

DRAFT

**Petition No. 1347A
GRE GACRUX LLC
117 Oil Mill Road, Waterford**

**Partial Development & Management Plan
Staff Report
March 19, 2021**

On November 9, 2020, the Connecticut Siting Council (Council) issued a Declaratory Ruling to GRE GACRUX LLC (GRE), pursuant to Connecticut General Statutes §4-176 and §16-50k, for the construction, maintenance, and operation of an approximately 16.78-megawatt (MW) alternating current (AC) solar photovoltaic electric generating facility located at 117 Oil Mill Road in Waterford and an associated electrical interconnection to Eversource Energy's existing substation at 325 Waterford Parkway North in Waterford. In its Declaratory Ruling, the Council required GRE to submit a Development and Management Plan (D&M Plan).

On February 3, 2021 GRE submitted a Partial D&M Plan that included site plans and documentation specific to the pre-construction phase of the project. GRE would submit additional D&M Plan prior to the commencement of solar array construction.

On February 22, 2021 the Council submitted interrogatories to GRE. GRE submitted responses to the interrogatories on March 8, 2021. Additional information was submitted on March 16, 2021.

As required by the Council's Declaratory Ruling Condition 2, the Partial D&M Plan was served on the parties and intervenors listed on the service list, including, but not limited to, the Town of Waterford (Town), for comment. No comments regarding the D&M Plan were received.

On February 16, 2021 GRE submitted a request to commence tree clearing at the site, pursuant to the Council's Declaratory Ruling Condition 4. The Council approved the request to commence site clearing on February 26, 2021 with the condition "Tree clearing activities shall conclude no later than March 31, 2021."

On February 25, 2021, GRE held a pre-construction meeting at the Project site that was attended by representatives of the DEEP Stormwater Division and the Town.

The Project consists of the installation of a solar photovoltaic facility within an 88-acre leased area on an approximate 152-acre undeveloped parcel. Most of the parcel was previously logged under a forestry operation permit issued by the Town. The parcel has frontage on Oil Mill Road and an existing access drive that extends east from Oil Mill Road into the interior of the parcel to a network of logging access roads and skidder roads. A 125-foot wide Eversource overhead electric transmission line right-of-way (ROW) crosses the northern portion of the parcel.

In compliance with Condition 1 of the Council's Declaratory Ruling, GRE submitted a copy of the Project Stormwater Permit that was issued by DEEP on November 3, 2020.

Condition 2 of the Council's Declaratory Ruling requires the following information to be included in the D&M Plan:

- a. **A final site plan including, but not limited to, final solar panel layout, access roads, electrical interconnection, fence design, equipment pads, final site seeding and landscape planting details including pollinator-friendly species, and stormwater management control structures;**

The final site plan provided illustrates the site design, solar array layout, equipment pads, perimeter fencing, and access roads.

The site design includes 45,556 400 Watt modules arranged two high in portrait. The panels would be installed at a 25 degree angle. Inter-row spacing is 14.5 feet. Consistent with the Council's Declaratory Ruling Condition 3, solar panels would be a minimum 200 feet from on-site wetlands/watercourses.

The site will be accessed from a driveway extending east from Oil Mill Road to a gated entrance in the northern section of the site. From the main gate, a 15-foot wide gravel access road will extend through the solar field to each transformer pad and to access gates/turnarounds near each stormwater basin. Approximately 13,500 linear feet of gravel access road will be constructed.

Nine concrete inverter/transformer pads (10 feet by 40 feet) would be constructed at designated locations within the solar array area. One switchgear pad would be constructed by the main access gate. GRE is consulting with Eversource to receive ROW encroachment approval for the electric distribution feeders that will cross the ROW to reach the switchgear pad.

From the switchgear pad, an underground feeder cable would extend to Oil Mill Road, following the route of the main access road. Once at Oil Mill Road the underground feeder would extend to the point of interconnection on Oil Mill Road, in a location and design determined by Eversource.

A seven-foot high chain line fence, compliant with the National Electrical Code, would enclose the solar array area. The fence would be installed with a six-inch gap between the bottom and ground to allow for small wildlife movement. A 15-foot wide clearance would be maintained between the fence and the solar panel rows.

