

## **DRAFT**

### **Petition No. 1436 Groton Utilities 1410/400/1280 Line Upgrade Project Ledyard - Groton**

### **Staff Report February 19, 2021**

#### **Introduction**

On October 28, 2020, the Connecticut Siting Council (Council) received a petition (Petition) from Groton Utilities, or Petitioner, for a declaratory ruling, pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the proposed modifications to its existing 115-kilovolt (kV) Line 1410, 69-kV Line 400 and 115-kV Line 1280 (1410/400/1280 Line Structure Replacement Project) in the Town of Groton. A small portion of related work would occur within the Town of Ledyard.

On October 28, 2020, the Council sent correspondence to the Town of Groton, the City of Groton (a subdivision of the Town of Groton) and the Town of Ledyard (municipalities) stating that the Council has received the Petition and invited the municipalities to contact the Council with any questions or comments by November 27, 2020. No comments have been received.

The Council submitted interrogatories to Groton Utilities on December 9, 2020. Groton Utilities submitted responses to the interrogatories on December 23, 2020 and January 4, 2021.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition within 60 days of receipt, and therefore, December 27, 2020 was the deadline for action on this Petition. In response to the Coronavirus pandemic, Governor Lamont issued Executive Order No. 7, as subsequently extended, that provides for a 90-day extension of statutory and regulatory deadlines for administrative agencies. Thus, the deadline under CGS §4-176(e) is extended to March 27, 2021.

On October 28, 2020, Groton Utilities filed a Motion for Protective Order related to the disclosure of Critical Energy Infrastructure Information (CEII) contained within the ISO-NE Eastern Connecticut 2029 Needs Assessment that evaluated reliability performance and identified time-sensitive reliability-based transmission needs that are the subject of the Project. At a public meeting held on November 5, 2020, the Council granted the motion for protective order pursuant to CGS § 1-210(b), on the basis that disclosure of the CEII may result in a safety and security risk.

The purpose of the Project is to improve system reliability by replacing 36 deteriorated electric transmission line structures along 1.7 miles of Groton Utilities electric transmission line right-of-way (ROW) that were identified during an inspection of the 1410/400/1280 Line conducted as a result of the ISO-NE Eastern Connecticut 2029 Needs Assessment. The needs assessment identified thermal and voltage violations due to insufficient wire-to-wire, wire-to-structure, and wire-to-bare ground clearances. The new replacement structures would be designed to address and eliminate these violations.

The Project would allow for the 69-kV 400 Line to operate as a 115-kV line by 2023, as directed by ISO-NE to enhance grid reliability (ISO-NE 2020 Final Project List ID # 1864). The existing conductors can operate

at 115-kV and the new replacement structures would be designed with appropriate clearance standards to operate at 115-kV. No additional work on the line would be required after Project completion to transition the line to 115-kV.

### **Municipal and Abutter Notice**

In August of 2020, the Petitioner reached out to the municipalities regarding the proposed project. At that time, the Town of Groton and City of Groton requested a project briefing. In October of 2020, the Petitioner provided representatives of the municipalities with written notice of the Petition filing.

During October of 2020, the Petitioner conducted outreach to property owners located along the ROW by providing notice of the petition filing, project outreach information, as well as contact information for the Council. Outreach to the abutters would continue during Project construction.

### **Existing Project Area**

The existing project area is an approximate 1.7 mile portion of Groton Utilities ROW within the Town of Groton. The 1400/400 Line, was constructed in the 1950's, mostly on wood double circuit structures and the 1280 Line was constructed in 1974, mostly on wood single circuit structures.

The work would occur within Groton Utilities ROW from the Ledyard town line south to Buddington Substation in Groton. The ROW and electric transmission lines extending north of the Ledyard-Groton boundary are owned by Eversource. The Council approved Eversource's 400/1410 Transmission Line Structure Replacement Project in Sub-Petition 1293-LG-01 on November 20, 2020.

