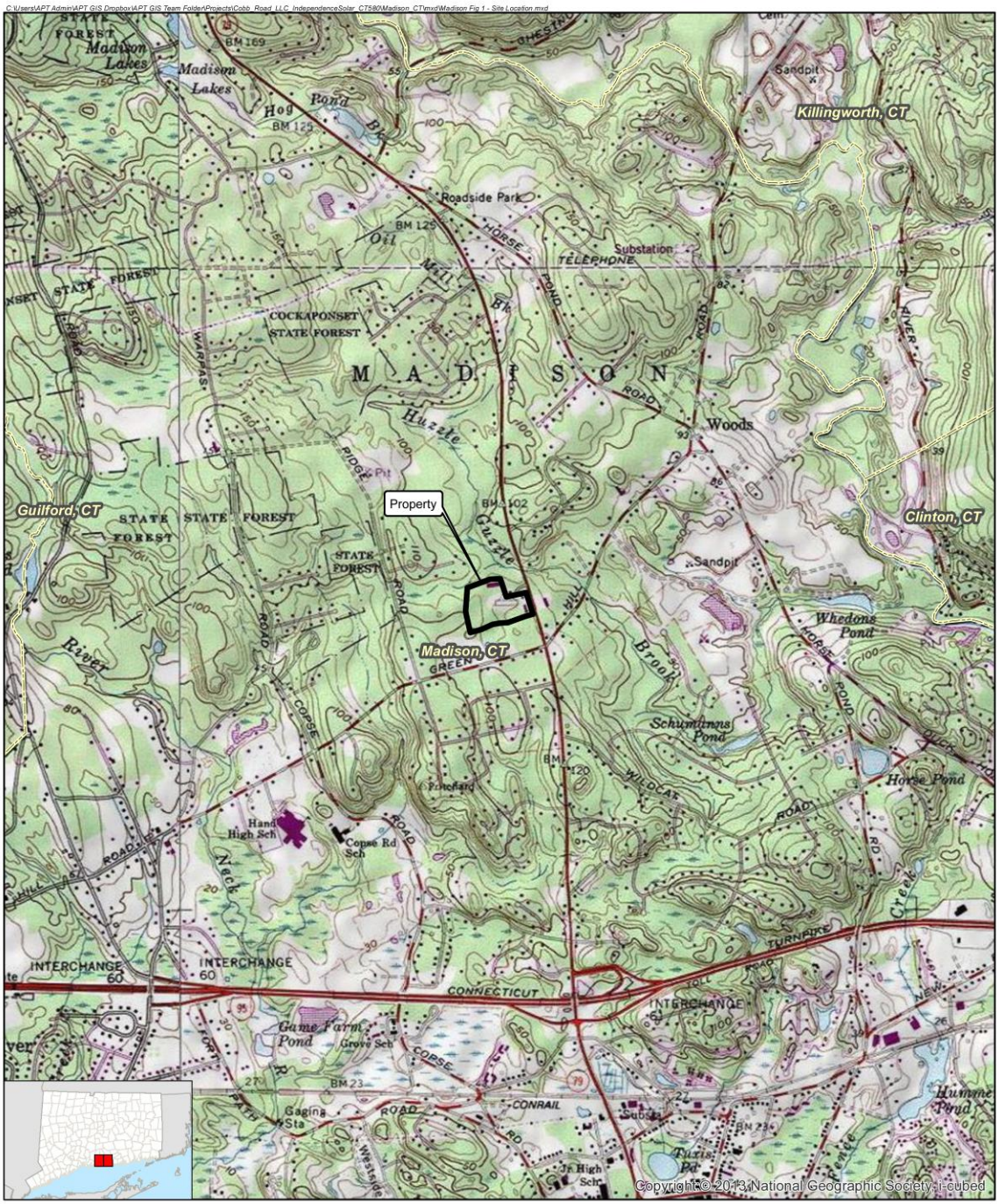
The Project will comply with the Connecticut Department of Energy and Environmental Protection's ("DEEP") air and water quality standards and will not have an adverse effect on the existing environment and ecology of the site or the surrounding area. Further, the proposed Project is neither defined as an "affecting facility"[2] nor located within an "environmental justice community"[3] under Connecticut General Statutes § 22a-20a.

The Project will be located on a 12.7-acre property west of Durham Road (State Route 79) in Madison, Connecticut (referred to herein as the "Property"), and in its entirety will occupy 8.32 acres of the Property (referred to herein as the "Site"). The Site is currently developed with a golf driving range known as Kleins' Golf Range. One single-story, multi-tenant commercial building is located on the eastern portion of the Property adjacent to Durham Road. A maintenance barn and storage shed are located on the northern portion of the Property. Driving range tee boxes are located west and northwest of the commercial building. Remaining portions of the Property primarily consist of dense tightly mowed turf associated with the golf driving range operation. Narrow wooded areas are found along the northern, northeastern, southern, and western boundaries. The Property is privately owned and is zoned RU-1 Rural Residence District.

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

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

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



Legend

- Property
- Municipal Boundary

Figure 1 - Location Map

Proposed Solar Energy Facility
391 Durham Road
Madison, Connecticut

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map: Clinton, CT (1984) & Guilford, CT (1984)
Map Scale: 1:24,000
Map Date: November 2024

N

1,000 500 0 1,000 Feet

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2 Proposed Project

2.1 Project Setting

The Project will be located entirely within the central portion of the Property that is currently used as a golf driving range. The Property is located along the west side of Durham Road (State Route 79) in the northern portion of Madison. Access to the Project will be via a proposed gravel drive extending westward from the Property's existing parking lot off Durham Road onto the southern portion of the Property and then turning northward and continuing to the central portion of the Property. The proposed interconnection route will extend underground from the solar array in the central portion of the Property and then connect via five (5) new poles to the existing Eversource overhead three-phase distribution circuit located along Durham Road.

The Property is essentially flat with existing topography ranging from approximately 90 feet above mean sea level ("AMSL") in the southwestern corner to approximately 83 feet AMSL in the northeastern portion. Grades within the Project area generally slope gently downward from the western and eastern portions to the central portion of the Property. Representative photographs of the Property are provided in Exhibit 2 - Environmental Assessment, Appendix A.

The surrounding land use is characterized primarily by residential development to the northwest, west, and south, and commercial development to the east across Durham Road. An open space parcel, Old Mill Acres, owned by the Madison Land Conservation Trust abuts the Property to the north. It consists of undeveloped, wooded land with no blazed hiking trails.

Petitioner has a lease agreement for the Site with the Property owner for an initial twenty (20) year term, which the Petitioner has the option to extend for up to an additional fifteen (15) years. Per the terms of the lease agreement, the Petitioner is required to decommission the Facility at the expiration of the lease term. A decommissioning plan for the Facility is attached as Exhibit 4 – Decommissioning Plan.

2.1.1 Project Benefits

The location for the Project was carefully selected for to a combination of factors that make it an excellent location for a commercial scale solar facility without substantial adverse environmental impacts. There are four key factors that went into the selection of this Site for the Project.

First, the Site is already heavily developed from its current use as golf driving range featuring closely mowed lawn turf that is heavily trafficked by lawn care machinery, golf ball retrieval carts, and as the landing area for golf balls. The Site is entirely within the previously developed footprint of the golf range and does not require development of any undeveloped areas of the Property. Second, due its use as a golf range, the Site is already cleared so the construction of the Project will require essentially no trees to be cleared. Third, as the Site is currently a closely mowed, heavily trafficked lawn, it supports minimal beneficial habitat for wildlife. By converting the Site after construction of the Project into a solar field with pollinator friendly meadow grass that is mowed only once or twice per year and infrequent vehicle and human traffic, the Site's value as a resource for wildlife habitat will be significantly enhanced. Finally, the combination of the existing Property features and proposed additional screening buffers allows the Project to be well screened from the public roadway as well as abutting Properties. This combination of features makes this Site particularly well suited for a commercial solar array that will provide local clean energy to boost the grid and help meet the State's environmental goals, as elaborated below, with little adverse environmental or community impacts.