A total of 15 stormwater basins would be constructed at the site, each serving a specific drainage area. The basins consist of a mix of pond type basins, sand filter basins, and infiltration basins. A series of swales would direct stormwater into the basins.

Final seeding of the site would include a solar farm/pollinator friendly seed mix. Due to the relatively isolated nature of the site, no landscaping is proposed.

- b. Erosion and sedimentation control plan consistent with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control including, but not limited to, temporary sediment basin details, site stabilization seeding/growing season details prior to installation of post driving/racking system, site stabilization measures during construction, inspection and reporting protocols, methods for periodic cleaning of temporary sediment traps and swales during construction, and final cleaning of stormwater basins upon site stabilization;**

Construction erosion and sedimentation (E&S) controls include swales, temporary sediment basins/traps, site perimeter controls, check dams, and other measures as required during construction to manage stormwater. E&S controls would be installed in accordance with the *2002 Guidelines for Soil Erosion and Sediment Control* and DEEP's Stormwater Pollution Control Plan (SWPCP) requirements.

The detention basins would serve as sediment traps except for the infiltration basins. The five infiltration basins would have temporary sediment traps constructed upgradient of the basins to collect and filter stormwater prior to discharge to prevent contamination of the filter media within the infiltration basins. After construction is complete, the temporary sediment traps would remain to function as oversized pretreatment basins for the infiltration basins.

The Site engineer would inspect the stormwater management features to confirm they are constructed in accordance with design specifications.

Perimeter erosion controls would consist of wood mulch berms and entrenched silt fence along the inside edge of the berm. *ERTEC E-Fence20* would be installed downgradient of the sediment trap outfalls to allow water to filter through the fence. Within the solar array area, compost filter socks would be installed in areas where water channelizes. Stone check dams would be installed in natural drainage ways downgradient of the sediment trap outfalls. Methods to control slope erosion include the use of straw wattles, erosion control blankets, temporary diversions and the re-grading of gullies.

Accumulated sediment would be removed from E&S controls if the sediment exceeds six inches in depth or on an as needed basis. Sediment traps would be cleaned once sediment accumulates to a depth greater than one inch above the trap bottom.

GRE would seed areas that have been grubbed and re-graded within 72 hours. It is anticipated seeds will be allowed to grow from the end of the spring, all of summer, and into the fall season, with construction work commencing no earlier than October 2021. Work will only commence if a stabilized vegetative cover has been established. Consistent with the Council's Declaratory Ruling Condition 5, the anticipated seeding schedule will allow for seed growth to be longer than a single growing season.

Site inspections of E&S controls, stockpiles, disturbed areas and construction entrance areas will be conducted by a qualified third-party inspector, in accordance with the DEEP-approved SWPCP. The inspections will occur on a weekly basis as well as within 24 hours after a rain event exceeding 0.5 inch. The SWPCP contains an inspection checklist that will be reviewed and signed by the Site engineer on a weekly basis. The Site engineer will perform inspections regarding compliance with the SWPCP on a monthly basis. Inspections by the Town and DEEP personnel may also occur.

- c. Site construction detail/phasing plan including, but not limited to, construction laydown area, site clearing/ grubbing, wood waste cleaning, grading, excess earth material disposal, site**

stabilization seeding/growing season details, soil stockpiles, and temporary stormwater control installation;

The project would be constructed in two main phases, the Pre-Construction Sequence and the Construction Sequence, as follows;

Pre-Construction Sequence- Perimeter erosion and sediment controls would be established followed by the installation of sediment traps and basins. Cleared trees and wood waste from previous logging/clearing operations would be mulched to create the perimeter mulch berms. Once the sediment basins/traps are stabilized, site grubbing and re-grading will occur. No grubbing would occur in areas outside of the solar array area, except where necessary to establish the stormwater management system.

Soil stockpiles would be located within the limits of disturbance, away from wetland resources. Topsoil would be applied to re-graded areas to a minimum depth of three inches. Excess soil from site grading and vegetative material from logging waste cleanup would be removed from the site.

Disturbed areas would be seeded with tackifier within 72 hours. Seeds will be allowed to germinate and grow in excess of a growing season prior to the commencement of the Construction Sequence which is anticipated to begin in early October 2021.

