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Petition No. 1640
The Connecticut Light and Power Company d/b/a Eversource Energy
Towantic Substation to Beacon Falls Junction Rebuild Project
Oxford

Staff Report
January 17, 2025

Notice

On September 5, 2024, the Connecticut Siting Council (Council) received a petition from The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the Towantic Substation to Beacon Falls Junction Rebuild Project (Petition or Project) within existing Eversource electric transmission line right-of-way (ROW) in the Town of Oxford (Town).

The Project consists of the replacement of electric transmission line structures and conductors, and the replacement of existing shield wire and optical ground wire (OPGW)[1] on the 1142, 1319, 1403, 1580, 1619, and 1808 Lines along approximately 4.6 miles of two existing ROWs between Towantic Junction and Structures 19342/19342A approved in Petition 1614 and located south of Christian Street in Oxford; and between Christian Street Junction and Beacon Falls Junction in Oxford; and related electric transmission line and substation improvements.

On September 5, 2024, in compliance with Regulations of Connecticut State Agencies (RCSA) §16-50j-40, Eversource provided notice of the proposed Project to the Town and abutting property owners.

On September 6, 2024, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by October 5, 2024. No comments were received from the Town.

Under RCSA §16-50j-40, neither Eversource nor the Council is required to provide notice to the state agencies listed in CGS §16-50j(g) when a petition for a declaratory ruling for modifications to an ***existing facility*** is submitted to the Council. On September 26, 2024, the Council on Environmental Quality submitted comments on the Project.[2]

Under CGS §16-50x, the Council retains exclusive jurisdiction over the existing electric transmission line and substation facility sites. Under RCSA §16-50j-2a(29), "site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. The Council cannot delegate its statutory authority to any other entity and it is not required to abide by comments from state agencies.[3]

The Council issued interrogatories to Eversource on November 13, 2024. Eversource provided responses to the Council's interrogatories on November 29, 2024.

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[1] OPGW contains a conductor for lightning protection and fiber optics for communications between substations. It would be installed overhead.

[2] https://portal.ct.gov/-/media/csc/3_petitions-medialibrary/petitions_medialibrary/mediapetitionnos1601-1700/pe1640/sac_municipal_comments/pe1640_ceq_commentsrecd_a.pdf?rev=61600e5720314968a02ba9f5d124b8d8&hash=A84FE0735F3A91E4AB33C0B8A9287777

[3] *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition for a declaratory ruling within 60 days of receipt. During a regular meeting held on October 24, 2024, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than March 4, 2025, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

Community Outreach

Eversource provided an initial briefing on the Project to the Town in April 2024. The Town requested accommodations related to replacement structure locations and wire clearance on Town-owned property that has been modified from undeveloped pedestrian use space to future industrial lot development south of Towantic Substation. Eversource worked with the Town to address these concerns in the proposed structure design. This plan was memorialized via a Memorandum of Understanding (MOU) executed on June 11, 2024. Eversource did not receive any additional comments from the Town subsequent to the execution of the MOU.

Eversource initiated outreach to property owners along the Project route in January 2024. All abutting property owners were notified of the Project and provided information on how to obtain additional information, as well as how to submit comments to the Council. Since the filing of the Petition, Eversource held discussions with one abutting property owner related to the use of a portion of off-ROW property for temporary matted workspace. During the construction phase of the Project, Eversource would maintain contact with the municipalities and abutting property owners to inform them of construction activities.

Existing Facility Site

The existing facility site includes approximately 4.6 miles of Eversource ROW that extends through residential areas, Naugatuck State Forest and Larkin State Park Bridle Trail, and a public golf course. The Council issued a Certificate to Eversource for the Towantic Substation on July 26, 2007 in Docket No. 327 and a Declaratory Ruling for structure replacements along portions of the Segment 1 ROW on June 13, 2013 in Petition No. 1058. CPV Towantic Energy Center[4] is located south of Towantic Substation and east of the ROW. The Council issued a Certificate to CPV for the Towantic Energy Center on May 14, 2015 in Docket No. 192B. Waterbury Oxford Airport is located west of the ROW.

The Towantic Substation to Christian Street Junction ROW was established in approximately 1918. The Christian Street Junction to Beacon Falls Junction ROW was established between 1942 and 1958. Eversource's easements for the existing ROW grant Eversource rights to enter upon the land and erect, repair, maintain, replace, inspect, operate, and remove upon, infrastructure related to the conduction of electricity. The easements also grant rights to trim, cut, and remove vegetation within or projecting into the ROW.

From Towantic Substation to Oxford Substation, the 1142/1403 Lines are supported by eight double-circuit lattice structures, four single-circuit monopoles, and four single-circuit H-frame structures. From Oxford Junction to Christian Street Junction, the 1142/1319 Lines are supported by five double-circuit lattice structures, one single-circuit monopole and one single-circuit H-frame structure. On September 17, 2021 and September 23, 2022, the Council approved sub-petitions 1293-OX-01 and 1293-OX-03, respectively, for structure replacements along portions of Segment 1 proximate to Oxford Substation.

The 1580/1808 Lines south of Christian Street (for approximately 0.2 mile) are supported by 1 double-circuit lattice structure.

[4] There would be no interruption to the operation of CPV Towantic Energy Center during Project construction.

From Christian Street Junction to Beacon Falls Junction, the 1142/1580 Lines and 1319/1808 Lines are supported by a total of 30 double-circuit lattice structures, 2 single-circuit monopoles, and 2 quad-circuit lattice structures.

Segment 1 of the Project ROW (for the 1142, 1403, 1319, and 1619 Lines) extends south for approximately 2.1 miles from Towantic Substation to Christian Street Junction and is approximately 110 feet wide. It widens to approximately 290 feet between North Larkey Road and Oxford Substation. There is also a 0.2 mile long portion of Segment 1 (for the 1580/1808 Lines) south of Christian Street Junction with a ROW width of 110 feet. The majority of the 110 foot wide portion of the ROW in Segment 1 is maintained to the full width. In the 290-foot wide portion of the ROW, the eastern side of the ROW is maintained to the ROW edge, and the western side of the ROW is maintained with a 25-foot offset from conductors.

Segment 2 of the Project ROW (for the 1142/1580 and 1319/1808 Lines) extends west to east for approximately 2.3 miles from Christian Street Junction to Beacon Falls Junction. It is approximately 150 feet wide and managed to a width of approximately 145 feet.