The ROW in the Project area is 200 feet wide with the maintained portion approximately 125-145 feet wide. Land use in the area of the ROW consists of a mix of rural residential use, agricultural land, and forest.

### **Proposed Project**

Groton Utilities proposes to improve system reliability on the 1410/400/1280 Line by replacing 36 wood structures that exhibit signs of deterioration with new steel structures that meet current design standards and by replacing existing aerial shieldwire with Optical Ground Wire (OPGW) to enhance transmission line protection and communication. The OPGW would extend from Eversource's equipment at the Ledyard/Groton town line to Buddington Substation.

Specifically, the Project entails the following:

- a) 1410/400 Line - Replace 18 double-circuit wood H-frame structures with 17 weathering steel H-frame structures and 3 weathering steel monopole structures (Structures 7436 to 7450);
- b) 1280 Line - Replace 18 single-circuit wood monopole guyed structures with 18 weathering steel monopole structures (Structures 127 to 144);
- c) Replace the existing overhead aluminum shield wire with new 0.646 inch OPGW on both the 1410/400 Line and 1280 Line;
- d) Install new hardware, insulators, lightning arresters and counterpoise;
- e) Improve and/or install access roads and work pads for construction; and
- f) Remove vegetation to the full 200-foot width of the ROW.

All structure replacement work would be performed within the existing ROW in Groton. A work pad associated with the installation of the OPGW would be partially located in Ledyard. No expansion of the existing ROW would be required for the Project.

The heights of the existing structures range from 60 to 90 feet above ground level (agl) and many of the replacement structures would be approximately 10 to 15 feet taller to meet current National Electrical Safety Code (NESC) clearance requirements. Ten of the structures would be 20 to 40 feet taller depending on location.

The replacement structures would be located in-line with and as close as possible to existing structures with the exception of two structures, No. 7444 and No. 7447, which would be relocated approximately 100 feet south and 175 feet north of the existing structures, respectively.

### **Project Construction and Work Procedures**

Groton Utilities would utilize properties located at both 931 Route 2 in North Franklin and 252 Butlertown Road in Oakdale as staging/laydown areas. The staging areas are approximately 8.3 acres and 4.1 acres in size, respectively and are located in already cleared areas of larger properties. The laydown areas would be used to store construction equipment and host Project office trailers. Components removed during work may be temporarily accumulated and stored at the staging area prior to removal for salvage and/or disposal. The staging areas may also be used for parking and performing minor maintenance on construction equipment. The staging areas would be enclosed by erosion and sedimentation (E&S) controls.

Construction access to the ROW would be from existing access roads extending from off-ROW areas or where the ROW intersects with a public road. Specific work areas within the ROW would be accessed via existing roads that extend along the ROW corridor. Some of these existing access roads may need to be graded, widened, and/or reinforced with additional material in order to accommodate the safe passage of construction vehicles and equipment. A minimum travel surface of 12 to 16 feet is required for construction vehicles although some road turning locations will be wider. Where access roads traverse streams and wetlands, temporary construction matting would be used to avoid significant disturbance to underlying surfaces and soils.

Construction areas would be isolated by establishing E&S controls in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. Typical E&S controls include, but are not limited to, the use of hay bales and silt fence, straw blankets, soil and slope protection, water bars, check dams, berms, swales, plunge pools, and sediment basins. The E&S controls would remain in place until disturbed areas have stabilized.

At each transmission line structure location, an approximate 100-foot by 100-foot work pad would be constructed to stage material for on-site assembly and to provide a safe, level work base for construction equipment. Most work pads would consist of gravel, although some would use temporary matting to protect sensitive resource areas such as wetlands or specific habitat areas.

The proposed structures would have direct embedded foundations. Foundation work would require the use of equipment such as a mechanical excavator (drill rigs), pneumatic hammers, augers, drill rigs, and dump trucks. If groundwater is encountered, water pump trucks or other equipment would be utilized to remove the water. Water would then be discharged in accordance with applicable requirements. Excavated soils would be stored and reused as backfill or spread in upland areas within the ROW, where possible.