AERIAL PHOTOGRAPH
SOURCE: NEARMAP - OCTOBER 2024

Figure 2a, depicts an aerial view of the existing Property (top) and photo-simulation of the Property with the proposed Project (bottom).

Overview of driving range looking northeast. Driving range building in upper right side of photo. Photo taken on May 18, 2020.

View from west end of golf range looking east at central portion of golf range. Photo taken on May 20, 2019.

Figure 2b, pictures of the current Site used as a golf driving range.

The State of Connecticut has committed to develop its renewable energy market and mitigate the negative environmental impacts associated with traditional electric power generation. In so doing, it has set aggressive targets to reduce greenhouse gas ("GHG") emissions and to increase the deployment of Class I renewable energy. The recommendation from the Governor's Council on Climate Change ("GC3") is that Connecticut's Renewable Portfolio Standard ("RPS") reach a target of 40 percent Class I renewable energy sources by 2030, with an aim to reduce the carbon intensity of the RPS to achieve the State's decarbonization goals. Additionally, Governor Lamont has set a 100 percent zero carbon target for the energy sector by 2040. Owners of renewable-electricity generation projects receive one renewable energy certificate (REC) for every megawatt-hour of renewable electricity they produce. Those RECs are traded in a regional market for state RPS compliance. Connecticut establishes required annual REC percentages from three classes of renewable energy resources.

If approved, the Project will provide the following wide range of environmental and economic benefits to the State of Connecticut and the Town: (1) once operational, the Project will generate approximately three thousand nine-hundred and seventy-five (3,975) MWh per year and would effectively offset approximately one thousand seven-hundred and fifty-five (1,755) metric tons of carbon dioxide annually (as estimated by the US EPA's Greenhouse Gas Equivalencies Calculator – November 2024 Update Version) and generate more RECs in Connecticut; (2) a reduction in energy demand during peak usage will decrease energy costs for ratepayers Statewide; (3) utility bill savings for Connecticut ratepayers, particularly LMI customers, via the SCEF program; (4) additional revenue to the Town of Madison through personal property tax payments; (5) the creation of construction and ongoing maintenance jobs in the region; (6) the adaptive re-use of an existing golf driving range; and (7) the construction of a new renewable energy site without the need for tree clearing. Additionally, the Project will benefit the local community by improving electrical service for existing and future development through the availability of enhanced local generating capacity that does not rely solely on the congested regional electrical transmission network.

2.2 Project Development and Operation

2.2.1 The Site

Upon its completion, the solar electric generating facility ("Facility") will include 3,820 photovoltaic 695 Watt direct-current modules ("panels"); eight inverters; pad mounted switchgear and one pad-mounted 2,000-kVA transformer. A ground-mounted single-axis tracking racking system will be used to secure the panels. The perimeter of the Facility will be surrounded by a seven-foot tall chain link fence with privacy slats along the east, west and southern sides of the array area; no privacy slats are included along the northern fencing section. Wooden fencing is also provided along the eastern interconnection area and access road that ties into the existing commercial building to provide the Facility additional screening from Durham Road.

The Facility will be accessed via a new 15-foot wide gravel drive extending westward from an existing gravel parking area on the southeastern portion of the Property. The drive will pass through double-swing gates in the Facility's eastern fence line and then continue to equipment pads in the east-central portion of the array field. In total, the new access drive will be approximately 705 feet long.

The Project will include one electrical service interconnection that will require the installation of five new utility poles. The interconnection route will extend overhead from the existing Eversource distribution system along Durham Road to utility poles on the eastern portion of the Property. The interconnection will then transition underground to pad-mounted electrical equipment within the Facility.

Once complete, the fenced Facility will occupy approximately 6.96 acres of the Site with an additional approximately 1.36 acres of improvements beyond the fenced limits, for a total Project area of approximately 8.32 acres. Proposed development drawings are provided in Exhibit 2, Appendix A, *Project Plans*.

The leading edge of the panels will be approximately 30-inches above the existing ground surface, which will provide adequate room for any accumulating snow to "sheet" off. The tracking system limits accumulated snow since the panels reach maximum tilt angles twice a day as it tracks from east to west. No need for snow removal operations is anticipated; rather, the snow will be allowed to melt or slide off.

The Facility will be unstaffed; after construction is complete and the Project is operable, traffic at the Site will be minimal. It is anticipated that the Facility will require routine inspection/maintenance of the equipment three to four times per year. Regular maintenance will typically involve two technicians for a day. Repairs will be made on an as-needed basis. It is expected that mowing would occur, at a minimum, one (1) time per year to suppress woody growth and maintain a meadow environment. Depending on site-specific conditions, additional mowing or selective pruning (e.g., 2 to 3 times annually) may be required to prevent taller species from shading the panels.

Construction activities within the Project Area will require the following:

- installing erosion and sedimentation control measures;
- installing racking and modules;
- trenching for electrical service and interconnection;
- installing five (5) overhead utility poles for interconnection to the existing electrical distribution system along Durham Road; and
- Performing earthwork to comply with DEEP's *Appendix I, Stormwater Management at Solar Array Construction Projects*. ("Appendix I") to the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* (the "General Permit"), including the creation of an access drive and trenching for underground electrical conduit.

Construction activities would be expected to occur between 7:00AM to 6:00PM Monday through Friday and possibly Saturday between the same hours if necessary.

2.2.2 Public Health and Safety

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

The Facility's array will be fenced and entrance to the Facility will be locked and gated, limiting access to authorized personnel only. All Town emergency response personnel will be provided

access via a Knox padlock. The Facility will be remotely monitored and will have the ability to de-energize via a switch at the entrance to the Property in the case of an emergency.

In the event of an emergency, the Facility can be shut off via a main shut off switch, located at the front entrance outside of the fenced area so that it can be accessed by emergency responders at any time without having to enter the fence. When this switch is opened, power to the entire solar facility (including, the transformer, switchgear, and inverters) will shut off, and all of the inverters will cease operations within two (2) seconds of the switch opening.

To mitigate potential electric hazards that could be encountered by emergency response personnel, the project will have comprehensive signage—with clear warnings relating to the equipment location(s) and hazards associated therewith—throughout the project area, including at the main entrance gate, on the exterior fencing, and on the solar equipment. In addition, a main shutoff switch for the electrical feed for the entire solar facility will be located next to the main gate entrance to the facility with identifying signage, that should be opened if any emergency responders need to enter the facility. Generally, fire personnel have an understanding of their preferred means to extinguish electrical fires associated with solar equipment. Give that the solar panels for this project will not be affixed or integrated with another structure, typically fire personnel do not actively try to extinguish fires within a solar array, instead the responders typically observe the situation and allow the component (i.e., a solar panel, inverter, etc.) to burn itself out while looking to contain any spread outside of the array.

After construction of the Project is completed, the Petitioner plans to provide training on the Facility for the Town's emergency responders, including instructions on how to de-energize the facility via the switch located at the Property entrance.

2.2.3 Land Use Plans

The Project is consistent with state and federal policies and will support the state's energy goals by developing a renewable energy resource while not having a substantial adverse environmental effect. The Project will benefit the local community by improving electrical service for existing and future development through the availability of enhanced local generating capacity that does not rely solely on the congested regional electrical transmission network.