Vegetation management was last performed in portions of the Project ROW between July and November 2024.

Eversource plans to perform additional vegetation management in the Project ROW in 2027 as part of its Transmission ROW Reliability Program to implement edge to edge maintenance that is consistent with the recommendations of the Federal Energy Regulatory Commission and North American Electric Reliability Corporation Report on Transmission Facility Outages During the Northeast Snowstorm of October 29-30, 2011.

Eversource assessed the existing facility site since the flooding that occurred in Oxford in August 2024 and determined no changes to the scope of the Project are required.

Project Need

The purpose of the proposed Project is to improve system reliability on the 1142, 1319, 1403, 1580, 1619, and 1808 Lines to address identified asset condition deficiencies by replacing shield wire and older OPGW with new OPGW to facilitate Eversource's long term build out of its fiber optic network; replacing electric transmission line structures due to asset condition issues, structural loading issues and to meet National Electrical Safety Code (NESC) clearance standards; and replacing aging conductor within the Devon-Towantic-South Naugatuck corridor. It is part of a continuing effort to address aging transmission line facilities within this corridor similar to the Projects approved by the Council in Petition Nos. 1527, 1582 and 1614.

The Project is identified in the 2024 Eversource Forecast of Loads and Resources Report and in the October 2024 Independent System Operator New England, Inc. (ISO-NE) Regional System Plan Asset Condition List.[5] There are no generation facilities listed on the ISO-NE interconnection queue associated with the proposed Project.

Cost

The total estimated cost of the Project is approximately $61.2M. All of the total Project cost would be eligible for regional cost allocation as it is associated with Pool Transmission Facilities.[6] Pending a final determination from ISO-NE, total costs are expected to be allocated[7] as follows:

[5] Entry #375.
[6] ISO-NE defines Pool Transmission Facilities as facilities rated 69-kV or above owned by the participating transmission owners over which ISO-NE has operating authority in accordance with the terms set forth in the Transmission Operating Agreements.
[7] These allocations are estimates based on 2023 actual loads.

Eversource Connecticut ratepayers[8]	18.5%	($11.3M)
Other Connecticut ratepayers[9]	5.9%	($3.6M)
Other New England ratepayers[10]	75.6%	($46.3M)
Cost Total	100%	($61.2M)

Proposed Project

The Project includes the replacement of 31 double-circuit lattice structures with 31 double-circuit monopoles; replacement of 11 double-circuit lattice structures with 22 single-circuit monopoles; replacement of 1 double-circuit lattice structure with 1 two-pole monopole; removal of 1 double-circuit lattice structure; replacement of 2 quad-circuit lattice structures with 4 double-circuit monopoles; replacement of 3 single-circuit monopoles with 3 single-circuit monopoles; installation of 1 temporary single-circuit monopole; installation of 6 single-circuit monopoles; installation of 1 single-circuit H-frame structure; and installation of 4 double-circuit monopoles. Once the Project is complete, 50 structures would have been replaced including 44 existing double-circuit lattice structures, 3 monopole structures, 1 H-frame structures, and 2 quad-circuit lattice structures.

The Project requires taller structures to meet NESC standards, including, but not limited to, conductor clearance requirements. The NESC is the authoritative code for ensuring the continued practical safeguarding of persons and utility facilities during the installation, operation and maintenance of electric power and communications utility systems, including substations, overhead lines and underground lines.

NESC clearance requirements for conductor sway due to wind (blowout) are based on established horizontal clearance requirements during specific wind events to buildings (9.1 feet of clearance to the ROW edge for 115-kV conductors). Transmission lines are designed with the assumption that a building could be erected at any location along the ROW edge. To provide a buffer for construction tolerance, Eversource typically designs transmission corridors to have 11 feet of clearance to the ROW edge during specific wind events.[11]

NESC clearance requirements for conductor uplift and insulator swing were factored into the transmission line design. Conductor uplift is a condition where wire on a structure pulls up on the hardware instead of hanging down vertically. It typically occurs in spans where structures are located at different ground levels or have different heights. The amount of insulator swing on a transmission line depends on conductor tension, temperature, wind velocity, insulator weight, ratio of weight span to wind span, and line angle. These issues can be mitigated by taller structures in certain locations to increase the load tension of the insulators and the span weight load of the conductors.

The majority of the conductor on the 1142 and 1319 Lines in Segment 1 is approximately 64 years old, and short sections of the 1142 and 1319 Lines on this segment are approximately 4 and 16 years old, respectively. The 1403 Line conductor in Segment 1 is a mix of 7 and 16 year old conductor. The 1580 and 1808 Lines in Segment 1 have conductor approximately 62 years old. In Segment 2, conductor on the 1142 and 1580 Lines are approximately 55 years old, and conductor on the 1319 and 1808 Lines are approximately 14 years old. While some line conductor segments are less than 10 years old, Eversource would install a uniform large capacity conductor over the entire Project to reduce the propensity for insulator swing and conductor displacement under wind conditions.

[8] Electrical service customers of Eversource and located within Connecticut.
[9] Electrical service customers located within Connecticut but outside of Eversource's service territory.
[10] Electrical service customers located within New England but outside of Connecticut.
[11] Petition 1614, response to Council interrogatory 10.

1142, 1319, 1403, 1580, 1619 and 1808 Lines

The 1142/1403 Lines are 115-kV lines supported by double-circuit lattice structures, single-circuit monopoles and single-circuit H-frame structures. The 1142/1403 Lines were installed in 1960. The 1619 Line is a 115-kV line that was rebuilt in 2014. The 1580/1808 Lines are supported by a double-circuit lattice structure south of Christian Street Junction. The 1142/1580 Lines and the 1319/1808 Lines are 115-kV lines that are supported by quad-circuit lattice structures, double-circuit lattice structures and single-circuit monopoles within Segment 2. The 1580/1808 Lines were originally installed in 1923 and 1947, respectively. The 1319 Line is a 115-kV line originally installed in 1947.

The older conductors on these lines are all aluminum conductor steel reinforced (ACSR) conductor, and the more recently installed conductors (16 years ago and less) are all aluminum conductor steel supported (ACSS) conductor.