New structure sections and associated hardware would be delivered by flatbed truck to each work pad for assembly by crane and bucket trucks. New OPGW would be installed after the structures are installed using reel trucks, pull rigs, and bucket trucks.

Upon completion of construction work, restoration work would commence and include the removal of debris, signage, temporary fencing, and temporary construction mats. Disturbed areas would be restored as practical and stabilized using re-vegetation or other measures prior to the removal of temporary E&S controls.

Upon completion of the Project, access roads and work pads located in uplands would be left in place to facilitate future transmission line maintenance, unless the underlying property owner requests their removal.

The Petitioner would consult with representatives from the municipalities and/or the Connecticut Department of Transportation to develop and implement traffic management procedures, if necessary. Construction warning signs would be installed along public roads near work sites and flaggers or police personnel would be used to direct traffic, as necessary.

Groton Utilities proposes to begin work in the first quarter of 2021. Normal work hours would be Monday through Saturday from 7:00 a.m. to 7:00 p.m.; however, Sunday work hours may be required due to weather and/or outage constraints.

### **Environmental Considerations**

Consistent with the recommendation in the Federal Energy Regulatory Commission and the North American Electric Reliability Corporation *Report on Transmission Facility Outages During the Northeast Snowstorm of October 29-30, 2011*, the Petitioner would clear approximately 13 acres of forest to expand the maintained portion of the ROW to the full 200-foot ROW width.<sup>1</sup> In other areas, some limited tree removal, side trimming and vegetation removal are required for the project in order to accommodate the work and to provide required safety clearances from the conductors and specific work zones.

A total of 12 wetlands were identified along the ROW in the Project area, 5 of which would be impacted through the use of temporary matting. One stream within a wetland would be crossed using temporary matting. Temporary wetland impacts related to the use of temporary construction matting for work pads and/or access roads would total approximately 16,615 square feet. Some of the wetlands are small in size and are located partially within work pads. In these areas, the Petitioner would work with the environmental consultant and the project engineer to ensure these wetland resources are not impacted. No permanent impacts to wetlands are proposed.

No vernal pools would be impacted by the Project. No 100-year flood zones are located within the Project area.

The proposed project is not located within a Department of Energy and Environmental Protection (DEEP)-designated Aquifer Protection Area. The Project area is partially located within public water supply watershed lands owned by Groton Utilities. The Petitioner would require its contractors to employ best practices for the proper storage, secondary containment, and handling of diesel fuel, motor oil, grease and other lubricants, to protect water quality within the Project area.

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<sup>1</sup> To the extent a utility manages vegetation only on maintained rights-of-way rather than full rights-of-way, it should work toward reclaiming the full right-of-way width where feasible.

The access roads and structure work areas associated with 6 structures are within a DEEP Natural Diversity Database (NDDDB) area. The Petitioner is consulting with DEEP regarding work in these areas and would implement DEEP recommended species-specific protection measures.

According to the U.S. Fish & Wildlife Service (USFWS) the range of the northern long-eared bat (NLEB), a federally-listed Threatened Species and a state listed endangered species, encompasses the entire State of Connecticut. Although the project would not affect any NLEB hibernaculum, in order to prevent impacts to NLEB which may utilize the forest within the ROW, the Petitioner intends to complete tree clearing activities prior to April 2021.

The ROW is located in a New England Cottontail (NEC) habitat area. The NEC prefers scrubland and young forest habitats. The Petitioner intends to follow NEC habitat best management practices during construction, which include, but are not limited to, minimizing the width of access roads for long straight-aways to no more than 13 feet where possible, specific approval for the type of clearing equipment to be used, use of upland access routes, cut vegetation close to the ground, leave stumps in place, removal of non-compatible vegetation to enhance habitat, removal of woodchips from the ROW, and the piling of woody debris in select areas to provide NEC cover material.