2.2.4 Public Outreach

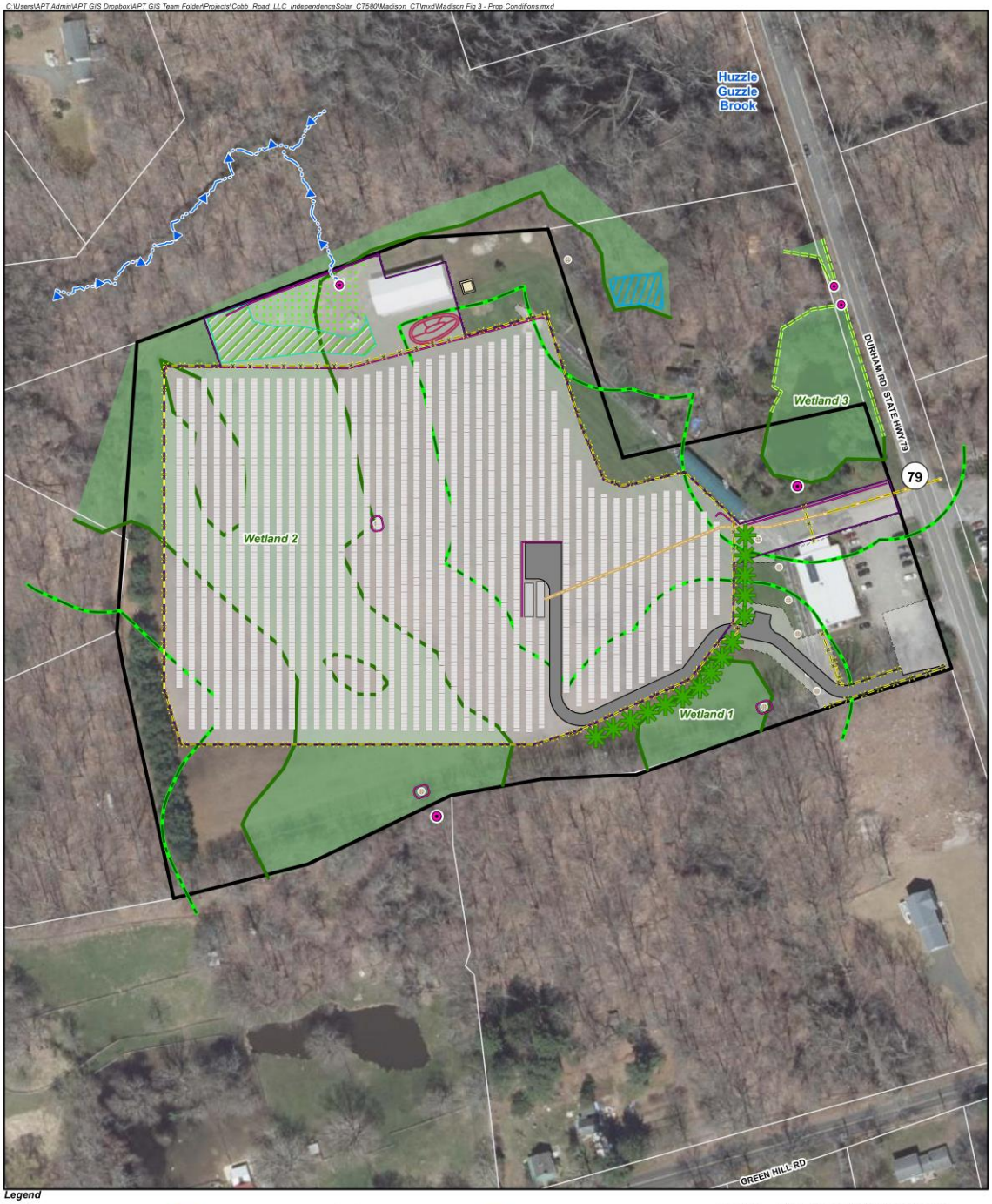
Petitioner initiated discussions with direct abutters to the Site, residents of the community, and local business owners in the Town to inform them about the Project and respond to any questions they had. In addition, on December 8, 2024, Petitioner met with the First Selectman for the Town of Madison to discuss the Project in greater detail. Petitioner also provided various governmental officials and all abutters to the Site with notice of the Project. A summary of the notices that were sent to the abutters to the Project, as well as various governmental officials, is included in Exhibit 1.

In addition to the notices found in Exhibit 1, Project representatives have also engaged in additional meetings with key stakeholders, including:

- September 24, 2019 informational meeting with the Town of Madison Energy & Efficiency Committee
- January 16, 2020 informational meeting with the Town of Madison Planning and Zoning Commission
- December 8, 2024 meeting with Town of Madison First Selectwoman Peggy Lyons
- Direct calls to representative of the owners of 361 Durham Road as recently as November 2024
- Correspondence with Ian Taylor, President of the Madison Land Conservation Trust which owns the Old Mills Acres conservation parcel that abuts the Property

3 Environmental Conditions

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



Legend

- Property
- Culvert
- Exist. Catch Basin
- 100-Foot Upland Review Area
- Delineated Wetland Boundary
- Approximate Wetland Boundary
- Intermittent Watercourse
- Approximate Wetland Area
- Potential Vernal Pool
- Approximate Parcel Boundary
- Solar Modules
- Conc. Equipment Pad
- Gravel Access Drive
- Relocated Shed
- Wetland Enhancement Area
- Wetland Restoration Area
- Filter Sock
- Silt Fence
- Temp. Stockpile
- Overhead Electical Line
- Underground Electrical line
- Proposed Tree (Type/Size TBD)

N

160 80 0 160 Feet

Fig. 3 - Proposed Conditions

Proposed Solar Energy Facility
391 Durham Road
Madison, Connecticut

Map Notes:
Base Map Source: 2019 CT Aerial Imagery (CTECO)
Map Scale: 1 inch = 160 feet
Map Date: November 2024

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3.1 Air Quality

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

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

3.2 Water Resources

3.2.1 Wetland Impacts & Proposed Enhancements

Wetland impacts will be limited to developed and disturbed wetlands that are associated with the existing golf range facility. These "developed wetlands" have been historically altered by removing the native topsoil and subsoil horizons and backfilling with sand and gravel. The existing level of disturbance and current use of these wetlands as a golf driving range significantly hinders the "developed wetland's" ability to service typical functions. Therefore, the small area of impact due to installation of the solar panel racking system's foundations (driven pile or ground screw) will not significantly affect these wetlands.

For the portion of the proposed Project located in the "developed wetlands" areas of the Site, a Pre-Construction Notification ("PCN") Application for authorization by the U.S. Army Corps of Engineers ("USACE") and DEEP Land and Water Resources Division ("LWRD") was submitted under the Department of the Army General Permits ("CT GPs") for the State of Connecticut as a GP 20: *Energy generation and renewable energy facilities and hydropower project*. USACE and DEEP LWRD agreed that the Project would result in only minor wetland impacts with issuance of authorizations under federal permit GP 20. The November 27, 2024 DEEP LWRD PCN eligibility letter and December 12, 2024 USACE federal permit authorization are provided in Exhibit 2, Appendix C.

The limited impacts to the "developed wetlands" from the installation of the solar panel racking system's foundations will consist of either driven pile or ground screw foundations. This foundation system does not result in significant soil disturbance, so the area of impact associated with each foundation post is limited to the dimensions of the post. As shown on the accompanying Project Plans (Exhibit 2, Appendix B), the proposed foundation post installation work for those posts located within "developed wetlands", estimated at 300 posts, will result in the permanent fill of no more than ±800 square feet of wetland impact. Electrical connections between solar panels will consist of two different applications. For areas not located in the "developed wetlands", underground utility conduits will be installed while in the "developed wetland" areas electrical wires will be hung off the racking system to avoid earthwork and direct temporary wetland impacts.