Segment 1– Towantic Substation to approved Structures 19342/19342A located south of Christian Street Junction — 2.3 miles

Project work consists of the following:

a) Replace 5 double-circuit lattice structures with 5 double-circuit monopoles for the 1142/1403 Lines;
b) Replace 2 double-circuit lattice structures with 4 single-circuit monopoles for the 1142/1403 Lines;
c) Replace 1 single-circuit monopole with 1 single-circuit monopole for the 1142/1403 Lines;
d) Replace 1 single-circuit H-frame structure with 1 single-circuit H-frame structure for the 1142/1403 Lines;
e) Remove 1 double-circuit lattice structure for the 1142/1403 Lines;
f) Install 1 double-circuit monopole for the 1142/1403 Lines;
g) Install 1 single-circuit H-frame structure for the 1142/1403 Lines;
h) Replace 3 double-circuit lattice structures with 3 double-circuit monopoles for the 1142/1319 Lines;
i) Replace 1 double-circuit lattice structure with 2 single-circuit monopoles for the 1142/1319 Lines;
j) Replace 1 double-circuit lattice structure with one 2-pole monopole for the 1142/1319 Lines;
k) Install 1 double-circuit monopole for the 1142/1319 Lines;
l) Install 1 temporary single-circuit monopole for the 1142/1319 Lines;
m) Install 1 single-circuit monopole for the 1619 Line;
n) Replace 1 double-circuit lattice structure with 1 double-circuit monopole structure for the 1508/1808 Lines;
o) Replace 556-kcmil ACSR, 556-kcmil ACSS and 795-kcmil ACSS conductor with 1590-kcmil ACSS conductor for the 1142/1403 Lines;
p) Replace 19#10 and 7#9 Alumoweld shield wire and 0.457-inch OPGW with 96F OPGW for the 1142/1403 Lines;
q) Replace 556-kcmil ACSR, 556-kcmil ACSS and 795-kcmil ACSS conductor with 1590-kcmil ACSS conductor for the 1142/1319 Lines;
r) Replace 19#10 and 7#9 Alumoweld shield wire and 0.457-inch OPGE with 96F OPGW for the 1142/1319 Lines;
s) Replace 795-kcmil ACSR conductor with 1590-kcmil ACSS conductor for the 1619 Line; and
t) Replace 7#9 Alumoweld and 3/8-inch Copperweld shield wires with 96F OPGW.

Segment 2– Christian Street Junction to Beacon Falls Junction — 2.3 miles

Project work consists of the following:

a) Replace 1 double-circuit lattice structure with 1 single-circuit monopole for the 1142/1808 Lines;
b) Replace 11 double-circuit lattice structures with 11 double-circuit monopoles for the 1142/1580 Lines;

c) Replace 4 double-circuit lattice structures with 8 single-circuit monopoles for the 1142/1580 Lines;
d) Replace 1 single-circuit monopole with 1 single-circuit monopole for the 1142/1580 Lines;
e) Replace 2 quad-circuit lattice structures with 2 double-circuit monopoles for the 1142/1580 Lines and 2 double-circuit monopoles for the 1319/1808 Lines;
f) Install 1 double-circuit monopole for the 1142/1580 Lines;
g) Install 2 single-circuit monopoles for the 1142/1580 Lines;
h) Replace 11 double-circuit lattice structures with 11 double-circuit monopoles for the 1319/1808 Line;
i) Replace 4 double-circuit lattice structures with 8 single-circuit monopoles for the 1319/1808 Lines;
j) Replace 1 single-circuit monopole with 1 single-circuit monopole for the 1319/1808 Lines;
k) Install 1 double-circuit monopole for the 1319/1808 Lines;
l) Install 3 single-circuit monopoles for the 1319/1808 Lines;
m) Replace 795-kcmil ACSR conductor with 1590-kcmil ACSS conductor for the 1142/1580 Lines;
n) Replace 7#8 Alumoweld shield wire with 96F OPGW for the 1142/1580 Lines;
o) Replace 795-kcmil ACSS conductor with 1590-kcmil ACSS conductor for the 1319/1808 Lines; and
p) Replace 19#10 Alumoweld shield wire and 0.457-inch OPGW with 96F OPGW for the 1319/1808 Lines.

In addition to the structure and OPGW installations/replacements, Project work includes installation of counterpoise and installation or transfer of the existing lightning arrestors to the new and replacement structures, as needed.[12]

Public Health and Safety

There would be no permanent changes to existing ROW sound levels after completion of the Project. Noise associated with construction activities is exempt from DEEP Noise Control Regulations. Notwithstanding, any construction-related noise would be short-term and localized in the vicinity of work sites.

Eversource filed a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) for all proposed structures. Eversource also received approval from the Connecticut Airport Authority (CAA) for the proposed structures due to the proximity to Waterbury-Oxford Airport. However, due to changes in design, several structures will need to be screened for refiling with FAA. Notwithstanding, marking or lighting is not expected to be required.

Electric fields (EF) are produced whenever voltage is applied to electrical conductors and equipment. Electric fields are typically measured in units of kilovolts/meter (kV/m). As the weight of scientific evidence indicates that exposure to electric fields, beyond levels traditionally established for safety, does not cause adverse health effects, and as safety concerns for electric fields are sufficiently addressed by adherence to the NESC, as amended, health concerns regarding Electric and Magnetic Fields (EMF) focus on magnetic fields (MF) rather than EF. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has established a guideline of 4.2 kV/m.

The Project route contains an existing transmission line that emits 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 worldwide. However, the 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.*

[12] Petition 1566, Eversource Responses to Spaulding Interrogatory Nos. 65 and 66 - Counterpoise is typically installed at structure locations under the outside phase conductors at a depth of 18 inches.

MF are expected to decrease along the edges of the ROW for most of the Project route. There would be a small increase of 0.2 mG along the southern edge of the ROW between Christian Street Junction and Beacon Falls Junction. The highest calculated MF level is 28.4 mG along the eastern edge of the ROW between Christian Street Junction and Oxford Substation.

Environmental Effects and Mitigation Measures

Most of the Project work would occur within maintained ROWs. Approximately 1.25 acres of tree clearing would be performed. Of this total, approximately 0.32 acre of clearing would be associated with construction of a work pad and access road at Christian Street Junction, on Eversource-owned property. Approximately 0.44 acre of clearing would be required in the ROW west of Riggs Street, a portion of which is located on Eversource property. Tree clearing would convert forestland to shrubland or emergent vegetation.