There are no recreational areas along the ROW that would be impacted by the project. The Project ROW is not near any state or local scenic roads.

No National or State Register of Historic Places properties/districts are within 500 feet of project work areas or impacted by the Project. Based on a review of historic maps, aerial photographs, and soil profiles, 13 work areas were identified as possessing a potential for moderate to high archaeological sensitivity. A subsequent field evaluation found no evidence of archaeological significance at these locations and no further work was recommended. The State Historic Preservation Office indicated to the Petitioner that the Project would not have an adverse effect on archeological or historic resources.

There would be no permanent changes to existing ROW sound levels after completion of the Project. Construction-related noise is exempt per DEEP noise regulations. Notwithstanding, any construction-related noise would be short-term and localized in the vicinity of work sites.

The new structures would not change the existing visual character of the Project area as they would have a weathering steel finish. Additionally, most of the structures would increase in height by 10 to 15 feet, and the locations of the new structures would generally be at a lower ground elevation.

### **Magnetic Fields**

The Project route already contains an existing transmission line that emits magnetic fields (MF). In the United States, no state or federal exposure standards for 60-Hertz MF based on demonstrated health effects have been established, nor are there any such standards established world-wide. However, the International Commission on Non-Ionizing Radiation Protection (ICNIRP) has established a level of 2,000 milliGauss (mG), based on extrapolation from scientific experimentation, and the International Committee on Electromagnetic Safety (ICES) has calculated a guideline of 9,040 mG for exposure to workers and the general public, and recognized in the Council's *Electric and Magnetic Field Best Management Practices for the Construction of Electric Transmission Lines in Connecticut*.

Groton Utilities reviewed MF levels associated with the Project. Pre and post construction MF levels are presented in the table below:

<b>Magnetic Field Calculation Summary</b>						
Line Section	East Edge of ROW		Max in ROW		West Edge of ROW	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Groton Town Line to Buddington Substation	0.97	1.12	32.69	24.47	0.77	2.72

