



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Web Site: www.ct.gov/csc

**Docket No. 461A
Eversource Energy
Partial Development and Management Plan
Volume 1, Part 2B**

**Greenwich Substation
290 Railroad Avenue, Greenwich
Staff Report**

March 28, 2019

Introduction

On February 4, 2019 Eversource Energy (Eversource) submitted a partial Development and Management (D&M) Plan to the Connecticut Siting Council (Council) for the Greenwich Substation portion of the Greenwich Substation and Line Project (GSLP) that was approved by the Council on November 14, 2017. According to the Council's Decision and Order (D&O) Condition 3, Eversource is to submit two D&M Plans for the GSLP, one specific to the Greenwich Substation and other substation improvements (Volume 1), and one specific to the underground 115-kV transmission lines (Volume 2).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-60, a partial or full D&M Plan shall be prepared for any proposed energy facility for which the Council issued a Certificate of Environmental Compatibility and Public Need.

The submitted, partial D&M Plan only pertains to the construction of the Greenwich Substation at 290 Railroad Avenue in Greenwich (Volume 1, Part 2B). On June 21, 2018 the Council approved a partial D&M Plan (Volume 1, Part 2A) specific to site preparation activities at the 290 Railroad Avenue parcel including the removal of the Pet Pantry building and establishing a controlled access, construction area perimeter.

Municipal and Other Public Consultations

Prior to submission of the partial D&M Plan, Eversource provided the Town of Greenwich (Town) with a draft version of the partial D&M Plan and offered to meet with the Town to discuss this portion of the GSLP. Eversource submitted a final copy of the partial D&M with the Town, parties and intervenors listed on the service list, and the property owner of the 290 Railroad Avenue parcel for comment. No comments have been received to date.

Volume 1, Part 2B D&M Plan – Greenwich Substation

The D&O requires the following information to be included in the D&M Plan:

- a. **A detailed site plan showing the placement of all substation equipment, structures, and buildings within the substation perimeter, access, provisions for storm water management and transformer oil containment and fencing;**

Detailed site plans have been submitted as part of the Volume 1, Part 2B D&M Plan. The site plans include an overall project plan with equipment locations, foundation plans, grading and stormwater drainage plans, perimeter wall details, and a lighting plan, among others.

The Greenwich Substation will consist of an outdoor, air insulated, 115/13.2-kV switchyard and includes, but is not limited to, the following equipment:

- 2 – 62 MVA (115/13.2-kV) Power Transformers,
- 1 – 115-kV Circuit Breaker
- 2 – 115-kV Underground Cable Termination Structures
- 1 – Control Enclosure (40 feet by 24 feet by 12 feet)
- 1 – Distribution Switchgear Enclosure (80 feet by 24 feet by 12.5 feet)
- 1 – Lightning Mast (extends to 65 feet above grade)
- Associated disconnect switches, lightning arrestors, potential transformers and bus support structures

Subsurface construction, including the installation of foundations, duct banks, and the grounding system will involve excavation, concrete form work, use of steel reinforcement, and concrete placement. Once the foundations and other below grade work has been completed, steel structures to support bus work and electrical equipment will be constructed using cranes, forklifts, and aerial work platforms.

In general, major equipment such as the power transformers, control enclosures, and the distribution switchgear will be installed first, followed by other equipment such as lightning arrestors, insulators, disconnect switches and aluminum bus. A 20-foot firewall would enclose each transformer on the south, east and west sides. Once all work is complete, the substation site will be graded and covered with a 6-inch layer of crushed trap rock.

The transformers and buswork will be located in the wider, northern section of the substation yard. The distribution switchgear enclosure will be located to the south of the transformers. The relay control enclosure will be located in the triangular shaped, southwest corner of the substation yard.

Enough open space will remain in the substation yard to accommodate a mobile transformer if one of the two permanent transformers is out of service.

The construction of the Greenwich Substation will require cutover work from the existing Prospect Substation to the Greenwich Substation. Modifications at Prospect Substation include the removal of four 27.6/13.2-kV transformers and associated 13.2-kV switchgear. Some related in-street work adjacent to the Greenwich Substation, including the installation of three sub-grade vaults, will be required to facilitate the distribution connections to the Greenwich Substation.

Storm Water Management and Transformer Oil Containment

The power transformers will each have a secondary concrete containment sump that is capable of holding 110 percent of each transformer's oil capacity. The containment sump is designed to allow rain water to flow through the on-site subsurface drainage system to an oil-water separator, which in turn, will discharge to the municipal stormwater drainage system of Field Point Road. The transformers will be equipped with a low-oil-level alarm system. If a drop-in oil level is detected, an alarm will be relayed automatically to the local Eversource dispatch center for immediate response.

A series of catch basins within the substation will collect and direct substation stormwater runoff to the oil-water separator before discharge into the existing municipal storm sewer system on Field Point Road.