Vegetation removal/tree trimming would be accomplished using mechanical methods or manually. Mechanical methods include the use of flat-bed trucks, brush hogs or other types of mowing equipment, skidders, forwarders, bucket trucks, and chippers. Eversource would utilize low impact methods to remove brush vegetation in sensitive resource areas such as wetlands, watercourses and NDDB habitat areas. Vegetation removal activities would be performed in accordance with Eversource BMPs.

A total of 42 wetlands and 13 watercourses are located within the ROW or in adjacent off-ROW areas. Eversource notified the Town that impacts to Wetland 3 (W3) and Watercourses 2 and 3 (S2 and S3) were identified during a pre-construction survey/walkdown. These wetlands/watercourses were filled by a private developer. Eversource has revised its access to adjacent structures in the Petition to avoid these previously disturbed areas to avoid additional impacts.

A perennial stone ford crossing (approximately 200 square feet) would be installed at intermittent stream S4 as part of an in-ROW access road off East Commerce Drive. Other watercourses would be spanned with temporary matting as necessary.

Approximately 0.15 acre of permanent wetland impacts would result from five stone ford wetland crossings (three within W4 and one each within W33 and W34) and from the installation of replacement structures within W4, W5, W6, W11, and W14 which cannot be reasonably avoided. The proposed stone fords would not impact the hydrology of the wetlands. Tree clearing within wetlands would be approximately 0.07 acre.

Temporary wetland/watercourse impacts related to Project construction matting would total approximately 3.94 acres. Construction activities within wetlands and across watercourses would be conducted in accordance with Eversource BMPs.

Eversource performed a vernal pool survey and identified one classic vernal pool (VP1) beyond the western edge of the ROW off Prokop Road and one cryptic vernal pool (VP2) within Wetland 27. The Project would not result in any direct impacts to VP1 or VP2. Temporary work pads and access roads would be installed within the 100-foot Vernal Pool Envelopes (VPEs) for VP1 and VP2, but no structures would be installed within the VPEs. Eversource would conduct work in these areas in accordance with Eversource BMPs and a Project-specific Vernal Pool Protection Plan to minimize impacts.

The Project would comply with the USACE self-verification procedures and Eversource's BMPs. An environmental inspector would perform weekly oversight of all overall compliance associated with all aspects of project-specific environmental permitting for the duration of Project construction. Specifically, a qualified inspector would be on-site to monitor environmental resource protections as established in Eversource's BMP's, the final DEEP Natural Diversity Database (NDDB) Determination and in compliance with DEEP General Permit requirements.

Invasive species mitigation measures would be conducted in accordance with Eversource's BMPs. Measures include the cleaning of temporary mats to prevent the introduction of invasive species into wetlands, the cleaning of vehicles, equipment, materials, gear, footwear or clothing of all visible soil and plant material on site known to contain invasives or as near as practical to the invasive area, prior to leaving the Project site.

The Project ROW extends across 100-year and 500-year Federal Emergency Management Agency-designated flood zones associated with the Little River, Jacks Brook, Riggs Street Brook, and Towantic Brook in Oxford as well as the regulatory floodway for Riggs Street Brook. Proposed Structures 19355 and 19420 would be installed within the 100-year year flood zone because it cannot be avoided due to design constraints. Proposed temporary fill would be limited to the placement of a matted work pad within the 100-year flood zone of Riggs Street Brook; a matted access road within the 100-year flood zone of Towantic River; matted access roads and work pads within 500-year flood zones of Jack Brook; a stone work pad[13], matted access road and matted work pad within the 500-year flood zone of the Little River.

Temporary mats, construction materials and equipment would be properly secured when located within the flood zones and would be removed from the flood zones immediately upon completion of construction. The proposed activities within flood zones (including the two permanent structure installations) would not adversely affect flood storage capacity or hydraulic characteristics of FEMA flood zones and are eligible for self-verification under the DEEP General Permit.

The Project is not within a Public Drinking Water Supply Watershed. There are no DEEP-designated Aquifer Protection Areas within the Project ROW. Notwithstanding, to protect subsurface water quality, Eversource would conduct work in accordance with its BMPs which include provisions for the proper storage, secondary containment, and handling of diesel fuel, motor oil, grease, and other lubricants.

A final DEEP NDDB Determination was issued for the Project on August 19, 2024. Five state-listed animal species may occur near the Project area. Eversource would implement DEEP recommended species-specific protection measures during construction, which include, but are not limited to, time of year best management practices.

One state-listed invertebrate species and two state-listed plant species were initially identified by DEEP prior to the August 19, 2024 letter. Subsequently, a survey was conducted, and it was confirmed that neither the species nor its habitats were observed. Thus, on August 19, 2024, DEEP confirmed that no further conservation action was necessary for these three species.

Eversource also consulted with the U.S. Fish & Wildlife Service's (USFWS) Information, Planning and Consultation (IPaC) service regarding federally-listed species that may be present within the Project area. The IPaC report identified the northern long-eared bat (NLEB), a federally-listed and state-listed Endangered Species. There are no known NLEB maternity roost trees within 150 feet of the site, and the nearest known NLEB hibernaculum is located over 6.8 miles to the northwest in Roxbury.[14] Additionally, there are no known occurrences of NLEB in Oxford.[15] Thus, no impacts to NLEB are expected.

Portions of the ROW traverse New England Cottontail (NEC) focus areas, established by DEEP, USFWS and other conservation groups to preserve NEC habitat. Eversource would implement its NEC BMPs to manage and enhance NEC habitat. Post-construction, gravel pads within the NEC focus areas would be covered with soil or processed stone and reseeded with a native seed mix. Inspections of the restored areas would be conducted to ensure the seeded areas have been established.

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[13] The stone work pad would be removed, and the work area would be regraded during restoration.
[14] https://portal.ct.gov/-/media/deep/endangered_species/images/nlebmappdf.pdf
[15] https://portal.ct.gov/-/media/deep/nddb/nolongearedbat-map.pdf

No properties/districts listed on the National Register of Historic Places are located within 500 feet of the Project ROW. A Phase 1A Cultural Resources Assessment (Phase 1A) of the Project area identified five locations within the ROW that possess a moderate to high potential for archaeological sensitivity. A Phase 1B Cultural Resources Reconnaissance Survey (Phase IB) was performed, and the results indicate that no further archaeological investigations are recommended. SHPO reviewed the results and concurred that no historic properties would be affected by the Project. No comments were received from Tribal Historic Preservation Offices (THPOs).