Due to the current condition and use of the "developed wetlands" as a golf range facility, which includes daily traffic from the various equipment and vehicles employed to maintain the closely mowed lawn and retrieve golf balls, construction of the Facility is not anticipated to result in significant rutting or soil displacement. The total temporary impact related to the construction activities will result in a temporary wetland disturbance that is conservatively estimated at no more than ±1,000 square feet.

While the construction and operations of the Project will not likely result in adverse impacts on the existing "developed wetlands," the Project has been designed to actually improve some of the functions and values of the degraded "developed wetlands" due to: i) the conversion of the golf range's tightly mowed, heavily trafficked turf grass into a pollinator-friendly wet meadow habitat below the solar array and ii) the implementation of a wetlands restoration and buffer enhancement plan. While not required by USACE or DEEP LWRD as a condition of their authorizations, the Project proposes to help restore some of the previously lost wetland values and functions of the Site though the implementation of a comprehensive wetland mitigation plan (details of the Wetland Restoration/Enhancement Plan, provided on Sheet No. WL-1 in the Project Plans in Exhibit 2, Appendix B) and described here below.

The wetland mitigation plan includes approximately 7,548 square feet of wetland restoration and approximately 8,000 square feet of wetland buffer enhancement along the northern side of the Project. This wetland mitigation plan will restore a historically filled wetland and intermittent

watercourse to create new wetland habitat that adjoins the existing forested wetland system on the adjacent conservation parcel to the north. The wetland mitigation plan will:

- Restore and daylight approximately 65 linear feet of intermittent watercourse channel through the removal of approximately 55 linear feet of existing reinforced concrete pipe to create an approximately 6-foot-wide stream channel with sandy/cobble bottom that matches characteristics of Oil Mill Brook located on the adjacent parcel to the north.

- Plant wetland mitigation areas with a sufficient density and variety of native plants (both species and structural), thus creating a diversity of wetland cover types to support a variety of functions and values with a particular focus on wildlife habitat, water quality renovation, and aesthetics.

- Improve wetland functions through enhancement of low functioning-maintained lawn developed buffer areas by plantings of native trees, shrubs, and meadow species surrounding the proposed wetland restoration area.

- Increase wildlife habitat function of the developed wetland within the Facility through conversion of low functioning-maintained lawn developed wetlands to native wet meadow habitat through the incorporation of various native grasses, rushes, sedges, and pollinator friendly forbs.

3.2.2 Wetlands and Watercourses

All Points Technology ("APT") Registered Soil Scientists identified a total of three wetlands on the Property in proximity and within the Project during a field inspection and wetland investigation completed on September 11, 2023. The results of the wetland delineation are summarized below. The location of these resources is depicted on Figure 3, Proposed Conditions.

Wetland 1 consists of a seasonally saturated complex, draining north from off property forested areas to the south; the forested area is dominated by red maple and swamp white oak. The wetland is mainly formed within the maintained turf areas, dominated by typical cool-season grasses that are tightly mowed, where historic alteration to the native wetland profile has occurred. Edge forested areas occur to the far south of the delineated resource with maintained turf dominating the majority of this feature resulting from routine vegetation management as part of the Kleins' Golf Range operation. Due to the construction of the driving range and other historical uses of the Property, stripping of wetland topsoil and backfilling/grading with non-native

sand and gravel fill material has significantly altered the historic extents and characteristics of this wetland resource. A catch basin is located within the central portion of Wetland 1 that drains through an underground pipe into a man-made pond (Wetland 3). Wetland 1 is a seasonally saturated feature that has experienced varying degrees of historic disturbance through agricultural activities and more recently the golf driving range operation, installation of drainage, stripping of the native wetland soil and backfilling with non-native material resulting in an altered soil profile and hydrology.

Wetland 2 consists of a seasonally saturated complex draining in a northerly direction across the Property into bordering forested wetland areas that extend off the Property. The wetland is mainly formed within the maintained turf areas, dominated by typical cool-season grasses that are tightly mowed, where historic alteration to the native wetland profile has occurred. Due to the construction of the driving range and other historical uses of the Property, stripping of wetland topsoil and backfilling/grading with non-native sand and gravel fill material has altered the historic extents and characteristics of this wetland resource. A culvert located on the northern Property discharges flows into an intermittent watercourse and continues draining north into Oil Mill Brook followed by Huzzle Guzzle Brook. This on-Property intermittent watercourse previously extended south into Wetland 2 but was altered and filled with non-native soil and contained within an underground pipe during historic development activities. Two catch basins that collect surface runoff from the golf driving range are located within the central portion of Wetland 2 that drain directly into the culvert that flows from south to north through the golf driving range and daylights into relatively unaltered off-Property wetland to the north; relatively unalter wetlands also exist at the south end of the Property. Two interior upland islands were also identified within this wetland. The upland islands contain fill material exceeding two feet in depth that lack wetland soil and hydrology characteristics. The off-Property wetland to the north eventually drains into Huzzle Guzzle Brook, located approximately 200 feet north of the Property. Edge forested areas occur to the far northern and southern edges of the delineated wetland resource with maintained turf encompassing the majority of this wetland feature. A small pocket was observed on the adjacent property with evidence of seasonal flooding, raising the potential to support vernal pool breeding habitat. See additional information regarding this area in Section 3.2.2 of this report.

Wetland 3 consists of a man-made pond feature that extends onto the adjacent residential property and connects to a seasonally flooded drainage swale along the west side of Durham

Road. Located along Durham Road, this resource also receives hydrologic input from stormwater runoff that is conveyed through a connected grass-lined drainage swale bordering the roadway. Banks of the pond are subject to routine maintenance creating some maintained lawn limiting diversity of vegetative communities.

3.2.3 Vernal Pools

One potential vernal pool habitat was identified during the wetland investigation on an adjacent parcel associated with the eastern limits of Wetland 2. Since the Property provides suboptimal habitat due to the golf range development and regular maintenance, a formal vernal pool survey was not deemed necessary. For the purposes of this Project, we have assumed this nearby vernal pool supports breeding by vernal pool obligate species.

It is widely documented that vernal pool dependent amphibians are not solely reliant upon the actual vernal pool, which is limited to use for breeding and egg/larval development; they require surrounding upland forest habitat for most of their adult lives. Accepted studies recommend conservation within the vernal pool envelope ("VPE" - within 100 feet of the pool's edge) and the critical terrestrial habitat ("CTH" - 100-750 feet of the pool's edge) (Calhoun, Klemens, 2002; "BDP").[4] Intact forest represents the highest value, or optimal, habitat within both of these conservation zones to support breeding opportunities for the various obligate vernal pool indicator species that rely on forested habitat (e.g., wood frog and spotted salamander). In addition, the U.S. Army Corps of Engineers ("USACE") New England District's *Vernal Pool Best Management Practices* establish the concept of "directional corridors" (referred to herein as "Migratory Corridors"). Identification of Migratory Corridors allows a project to evaluate potential impacts to optimal pool-breeding amphibian habitat with a focus on conserving the most essential habitats that link breeding pools, forested wetlands, and forested uplands. These interrelated habitats form essential Migratory Corridors at a landscape scale generally confined within the CTH. Migratory Corridors are identified through an evaluation of both wetland and terrestrial habitat structure qualities (e.g., vegetative cover types, width of vegetated buffer, soil surface moisture, thickness of duff layer, abundance of cover objects) that determine the locations of "Suitable Non-Breeding Habitat" and "Non-Habitat" in proximity to the vernal pool. Migratory Corridors

[4] Calhoun, A.J.K. and M.W. Klemens. 2002. Best Development Practices ("BDPs"): Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. WCS/MCA Technical Paper No. 5.

occur in areas that link vernal pools and Suitable Non-Breeding Habitat (both forested wetland and upland habitats). Non-habitat areas such as developed areas, maintained lawn, and agricultural fields do not support Migratory Corridors due to the lack of sufficient vegetative conditions that are often associated with higher levels of predation and human activity, which can result in direct mortality.