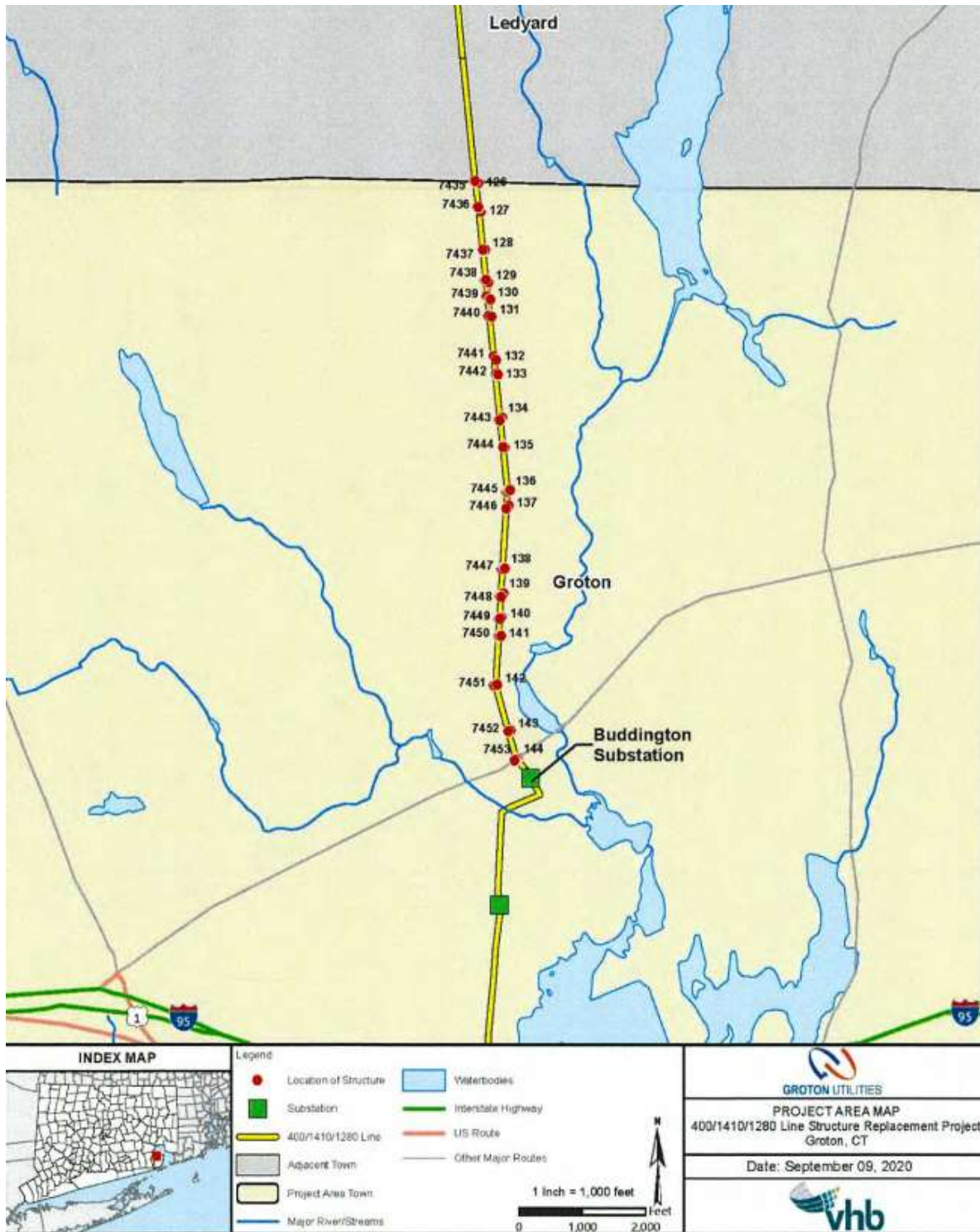
The Project would not substantially affect MF levels along the 1410/400/1280 Line. All MF values would be well below the ICNIRP exposure guideline of 2,000 mG.

### **Recommended Condition**

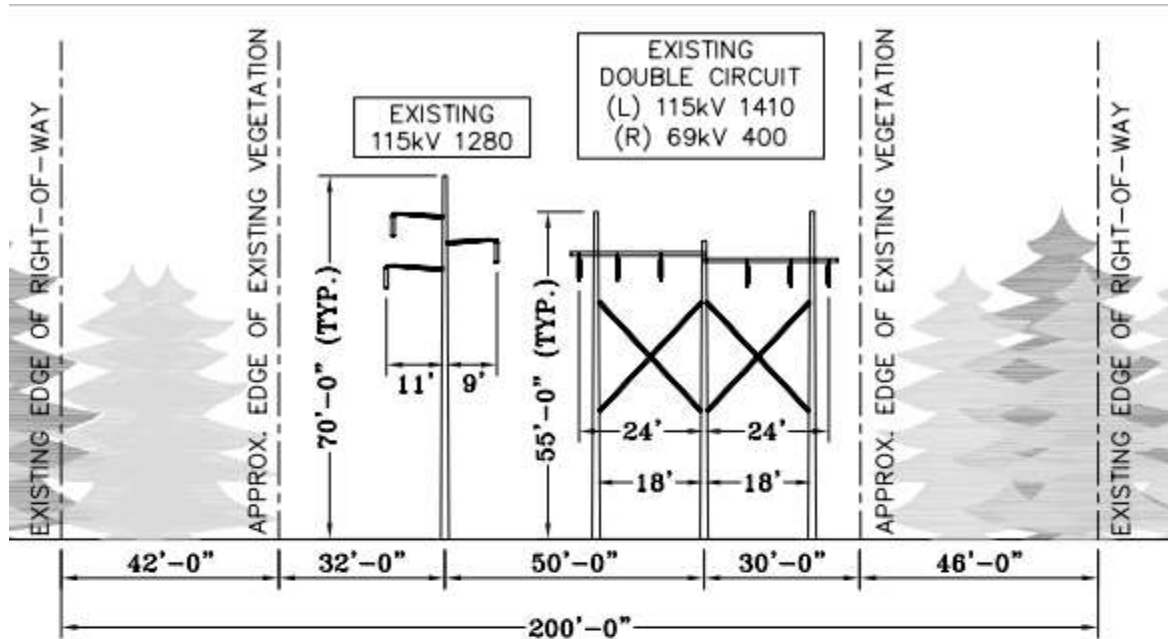
If approved, staff recommends including the following condition:

1. Approval of any project changes be delegated to Council staff.

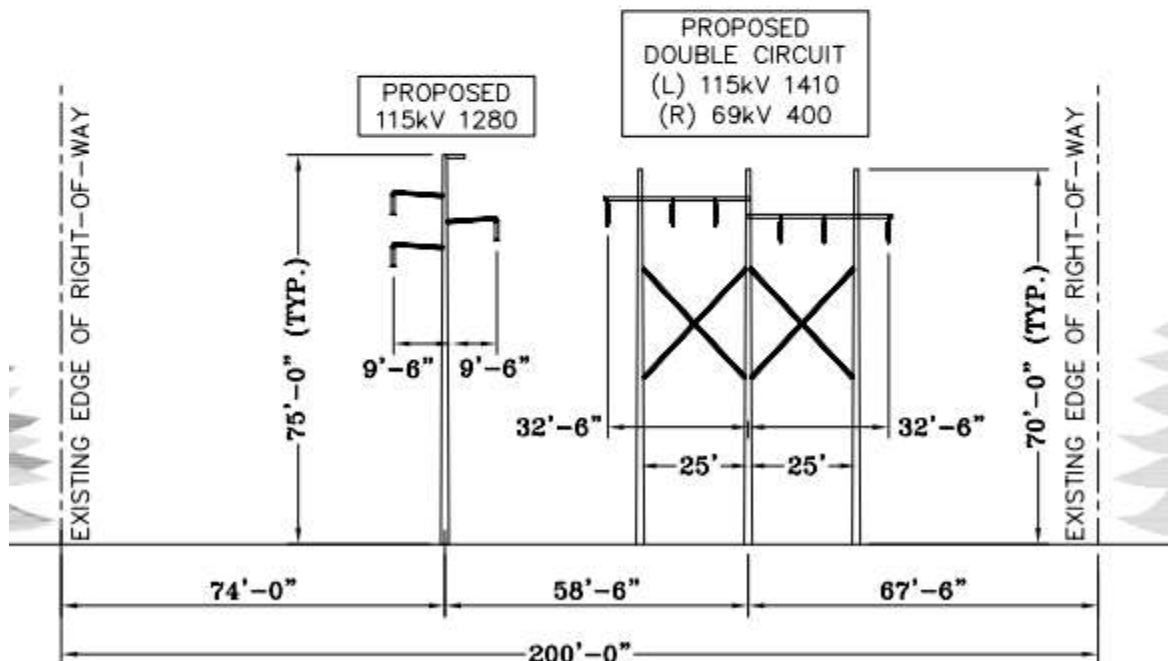
### Project Location



### Representative ROW Profile



**EXISTING R.O.W. CONFIGURATION**  
**LOOKING SOUTH TOWARD BUDDINGTON SUBSTATION**  
**TOWN OF GROTON, CT**



**PROPOSED R.O.W. CONFIGURATION**  
**LOOKING SOUTH TOWARD BUDDINGTON SUBSTATION**  
**TOWN OF GROTON, CT**