The nearest publicly-accessible recreational resource is Larkin State Park Bridle Trail, which crosses the ROW south of proposed Structure 19443. This structure would be located within the ROW on the Larkin State Park Bridle Trail property, and it is necessary to meet horizontal clearance requirements and overall alignment. Eversource submitted a state land notification (SLN) to DEEP for review on August 29, 2024 for work associated with this structure and proposed access to this structure. Eversource will comply with the terms and conditions of the final SLN.

Eversource would coordinate with trail officials at DEEP as well as any local recreational organizations (e.g. horseback riding clubs) in advance of construction. Eversource would develop and implement public safety measures and would avoid or minimize short-term impacts to recreational users of the Bridle Trail.

Disturbed areas would be stabilized using temporary E&S controls such as straw mulch, compost filters, and biodegradable erosion control blankets until final stabilization has been achieved.

The Project would require increasing the height of many replacement structures to meet NESC clearance requirements within the existing ROW. Existing structures to be replaced on the lines range from 43 to 124 feet above ground level. The new/replacement structures on the lines would range from 42 feet to 146.5 feet above ground level, with an average height increase of 18.4 feet to meet NESC clearance requirements. Four new/replacement structures would increase in height by 40 feet or more, and of those, two are adjacent to Christian Street in Oxford (increases of 53.5 feet each); one is adjacent to Charles Road in Oxford (increase of 44.5 feet); and one is adjacent to Greenbriar Road in Oxford (increase of 49 feet).

Due to the increase in structure heights to comply with NESC clearance criteria, there would be indirect visual impacts to the surrounding area. From Towantic Substation to Christian Street Junction, the proposed structures would be galvanized steel to be comparable in finish to the existing 1619 Line structures. From Christian Street Junction to Beacon Falls Junction, the proposed structures would be weathering steel to blend in with the surrounding wooded landscape. Galvanized steel structures are 4 to 6% more costly than weathering steel structures. Additionally, the replacement of lattice towers with monopoles would result in a more streamlined appearance. Thus, the change to the visual character of the transmission lines is not expected to be significant.

Project Construction

Eversource would utilize an existing staging/laydown area for the Project at 12 Division Street in Derby. This staging/laydown area is approximately 3.45 acres and would contain Project equipment, office trailers, and vehicles. It would not be located within the existing ROW.

Eversource would utilize existing ROW access roads to the extent possible during construction. Where existing access roads are not present, new roads would be established. Multiple access roads are required so that equipment can access various construction zones along the ROW without relying on one point of access for long ROW segments. Construction matting would be utilized to install temporary access roads to protect sensitive areas (e.g. NDDB areas, residential lawns and golf courses) to reach certain structure locations.

Construction areas would be isolated by establishing erosion and sedimentation (E&S) controls in accordance with the *2024 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource's April 2022 Best Management Practices Manual for Massachusetts and Connecticut (BMPs).[16] Typical E&S control measures include, but are not limited to, biodegradable blankets, silt fencing, gravel anti-tracking pads, soil and slope protection, water bars, check dams, berms, swales, and plunge pools. Eversource BMPs prohibit the use of non-biodegradable plastic netting in E&S controls, and Eversource could utilize 100% natural fiber E&S controls. The Project is eligible for certification through the U.S. Army Corps of Engineers (USACE) Self-Verification Notification process regarding wetland impact. The self-verification notification forms would be submitted to the USACE - New England District prior to the start of Project construction.

At each transmission line structure location, a work pad would be constructed, if necessary, to stage material and equipment for final on-site assembly and/or removal of structures, to install conductors and OPGW and to provide a safe, level work base. Work pads for structural replacements would typically be approximately 150 feet by 80 feet in Segment 1 and 150 feet by 150 feet in Segment 2. Work pad dimensions would vary based on site specific conditions such as terrain, proximity to the existing and replacement structures, and the type of construction activities. Work pads would typically be composed of gravel. Temporary work pads would be used in sensitive areas such as wetlands, watercourses and lawn areas.

Pull pads, necessary to accommodate machinery needed for pulling conductors and/or OPGW, would typically be 120 feet by 80 feet.

The proposed structure foundations would be either drilled caisson foundations or direct-embed foundations. Foundation installation work would require the use of equipment such as drill rigs, pneumatic hammers, augers, dump trucks, concrete trucks, grapple trucks, cranes, and light duty trucks. If groundwater is encountered, pumping trucks or other equipment would be utilized. The water would be managed in accordance with Eversource BMPs. New structure sections, components and hardware would be delivered by flatbed truck to the structure locations for assembly using a crane, bucket trucks and excavator.

After the new structures are installed, OPGW and new conductor would be installed using wire reels, compressors, pulling and tensioning rigs, guard trucks or structures, and bucket trucks. The removal of conductor and shield wire would take place during the active installation of new conductor and OPGW as the existing conductor and static wire would be used as pulling lines if possible. Helicopters may be used. If helicopters are utilized, Eversource would provide advanced notification to the Town and property owners.

Bat wing trucks and guard trucks would be used for protection of roads during line work.

After the new structures/conductors/OPGW are installed, the existing structures would be removed. The existing structures, conductor, shield wire, and hardware would be reused, recycled or properly disposed of.

After completion of construction, ROW restoration activities would commence. Restoration work would include the removal of construction debris, signage, flagging, temporary fencing, and construction mats and work pads that are designated for mitigation. Affected areas would be restored as practical and stabilized with vegetation or other measures before removing temporary E&S controls. ROW restoration would be performed in accordance with Eversource BMPs and in consultation with affected property owners.

Except for concrete trucks, no construction equipment or vehicle washing would be allowed in the ROW. In accordance with Eversource's BMPs, concrete truck wash-out would occur only in upland areas of the ROW (a minimum of 50 feet from wetlands) to avoid or minimize the potential for impacts to water resources. All wash-out areas would include measures to control and contain wash-water and collect the cement wash-off for off-site disposal.

[16] 2022 Eversource Best Management Practices MA_CT

Project-related traffic would be expected to be temporary and highly localized in the vicinity of ROW access points and at the staging area. Due to the phasing of construction work, Project-related traffic is not expected to significantly affect transportation patterns or levels of service on public roads. Construction warning signs along public roads would be installed near work sites and flaggers or police personnel would be used to direct traffic, if necessary.

Construction is expected to begin in the first quarter of 2025 with anticipated completion in January 2026 and full restoration by June 2026. Normal work hours would be Monday through Saturday from 7:00 a.m. to 7:00 p.m. Sunday work hours or evening work (i.e. after 7:00 p.m.) may be necessary due to unforeseen circumstances, delays caused by inclement weather and/or outage constraints.