Perimeter Wall and Substation Access

The Greenwich Substation will be enclosed by an approximately 15-foot high, 760-foot long perimeter pre-cast concrete wall. The wall will be designed with a red brick veneer and will have wall panel sections separated by pilasters. Decorative concrete capstones will extend along the top of the wall and pilasters. Currently, the wall panel sections feature a decorative dark brick rectangular design. Prior to starting the production of precast concrete wall units, Eversource will consult with the Town regarding the final decorative design of the wall panels.

Two vehicle access substation swing gates will be installed: a 12-foot wide gate will provide access from Railroad Avenue at the northeast section of the substation and a 20-foot wide gate will provide access to Field Point Road along the west side of the substation. Both gates are composed of perforated steel and have a speckled oak finish. Both access points will be paved from the road to the access gate where the surface will transition to crushed traprock.

In accordance with D&O Condition 1, the perimeter substation wall was relocated south by approximately 10 feet from the original proposed plan to increase the setback distance from Railroad Avenue. With this change, the distance from the perimeter wall to Railroad Avenue ranges from approximately 23 to 27 feet. The sidewalk along Railroad Avenue will be approximately 15 feet from the substation perimeter wall at its closest point.

The substation perimeter wall will be approximately 5.5 feet from both the east property line and south property line at its closest point. Along Field Point Road, the substation perimeter wall will be approximately 5.5 feet from an existing stone wall located along the property line and Field Point Road.

- b. A detailed site plan showing the underground transmission line route, splice vaults, traffic management plan, identification of pipe jacking sites, provisions for underground cable protection, substation improvements, and equipment and material staging areas;**

This item does not apply to the substation portion of the GSLP.

- c. An erosion and sediment control plan that includes provision for any areas for the temporary storage of fill materials and is consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, as amended;**

The D&M Plan specifies work procedures that comply with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, as amended (CT Guidelines), and Eversource's *Best Management Practices Manual for Massachusetts and Connecticut*, September 2016 (BMPs).

Temporary erosion and sedimentation controls (E&S controls) were previously installed as part of the site preparation portion the D&M Plan (Vol. 1, Part 2A). Existing E&S controls will be maintained and repaired as necessary. Additional E&S controls will be established where necessary. Temporary E&S controls will be maintained until the disturbed areas are satisfactorily stabilized. Adjacent catch basins will be protected with sediment drain filters. The catch basin filters will be inspected regularly and replaced when necessary.

Excavated soils suitable for reuse will be temporarily stockpiled on the site prior to repurposing for backfill. Excess soil will be live-loaded into dump trucks and handled and disposed of in accordance with regulatory requirements and the BMPs.

If groundwater or stormwater accumulates in excavation areas, the water will be pumped through a filter bag before being directed to a catch basin. Any water that is suspected of being contaminated will be removed and disposed of by an environmental contractor.

Prior to construction, anti-tracking pads will be installed at the two construction entrances. A fine water spray will be used at the site to control construction-related dust.

A concrete truck wash-out station will be established at the 281 Railroad Avenue staging area or at the site, as determined in the field by the contractor. The washout area will be established using E&S controls that conform to the CT Guidelines and the BMPs.

Work activities associated with substation construction will extend into the winter months. If necessary, Eversource will implement appropriate snow removal and de-icing procedures in accordance with the BMPs.

- d. A spill prevention and countermeasures plan;**

A Spill Prevention, Control and Countermeasures Plan (SPCCP) has been developed that establishes a process to minimize the potential for a spill of petroleum products or hazardous or toxic substances, and, if a spill does occur, appropriate measures to contain and control the release. Eversource's project contractors will be responsible for following Eversource's SPCCP. The SPCCP includes provisions for training, equipment inspection and maintenance, and the identification, proper storage, transport and use of materials at Project work sites. Other provisions include vehicle and equipment re-fueling at designated locations, maintaining spill kits on-site that have emergency clean up and spill containment materials (absorbent socks and/or pillows and wipes, temporary disposal bags), and reporting procedures to inform the on-site construction manager and DEEP.

e. Identification of areas for staging and equipment lay down, field office trailers, sanitary facilities and parking;

Construction staging areas will be established at the Eversource-owned 281 Railroad Avenue property (“Pole Yard”) across from the substation site and on a leased portion of a commercial property located at 40 Old Track Road in Greenwich.

Temporary construction support services such as portable toilets and office trailers will be located at the staging areas. No solid or liquid waste will be disposed of at the staging areas. Once the Project is complete, all construction related equipment, materials, and construction debris will be removed from the staging areas.

f. Details for the Indian Harbor crossing including related temporary and permanent construction impacts and methods to reduce such impacts;

This item does not apply to the substation portion of the GSLP.

g. A vegetative clearing/trimming plan;

Vegetation was previously removed as part of the site preparation portion the D&M Plan (Vol. 1, Part 2A).

h. Restoration plan for disturbed areas and roads;

Construction debris will be removed from the site and be properly disposed of in accordance with local, state and federal regulations and the BMPs. Areas adjacent to the site will be cleaned/swept, including sidewalks and adjacent street areas. Perimeter areas disturbed during construction will be restored, including sidewalks, paved entrances and any temporary easement areas on adjoining properties.