Overall, the existing golf driving range provides suboptimal habitat primarily due to the entire lack of forest cover, or any woody habitat cover at all. Routine mowing within the 100-foot VPE to the west and south which overlaps with the range largely eliminated the function of this critical vernal pool conservation zone. The Project's perimeter fencing will encroach into the currently mowed portion of the 100-foot VPE. However, considering the limited function of this mowed portion of the 100-foot VPE, the Project will not result in a likely adverse impact to the vernal pool. In fact, with incorporation of a native conservation seed mix that will be mowed infrequently thereby providing improved cover for amphibians that may utilize this area, there will be an overall benefit to the vernal pool. Solar panel installation will occur outside the 100-foot VPE. Due to the relatively level topography, minimal grading will be necessary for this Project and the activity within the VPE is considered de minimums and mainly temporary in nature with the only potential permanent impact consisting of the installation of the perimeter fencing which would not impede any migrating amphibians.

Additionally, impacts to Migratory Corridors and Suitable Non-Breeding habitat are largely avoided by the proposed Facility. The Facility will be located within developed and developed wetland areas. Based on field reconnaissance efforts and review of aerial photography, Suitable Non-Breeding Habitat exists to the north, east and portions of southern areas where forested wetlands and uplands are present. In contrast, west/southwestern surrounding areas serve as non-habitat due to the general lack of vegetation, forest cover and routine activities associated with the golf range operation. Considering these facts and the separating distances that are provided between the Project area and vernal pool, no degradation would occur to the pool or potential obligate vernal pool species that may utilize the pool. Limited traffic and human activity would be associated with long-term operation of the Facility, further limiting the Project's potential effect to this vernal pool.

The potential does exist for short-term impacts to herpetofauna associated with the vernal pool during construction of the Facility, due to possible encounters with migrating and basking

individuals that may intercept the proposed development footprint. Any such short-term impacts, to both obligate vernal pool species and herpetofauna that may be associated with the nearby wetland and riparian habitats, would be minimized by the proper installation and maintenance of erosion and sedimentation controls in accordance with *2024 Connecticut Guidelines for Soil Erosion and Sediment Control*. Further, the Petitioner proposes to implement a Resources Protection Plan (Sheet EN-1 in Exhibit 2, Appendix B) to mitigate any such short-term impacts to herpetofauna during construction. The Resource Protection Plan is intended to prevent incidental injury to any migrating vernal pool species by excluding them from entering the Project area during construction with the use of silt fence barriers isolating the limits of construction activities. Wildlife sweeps will be performed once silt fence isolation barriers are installed and prior to initiation of construction activities to remove any wildlife from the work zone.

3.2.4 Floodplain Areas

The Facility will not be located within a 100- or 500-year flood zone. APT reviewed the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") covering 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 Property is depicted on FIRM PANEL #09009C 0511H, dated December 17, 2010. Based upon the reviewed FIRM Map, the Site is located in an area designated as Zone X, which is defined as an area of minimal flooding, typically above the 500-year flood level.

No special design considerations or precautions relative to flooding are therefore required for the Facility. As no portion of the Project Area is proposed to be located in or impact 100- or 500-year flood zones, no impacts are anticipated to floodplain or downstream areas.

3.3 Water Quality

As discussed in this section, the Project will comply with DEEP's water quality standards. Once operative, the Facility will be unstaffed, and no potable water uses or sanitary discharges are planned. No liquid fuels are associated with the operation of the Facility. Stormwater generated by the proposed development will be properly handled and treated in accordance with the *Connecticut Stormwater Quality Manual ("SQM")*, effective March 30, 2024, and Appendix I, Stormwater Management at Solar Array Construction Projects ("Appendix I").

3.3.1 Groundwater

Groundwater underlying the Property is classified by publicly available DEEP mapping as "GA".[5] This classification indicates groundwater within the area is presumed to be suitable for human consumption without treatment.

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

3.3.2 Surface Water

The Project will have no adverse environmental effect on surface water quality. Based upon DEEP mapping, the Property is located in Major Drainage Basin 5 (South Central Coastal Basin), Regional Drainage Basin 50 (South Central Shoreline Complex), Subregional Drainage Basin 5106 (Hammonasset River), and Local Drainage Basin 5106-17 (Huzzle Guzzle Brook at mouth above Hammonasset River). The nearest named waterbody is Huzzle Guzzle Brook located approximately 200 feet north of the Property and approximately 300 feet from the closest portion of the Project. Huzzle Guzzle Brook is classified as a Class A surface waterbody by the DEEP. The Site will have no effect on this surface waterbody. Based upon DEEP mapping, the property is not located within a public drinking supply watershed.

The Project will be sufficiently set back from water resources proximate to the Property and will have no adverse environmental effect on surface water quality. During construction, erosion & sediment ("E&S") controls will be installed and maintained in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, effective March 30, 2024. Once operative, stormwater will be managed in accordance with the Connecticut Stormwater Quality Manual, effective March 30, 2024. Based upon DEEP mapping, Witch Meadow Brook is located downgradient and approximately 50 feet west of the Site and approximately 870 feet west of the Project area. Witch Meadow Brook is classified as a Class A surface waterbody by the DEEP.[6] The Project will have no effect on this surface waterbody.

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

[6] Designated uses for A classified waterbodies include potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply and other legitimate uses including navigation.

3.3.3 Stormwater Management

In addition to the *Connecticut SQM* and *Connecticut Guidelines for Soil Erosion and Sediment Control*, both effective March 30, 2024, the Project has been designed to meet Appendix I. Combined, these address two main concerns: stormwater runoff peak attenuation, and E&S control during construction. The Applicant will apply for a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ("General Permit") from DEEP. Technical details, mapping, and HydroCAD modeling results are provided in a Stormwater Management Report to be provided to DEEP and included in Exhibit 2, Appendix B. A summary of these results is provided below.

Stormwater Runoff Peak Attenuation

The potential for changes in runoff from the Site as a result of Project construction has been evaluated and addressed in compliance with Appendix I and recommendations contained in the SQM. A primary goal of the SQM is to provide a comprehensive framework for the long-term protection of natural resources in and around the Property from degradation as a result of stormwater discharges. Another goal of the SQM is to ensure that long-term post-development stormwater quality is protected and that there will be no erosion caused by the development.

During an August 14, 2023 pre-application meeting with DEEP, Christopher Stone of DEEP's Stormwater Section stated that contingent upon securing authorization under the Department of Army Regional General Permits for the State of Connecticut (as a Pre-Construction Notification General Permit 20 – Energy Generation and Renewable Energy Facilities and Hydropower Projects, which has been received the Project and attached in Exhibit 2, Appendix C), this Project would be eligible for filing under the DEEP General Permit with waiver of the permit's Appendix I wetland buffer requirements.

The Project will disturb areas for the installation of the proposed solar installation, including the necessary utilities and access road as well as the wetland enhancement area, resulting in approximately 8.32 acres of disturbance. Overall, hydrologically, through the transition from open spaced lawn to meadow, the post-developed condition is designed to mimic or improve the pre-developed condition.

There is an overall decrease in post-development runoff due to the change in cover type associated with converting lawn to meadow and the increase in a half step of Hydrologic Soil Group within the proposed limit of disturbance. A half step reduction[7] is required for the entire solar array to account for the compaction of soils that result from extensive machinery traffic over the course of the construction of the array. Thus, the storage within the proposed gravel access road, with a minimum field verified hydraulic conductivity of 0.0013 in/hr., is designed to provide the necessary water quality treatment volume for the additional impervious area provided by the access road and pads, as required by Appendix I.