Prior to requesting an outage to support Project work, collaboration occurs among Eversource, United Illuminating and FirstLight as to timeframes and switching activity. Eversource requests outages from the Connecticut Valley Electric Exchange (CONVEX), who submits the requests to ISO-NE for final approval. CONVEX thereafter assigns outage switching times.

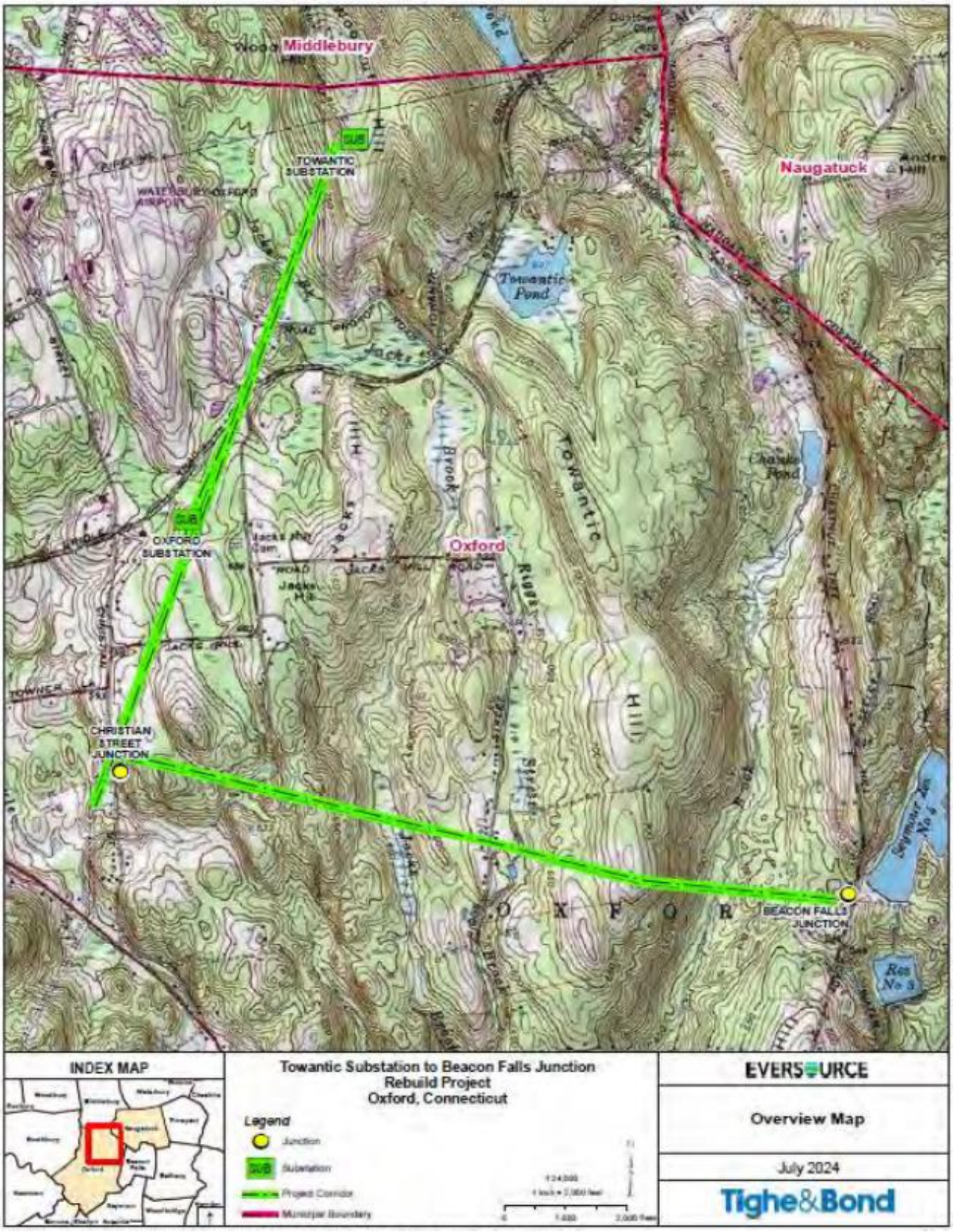
Additionally, during an outage switching, in order to re-energize or de-energize a line, access to substations may be required outside of typical work hours. These substations include, but are not limited to, Eversource's Beacon Falls Substation, Devon Substation, South Naugatuck Substation, Towantic Substation, and Sandy Hook Substation; The United Illuminating Company's (UI) Pootatuck Substation, Ansonia Substation, and Indian Well Substation; and First Light's Stevenson Substation.

Conclusion

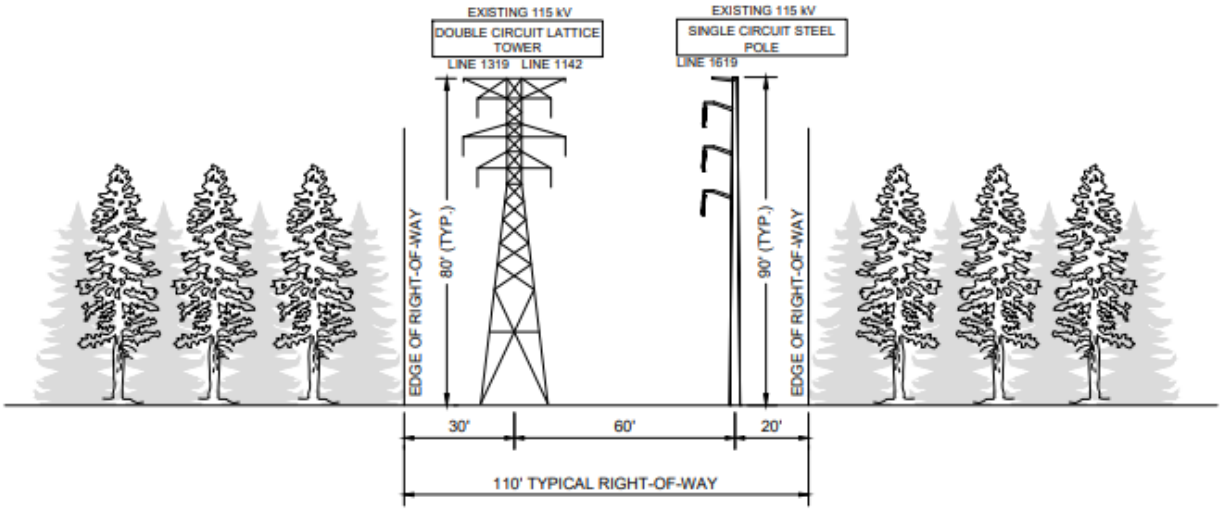
If approved, staff recommends the following conditions:

1. Approval of any Project changes be delegated to Council staff;
2. Submit a copy of the DEEP Stormwater Permit prior to commencement of construction;
3. Incorporate pollinator habitat in the restoration of disturbed areas consistent with CGS §16-50hh, where feasible;
4. Use of net-less E&S controls to prevent wildlife entanglement;
5. Submit the final FAA Determinations for the replacement structures;
6. Submit the final State Land Notification prior to construction proximate to the Bridle Trail; and
7. An environmental monitor shall oversee construction activities in sensitive resource areas that are identified in the Project maps.

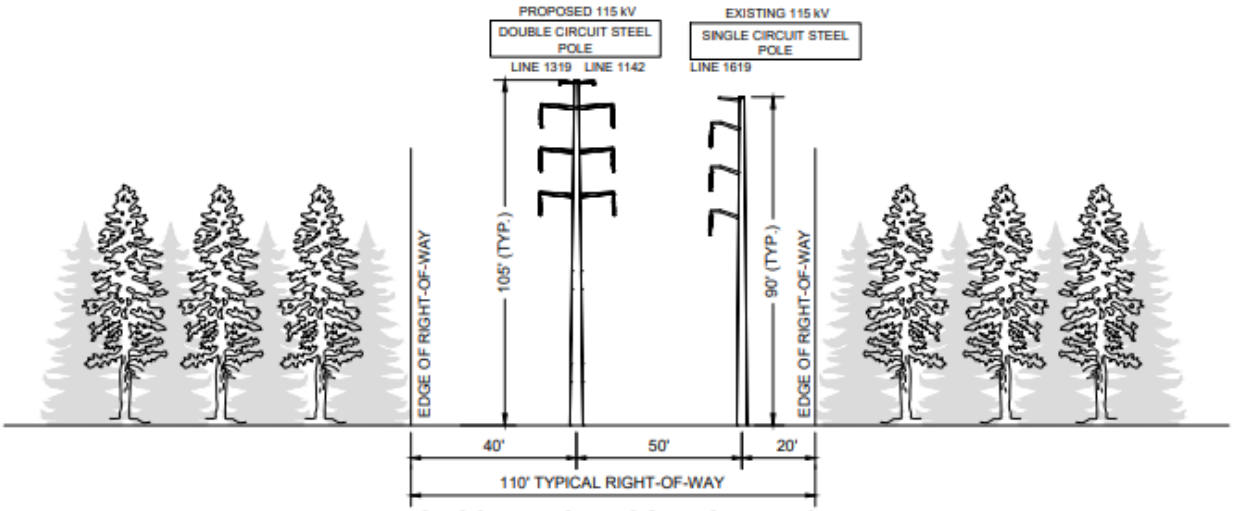
Project Location



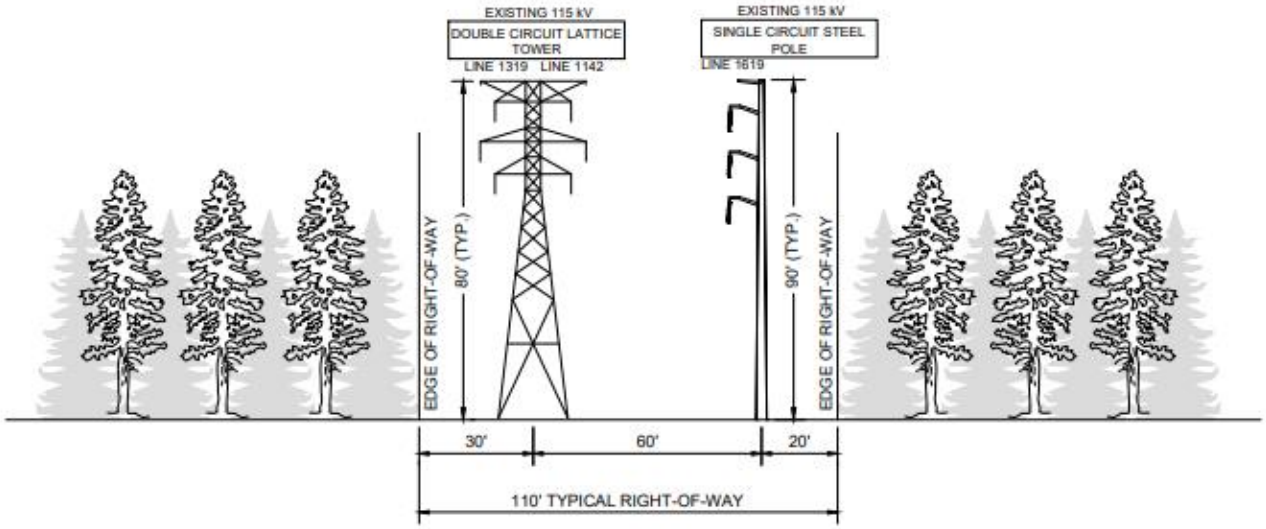
Project ROW Profiles



EXISTING R.O.W. CONFIGURATION
DOUBLE CIRCUIT STEEL LATTICE & MONOPOLE VERTICAL DESIGN
LOOKING FROM CHRISTIAN ST. JCT. TO TOWANTIC S/S
IN THE TOWN OF OXFORD, CT
TYPICAL



PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
DOUBLE & SINGLE CIRCUIT STEEL MONOPOLE
VERTICAL DESIGN
LOOKING FROM CHRISTIAN ST. JCT. TO TOWANTIC S/S
IN THE TOWN OF OXFORD, CT
TYPICAL