Construction Sequence- Construction of the solar array would begin by installing ground screw foundations, followed by the racking system. Approximately 13 acres of foundations would be installed ahead of the racking installation. Solar panels would be installed on the racking using light duty equipment. Disturbed areas would be re-graded to prevent gullies and reseeded/stabilized as work proceeds. Upon the completion of construction work, the sediment basins would be cleaned.

The construction laydown area is located in a previously cleared area along the access road in the western portion of the site. The approximate one-acre area will be stabilized with woodchips/crushed stone and would be isolated from downgradient areas by silt fence.

d. Eastern ribbon snake protection plan that complies with the DEEP Natural Diversity Database Determination letter dated February 22, 2020;

An eastern ribbon snake protection plan is included within the D&M Plan submittal and is presented on the site plans. Elements of the protection plan include a contractor awareness program, re-location of snakes beyond the perimeter silt fence, reporting of any snake observations to DEEP, and removal of E&S controls after final site stabilization.

e. Consultation with the DEEP Dam Safety program regarding permitting requirements, if any, for the proposed stormwater basins prior to site construction;

GRE has consulted with the DEEP Dam Safety Program regarding the stormwater detention basins. DEEP indicated the stormwater basins will not need a DEEP Dam Safety Permit because they will each retain less than three acre-feet of water at maximum storage elevation. Once the stormwater basins are constructed, the basin berms (dams), GRE must contact the Dam Safety Program and submit a dam registration form.

f. Final structural design for the racking system stamped by a Professional Engineer duly licensed in the State of Connecticut;

This item is not the subject of GRE's request for review of the Partial D&M Plan. This information will be submitted at a later date.

g. Spill Prevention and Countermeasures Plan;

GRE submitted best management practices for fuel storage, equipment refueling and spill management during construction at the site.

Light construction vehicles will be fueled off site at a service station. Heavy construction equipment will be fueled on site from either a portable fuel tank, with secondary containment, staged on site or from the bed of a pickup truck, or a fuel delivery truck.

Spills and releases will be contained and cleaned immediately using sorbent materials or other appropriate methods. Spills of any quantity require notification to the designated site spill coordinator and DEEP.

Daily inspections of vehicles will occur, and if leaks are detected, leaks will be contained with drip pans. If an immediate repair to the vehicle is not possible, the vehicle will be removed from the site.

h. Project construction hours/days of the week;

Construction hours would be from 6:30 a.m. to 5:00 p.m. Monday through Saturday, although not every Saturday will have work scheduled.

i. Construction traffic control plan developed in consultation with the Town;

The only access to the site will be from the entrance on Oil Mill Road. Trees near the site entrance will be trimmed as needed to maintain minimum sight line distances from the driveway entrance. Trucks entering construction signs will be established on Oil Mill Road both north and south of the construction entrance.

To avoid disruption to residential areas, all truck/equipment deliveries would be directed to access and exit the site from the south on Oil Mill Road. Truck deliveries are expected to peak at up to 20 per day during the second and third months of construction. A police officer and construction flagging personnel would be used to direct traffic on Oil Mill Road, if necessary.

j. Details of how the project complies with the CT State Fire Prevention Code, Ground Mounted Photovoltaic System Installations, Section 11.12.3;

This item is not the subject of GRE's request for review of the Partial D&M Plan. This information will be submitted at a later date.

- k. Post-Construction Operations and Maintenance Plan that includes inspections of facility components, vegetation and stormwater basin/controls, corrective/remediation measures, vegetation management procedures that incorporates any DEEP-required seasonal restrictions, and monitoring protocol of stormwater basins #1 and #16 for vernal pool species; and**

This item is not the subject of GRE's request for review of the Partial D&M Plan. This information will be submitted at a later date.

l. Decommissioning Plan.

This item is not the subject of GRE's request for review of the Partial D&M Plan. This information will be submitted at a later date.

Recommendations

If approved, staff recommends following conditions:

1. Provide detail for the proposed switchgear/inverter pads, and the underground feeder cable/trench.
2. Provide methods for periodic cleaning of temporary sediment traps and swales during construction, and final cleaning of stormwater basins upon site stabilization; and
3. Provide final seed mix specifications.

Site Layout