The stormwater management for the Project has been designed such that the post development peak discharges to the waters of the State of Connecticut for the 2-, 25-, 50-, and 100-year storm events are less than the pre-development peak discharges. In addition, the Project adheres to the regulations and guidelines presented by DEEP's Appendix I as described above. As a result, the proposed solar array is not anticipated to result in adverse conditions to the surrounding areas and properties.

Erosion and Sediment Control During Construction

To safeguard water resources from potential impacts during construction, the Petitioner is committed to implementing protective measures in the form of a Stormwater Pollution Control Plan ("SWPCP"), to be finalized and submitted to the Council, subject to approval by DEEP Stormwater Management. The SWPCP will include monitoring of established E&S controls that are to be installed and maintained in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, effective March 30, 2024, the DEEP General Permit, and Appendix I.

Perimeter erosion controls (compost filter sock and silt fence) will encircle the Project area to capture sediment potentially mobilized during Site work. Inlet protection and compost filter sock will be installed at existing catch basins located within and proximate to the Project.

The Project area currently consists of dense tightly mowed turf associated with the golf driving range operation. This dense turf will provide sufficient temporary stabilization during construction. The Project area will subsequently be seeded with a permanent Ernst Pollinator-friendly Solar Farm Seed Mix (ERNMX-147 Fuzz & Buzz) upon completion of construction with the

[7] This relates to the difference of the runoff curve number between the Hydrologic Soil Group present on the Site and the next higher Hydrologic Soil Group.

use of a slice seeder to incorporate the seed mix in the existing turf. The phased erosion control plan and details are provided in Exhibit 2, Appendix A, *Project Plans*.

With the incorporation of these protective measures, stormwater runoff from Project development is not anticipated to result in an adverse impact to water quality associated with nearby surface waterbodies.

3.4 Habitat and Wildlife

Two distinct habitat types (vegetative communities), separated by transitional ecotones, are located on the Property; both are identified within the Project area. These habitats were assessed using remote sensing and publicly available datasets and physically inspected during a September 11, 2023 field evaluation.

The habitats occupying the Site include Developed and Developed Wetland.

3.4.1 Habitat Types

Developed

The Developed habitat encompasses the majority of the eastern, central and a portion of the western Property with east/central portions consisting of an alternative environment which will be discussed in subsequent paragraphs. Developed habitat consists of a commercial building with associated gravel parking area, golf driving range platforms, a maintenance building, and a large, maintained turf range. Routine frequent mowing results in a majority of the property being maintained in short turf; the perimeter of the range consists mainly of edge forest.

The Project will occupy large portions of the Developed habitat. The Project's development activities within this habitat type includes the installation of a gravel access road to the array area, solar panels, perimeter fencing, and trenchwork associated with the utility interconnection and components to the solar array. These activities are not anticipated to result in a significant negative impact due to the highly disturbed nature of this area and existing development.

Developed Wetland

Developed Wetland habitat occurs within the west/central portions of the Property. As previously discussed, these wetlands are mainly formed within the maintained turf areas, dominated by typical cool-season grasses that are tightly mowed, where historic alteration to the native wetland

profile has occurred. Stripping of wetland topsoil and backfilling/grading with non-native sand and gravel fill material has altered the historic extents and characteristics of this wetland resource. The existing level of degradation and current use of these wetlands as a golf driving range significantly hinders the "developed wetland's" ability to service typical functions.

The Project will encompass 2.35 acres of Developed Wetland areas but only result in approximately 800 FT^2 of permanent direct impacts and approximately 1,000 FT^2 of temporary impacts to these areas. Additionally, a portion of the buffer enhancement and wetland restoration areas are included within these Developed Wetlands. As previously introduced, robust E&S control measures are proposed as part of the Project along with implementation of a Resource Protection Plan to avoid potential secondary and short-term impacts to this habitat during construction. Lastly, the proposed wetland mitigation plan is designed to provide an overall benefit to these Developed Wetland areas resulting in the creation of high-functioning new wetland habitat and restoration of a segment of intermittent watercourse.

The following table provides the total acreages of each habitat type located on the Property.

Table 1: Habitat Areas

Habitat Type	Total Area On-Property (±acres)	Area Impacted by Project (±acres)
Developed	8.8	5.97
Developed Wetland	3.9	2.35

3.4.2 Wildlife

Project-related impacts within on-Site habitats are limited and are not anticipated to adversely affect wildlife.

Development of the Project will occur within Developed and Developed Wetland habitat types. Both habitats provide limited value from a wildlife utilization standpoint as a result of routine management and mowing of these areas, lack of diverse vegetative communities or cover, and high level of human activity associated with the active driving range. Based on the surrounding land uses, the adjacent disturbed areas located in proximity to the Project area are likely utilized by species that are tolerant of human disturbance and habitat fragmentation. Generalist wildlife species common to the region, including but not limited to several resident and migrant songbirds and mammals such as raccoon, striped skunk, grey squirrel, Virginia opossum, white-tailed deer,

and eastern chipmunk, could be expected to use the Property. Due to the relatively disturbed nature of these habitat areas, and given the abundance of more suitable habitat west, south and north of the Property that supports habitat needs of these common species, the Project is not anticipated to result in a significant impact to wildlife and would not impact edge-intolerant species.

Noise and associated human activities during construction may result in limited, temporary disruption to wildlife using these habitats; however, the current driving range operation already results in a relatively high level of human activity and noise on the Property. Any possible wildlife displaced during construction would be expected to temporarily disperse deeper into the adjacent wetland habitat or nearby edge forest. Post construction, operation of the Project will not result in a likely adverse effect to wildlife using these habitats because it will be unoccupied and does not generate any significant traffic or a high level of human activity.

3.4.3 Core Forest Determination

There will be no significant removal of mature vegetation associated with this Project as the entirety of the development area is within Developed/Developed Wetland habitats, including the cleared lawn areas used as a golf driving range. Limited tree removal/trimming of a small number of individual trees (no more than 0.1 acre) would occur to edge forest area (not classified as Core Forest) primarily associated with the access road from the existing gravel parking area in the southeastern corner of the Project and a few select trees in the northwest corner. Thus, a Core Forest Habitat Determination was not necessary for this Project.

3.5 Rare Species

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

3.5.1 USFWS Consultation

Consultation in accordance with Section 7 of the Endangered Species Act ("ESA") was completed through the U.S. Fish and Wildlife Service's ("FWS") Information, Planning, and Conservation System ("IPaC"). Two Federally listed Endangered species northern long-eared bat ("NLEB";

Myotis septentrionalis) and tricolored bat ("TCB"; *Perimyotis subflavus*) are known to occur in the vicinity of the Property. As a result of this preliminary finding, APT conducted an evaluation to determine if the Project would result in a likely adverse effect to NLEB and TCB.

The Project would require limited tree removal/trimming activities of no more than 0.1 acre; trees potentially provide NLEB and TCB habitat. A review of the DEEP Wildlife Division Natural Diversity Data Base ("NDDB") NLEB habitat map and Connecticut NLEB Observations by Town map revealed that the proposed Facility is not within 150 feet of a known occupied NLEB maternity roost tree and is not within 0.25 mile of a known NLEB hibernaculum (TCB may also use NLEB hibernaculum), and no known observations of NLEB are documented in the town of Madison documented. The nearest NLEB hibernaculum to the proposed Facility is located approximately 8.3 miles to the northwest in North Branford; the town of North Branford is also noted for NLEB winter and summer occurrences.