The substation perimeter wall at the corner of Field Point Road and Railroad Avenue is angled southward to avoid removing an existing fastigiata oak. Protective measures will be employed to protect the tree and root structure to the extent feasible.

An existing stone wall along Field Point Road and at the south end of the substation property will be maintained. An existing arborvitae hedgerow will also be maintained along the south property line. These features have been incorporated into the post-construction landscape plan.

Post-construction Landscape Plan

The post-construction landscape plan contains a detailed planting list including a variety of tree and shrub species that range in height from two feet to 50 feet at maturity. The plantings have a one year contractor warranty and will be replaced, if necessary.

Plantings along Field Point Road will be installed in a linear row between the existing stone wall and substation perimeter wall. A recessed alcove area by the substation access drive will allow for some

depth and larger plantings. Plantings at the corner of Field Point Road and Railroad Avenue and along Railroad Avenue will consist of multiple rows of trees and shrubs.

The area fronting Railroad Avenue will be reconfigured from the former sidewalk and asphalt parking area associated with the former Pet Pantry building to include a two-foot wide grass strip between the road and a new five-foot wide concrete sidewalk. A 650 square-foot lawn area followed by tree and shrub plantings will be installed between the new sidewalk and perimeter substation wall.

Decorative river stones will be installed along the east property line at the base of the substation wall for approximately 85 linear feet where it abuts an existing shopping plaza parking lot.

i. A construction schedule, including construction hours;

Work is expected to begin in the first quarter of 2019 and would be completed by the first quarter of 2020. Work related to the Prospect Substation is anticipated to be completed within the first half of 2020. Construction work that generates noise will occur from 7:00 AM to 6:00 PM, Monday through Friday and 9:00 AM to 5:00 PM on Saturdays.

Some construction activities must be performed beyond established construction hours such as the delivery and installation of large equipment (transformers, switchgear and the control enclosure). In some cases, the work may need to occur on a continuous 24-hour basis (e.g., transformer installation and oil filling) or on Sundays. Eversource would request permission from the Council prior to initiating any noise generating work outside of previously approved work hours.

A portion of the construction work will be performed during winter months and temporary lighting may be required for after sunset work. Temporary lighting will be focused on targeted work areas resulting in a short-term, localized effect.

Construction activities and the use of machinery such as jackhammers, drilling rigs, and cranes, will result in localized and short-term increases in ambient noise levels in the vicinity of the Substation. Any noise related to construction is exempt per §22a-69-1.8 of the DEEP Noise Control Regulations.

To minimize the potential for traffic issues during construction, access and traffic control measures will be implemented in consultation with representatives from the Town, as necessary. Such measures will include procedures for safe ingress and egress of construction equipment and other vehicles.

Additional traffic control measures will need to be employed for the installation of two distribution vaults and related duct banks on Field Point Road as the road will have to be closed to for this work. The closure of Field Point Road will alter traffic patterns and affect access to properties at 255 Field Point Road and 330 Railroad Avenue. Eversource will work with the Town and the affected property owners to maintain access to these properties and to properly detour traffic around the construction zone.

Prior to the commencement of work in an area, Eversource will notify the Town and affected stakeholders by mail and door to door contact. Outreach will continue through the duration of the project. A Project information website will be available that includes email and telephone contact information.

j. A blasting plan, if necessary;

In locations where shallow bedrock is encountered, Eversource contractors will implement hoe-ramming or other mechanical chipping techniques. Although blasting is not anticipated, prior to commencing any blasting activities, Eversource will retain a certified blasting specialist licensed by the Connecticut Commissioner of Emergency Services and Public Protection. A site-specific blasting plan will be developed in compliance with state and local regulations and Eversource guidelines. The blasting plan will also be coordinated with the Town Department of Public Works and the local Fire Marshal.

Community outreach will occur to inform the public about the planned blasting activity and conduct pre- and post-work inspections, as necessary, of properties abutting the work sites where blasting will be performed. Eversource will contact the police and fire departments regarding the blasting schedule.

k. EMF Monitoring Plan;

Eversource has previously submitted a post-construction Electric and Magnetic Field Monitoring Plan (EMFMP) for the Project as part of the D&M Plan (Volume 2, Part 1) for the underground transmission line portion of the GSLP that was approved by the Council on January 17, 2019. A copy of the previously approved EMFMP was submitted with this portion of the D&M Plan. The EMFMP includes post-construction magnetic field measurements along the perimeter of the Greenwich Substation. Within 12 months of the in-service date of the GSLP, Eversource will submit a final EMFMP measurement report to the Council.

l. Submission of monthly construction progress reports.

In accordance with RCSA §16-50j-62, Eversource will submit monthly construction progress reports that will summarize the status of Project construction.

The Greenwich Substation (Volume 1, Part 2B) D&M Plan complies with requirements of RCSA § 16-50j-60 to 16-50j-62 and is consistent with the Council's D&O dated November 14, 2017.