APT submitted the effects determination using the NLEB/TCB Determination Key ("DKey") within the IPaC system for this Facility and determined it "may affect, not likely to adversely affect" ("NLAA") NLEB and TCB. The NLAA determination is conditioned on a time of year restriction ("TOYR") for tree clearing resulting in tree clearing restricted to occur only during the inactive periods for NLEB and TCB, October 1 – April 14 as noted in a USFWS November 22, 2024 letter for NLEB and TCB generated by the NLEB/TCB DKey. Unless the USFWS responds within 15 days from the date of the letter, ESA consultation is considered complete and no further action is required. Should USFWS respond within 15 days of this letter, an update to this determination will be provided.

A full review of the ESA Compliance Determination, USFWS's Response Letter, and bat TOYR protection measures is provided in Exhibit 2, Appendix C, *USFWS and NDDB Compliance Statement*.

3.5.2 Natural Diversity Data Base

The DEEP NDDB program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state-listed species and to help landowners conserve the state's biodiversity. In furtherance of this endeavor, the DEEP also developed maps to serve as a pre-screening tool to help determine if there is the potential for project-related impact to state-listed species.

The NDDB maps represent approximate locations of (i) endangered, threatened and special concern species and (ii) significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by DEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded (or cross-hatched) polygons on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowners' rights whenever species occur on private property.

APT reviewed the most recent DEEP NDDB mapping, and identified State-listed species depicted in the location of the proposed Facility. Since the proposed Facility and Property are located within a NDDB buffer area, consultation with DEEP was required in accordance with their review policy and a review request was submitted. Two State Special Concern species, eastern box turtle (*Terrapene c. carolina*) and wood turtle (*Glyptemys insculpta*), are known to occur in the vicinity of the Property. Proposed turtle and bat protective measures have been incorporated into the Resources Protection Plan (Exhibit 2, Appendix B, *Project Plans,* Sheet No. EN-1 Environmental Notes – Resources Protection Plan) that would be implemented during construction of the proposed Facility; a copy of the Resources Protection Plan was included in APT's submission to the DEEP, who concurred that the Plan would minimize impacts to turtles during construction and issued a final Determination Letter (No. 202408844). Therefore, the proposed Facility is not anticipated to adversely impact any Federal or State Threatened, Endangered or Special Concern species. A copy of the NDDB Determination Letter is provided in Exhibit 2, Appendix E, *USFWS and NDDB Compliance Statement*.

3.6 Soils and Geology

Construction of the gravel access road and work within the wetland restoration area will generate approximately 1,200 c.y. of excess material. The Project plans on removal of the majority of those materials off the Property. Topsoil within the array area will remain in place with seeding sliced in following construction activities. Topsoil segregated from the excess material may be temporarily stockpiled and utilized during construction restoration work once the Facility is complete. Remaining excess soil will be removed in accordance with appropriate regulations and guidelines. All exposed soils resulting from construction activities will be properly and promptly

treated in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, dated September 30, 2023, effective March 30, 2024.

Surficial materials on the Property are identified as thin deposits of glacial till. Bedrock geology beneath the Property is identified as Middletown Formation. Middletown Formation is described as a heterogeneously interlayered dark to light-gray, generally medium-grained gneiss and granofels, ranging from quartz-biotite gneiss through felsic amphibole gneiss to amphibolite and characteristically containing anthophyllite or cummingtonite with or without hornblende. The Petitioner does not anticipate encountering bedrock during Project development.

3.6.1 Prime Farmland Soils

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

According to the Connecticut Environmental Conditions Online Resource Guide[8] approximately 5.62 acres of the Site contain Prime Farmland Soils (See Figure 2, *Existing Conditions Map)*, with approximately 3.54 acres located within the Project area. This area is currently occupied by the golf driving range. No portion of the Property is currently cultivated for agricultural purposes. Limited excavation and regrading activities are necessary, along with limited tree removal and trimming, within areas mapped as Prime Farmland Soils to facilitate Project development. Although classified as Prime Farmland soil, detailed soil explorations performed by qualified soil scientists within the Project area revealed no natural soil profiles. These areas have been historically altered by removing the native topsoil and subsoil horizons and backfilling with sand and gravel. Those historic activities have effectively rendered these soils incapable of functioning as Prime Farmland.

After its useful life, the Facility will be decommissioned, and all of the disturbed areas will be reseeded with the same (or approved equivalent) blend as established within the rest of the Project area, ultimately creating additional available cleared areas for agricultural use. Therefore, the Project will not materially affect Prime Farmland Soils.

[8] Connecticut Environmental Conditions Online ("CTECO") Resource Guide, https://cteco.uconn.edu.

3.7 Historic and Archaeological Resources

At the request of APT, and on behalf of the Petitioner, Heritage Consultants LLC ("Heritage") reviewed relevant historic and archaeological information to determine whether the Property holds potential historic or cultural resource significance. The findings of this investigation revealed the proposed Project will not cause effects on properties or archaeological resources listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places. The results of this investigation were provided to the Connecticut State Historic Preservation Office ("SHPO"), and Federally recognized Tribal Historic Preservation Offices ("THPOs") of Mashantucket Pequot Tribal Nation, Mohegan Tribe of Indians of Connecticut, Narragansett Indian Tribe, and Wampanoag Tribe of Gay Head-Aquinnah. SHPO responded in a September 27, 2024 letter that "it is the opinion of SHPO that no historic properties will be affected by the proposed solar project and no additional archaeological investigations are warranted. With the exception of the Mashantucket Pequot Tribe, which indicated the Project would have no effect on cultural resources, no responses from the other THPOs have been received as of the date of this document. As such, no additional archaeological investigation of the Property is recommended prior to construction of the Facility. See Exhibit 2, Appendix F, *SHPO Correspondence Letter.*

3.8 Scenic and Recreational Areas

No State or local designated scenic roads or scenic areas are located near the Property and therefore none will be physically or visually impacted by development of the Project. The nearest State-designated scenic road is a portion of the Boston Post Road (US Route 1), in the center of Madison approximately 1.79 miles to the south.

An open space parcel, Old Mill Acres, owned by Madison Land Conservation Trust abuts the northern portion of the Property. No blazed trails are located on the Old Mill Acres parcel. A portion of Madison Land Conservation Trust's Camp Hadley Trail is located approximately 0.25 mile west-northwest of the Property; west of Ridge Road. No direct or indirect impacts are anticipated to these resources. There are no Connecticut Blue Blaze Hiking Trails located proximate to the Property. See Figure 4, *Surrounding Features Map,* for this and other resources located within one mile of the Site.

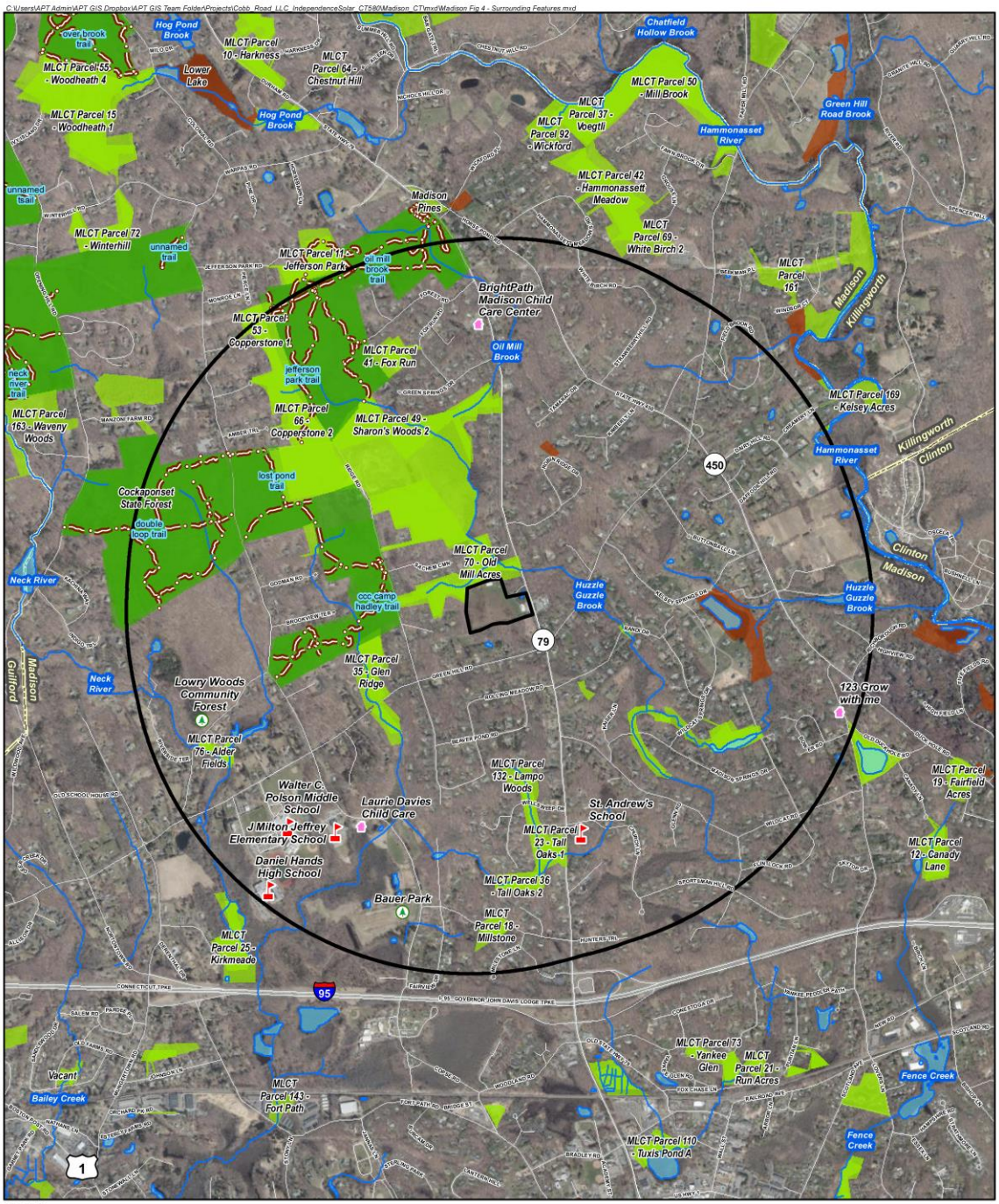

Figure 4 - Surrounding Features

Proposed Solar Energy Facility
391 Durham Road
Madison, Connecticut

3.9 Visibility

One of the advantages of the proposed Site is that the Facility can be well screened from the public way and abutters due the existing screening features as well as the addition of proposed screening measures, including decorative wooden fencing and tree planting. The portion of the Site where the Facility is to be located is already mostly well screened from Durham Road by the existing commercial building and a dense forested area along the road. There are a currently a few "gaps" between the commercial building and the forested areas on the north and south side of the building where an 8-foot-tall decorative wooden fence is proposed to be installed so that the Facility should not be visible from Durham Road. Views of the Facility from Durham Road will be limited to the Facility's wooden screening fence south and north of the existing commercial building, the tops of the proposed evergreen screening trees, and of the new interconnection poles located along the eastern Property boundary extending from existing wooden distribution utility poles along Durham Road. Portions of the Facility may also be visible seasonally (when the leaves are off the deciduous trees) from abutting properties to the north, and south; these areas would likely only exhibit views of the Facility's privacy screening fence obstructed by existing intervening forest vegetation. Residences are located on abutting properties to the west and south. A dense evergreen tree line exists along the Property's western boundary, effectively obscuring views into the Project area. Screening trees will be planted along the southeastern corner of the array perimeter fence to provide additional screening for abutting properties to the south. See Exhibit 2, Appendix G, *Viewshed Maps and Photo-Simulations*.

The Facility will consist of solar panels measuring approximately 10 feet above grade. The solar modules are designed to absorb incoming solar radiation and minimize reflectivity, such that only a small percentage of incidental light will be reflected off the panels. This incidental light is less reflective than common building materials, such as steel, or the surface of smooth water.

3.10 Noise

The Petitioner retained Epsilon Associates, Inc. to evaluate the predicted sound levels from the Facility and determine the potential impact from the proposed Facility in the surrounding community. The primary sources of the noise from the Facility derive from eight inverters and one 2,000 kVA transformer. In order to limit noise level from the Project for abutting properties all of the Project's inverters and transformer are located more than two hundred (200) feet from

the nearest property line in all directions. Upon development of the Facility, the Property will be considered a Class C source property. Properties immediately surrounding the Property are primarily residential and are considered Class A receptors.

Based on the report's modeling results, the sound level from the proposed Facility will comply with the State of Connecticut standards at all residential property lines and that increases in background sound levels are expected to be minimal. The report concludes that the proposed Facility will be in compliance with the State of Connecticut noise control regulations. The Madison Municipal Code, Section 13-1 "Noisemaking devices" does not contain any quantitative sound level limits. See Exhibit 2, Appendix H, *Sound Level Analysis.* Construction noise is exempted under State of Connecticut regulations for the control of noise, RCSA 22a-69-1.8(h).

3.10 Lighting

No exterior lighting is planned for the Project. Given the existing ambient lighting within the area of the Property, any incremental effect of Project lighting will be minimal.

3.11 FAA Determination

The Petitioner submitted relevant Project information to the Federal Aviation Administration ("FAA") for an aeronautical study to evaluate potential hazards to air navigation. The FAA provided a Determination of No Hazard to Air Navigation on November 18, 2024. See Exhibit 2, Appendix I, *FAA Determinations*. The nearest airport is Chester Airport, located approximate 7.5 miles northeast of the Site in Chester, Connecticut. Based on this determination, there is no need to conduct a glare analysis.

4 Conclusion

As demonstrated by this Petition, the Project will comply with the standards set forth in Connecticut General Statutes § 16-50k(a). The DEEP air and water quality standards will be met. Further, it will not have an adverse effect on the existing environment and ecology or affect the scenic, historic, and recreational resources in the vicinity of the Project.

Overall, development of the Project will seek to improve the environmental conditions at the Site by converting a highly developed and maintained area used as a golf driving range, including portions of the degraded "developed wetlands", into a meadow habitat below the solar array. Additionally, the Project will improve the overall functions and values of the "developed wetlands" through the implementation of the wetlands restoration and buffer enhancement plan that will result in creation of a high functioning, densely planted new wetland area within the Site. The proximity of this wetland mitigation area to relatively unaltered wetlands on the adjacent conservation property only further enhances the functions and values of this new wetland area. The Project will improve the overall wildlife habitat for the Property and surrounding area from its existing use as a golf driving range.

With implementation of the Resource Protection Plan, construction and operation of the Facility will properly protect rare species, wetland resources and other wildlife from any potential adverse effect. No core forest is located on the Site. Mapped prime farmland soils have historically been altered and infilled with sand and gravel. Minimal grading and excavation will be required for the development of the Facility. Excess soil generated from the gravel access road and wetland restoration area will be screened with the topsoil remaining on the Property for use. The Project will be well screened with limited visual impacts.

The Project has been designed to adequately handle water volume, in accordance with the DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* as well as Appendix I. The Petitioner will implement a SWPCP in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, effective March 30, 2024, the DEEP General Permit, and Appendix I, that will include provisions for monitoring of development activities and the establishment of E&S controls to be installed and maintained throughout construction.

Given the benefits the Project will provide to the State of Connecticut, the Petitioner respectfully requests that the Council approve the Project as currently designed and issue a ruling that a Certificate is not required.