EXISTING R.O.W. CONFIGURATION
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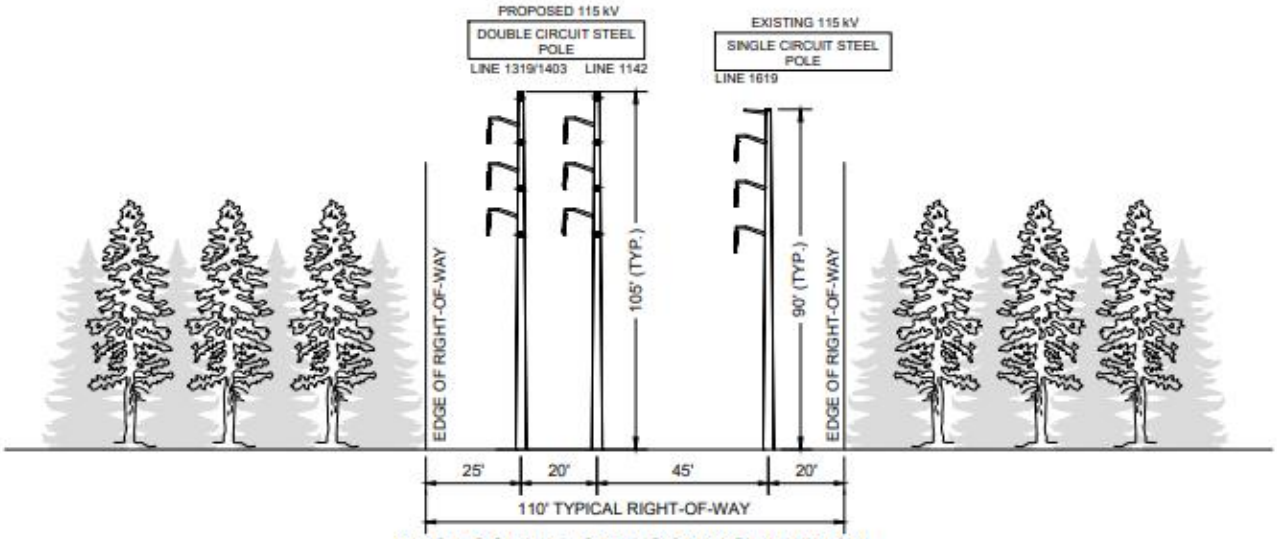

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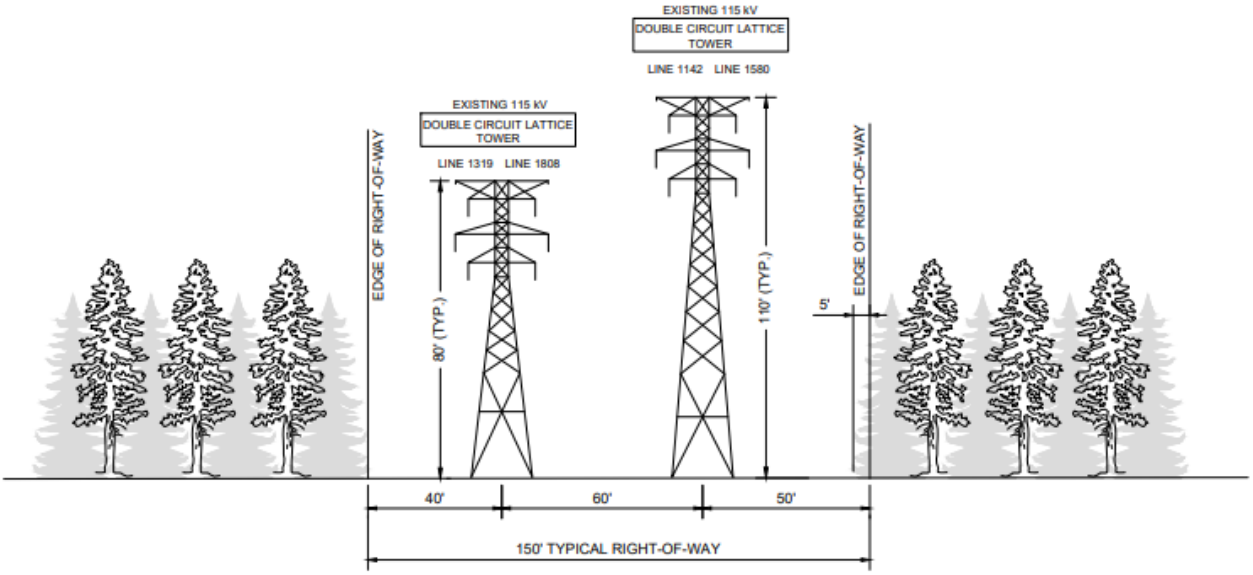

EXISTING R.O.W. CONFIGURATION
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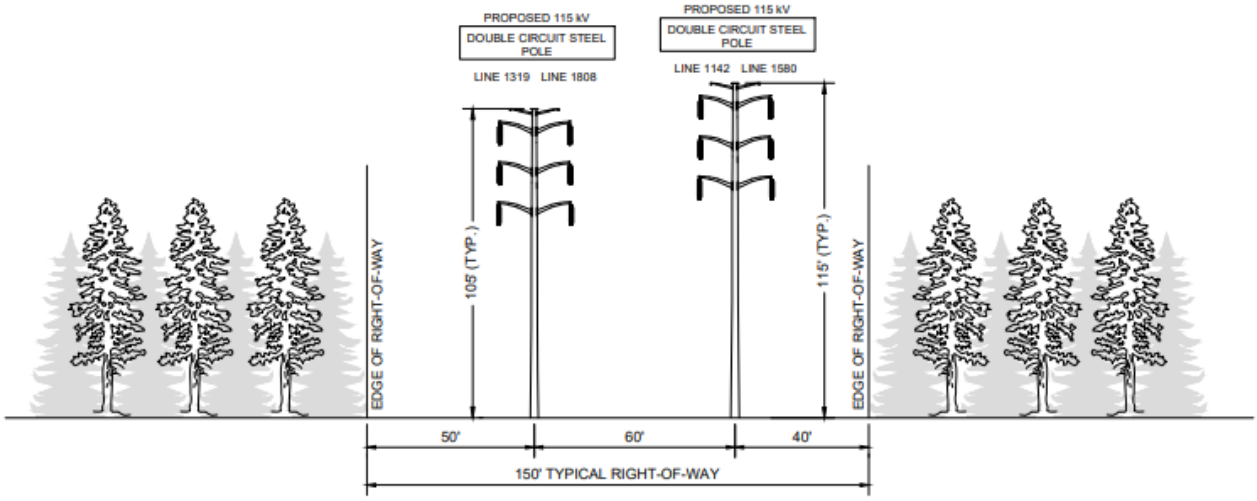

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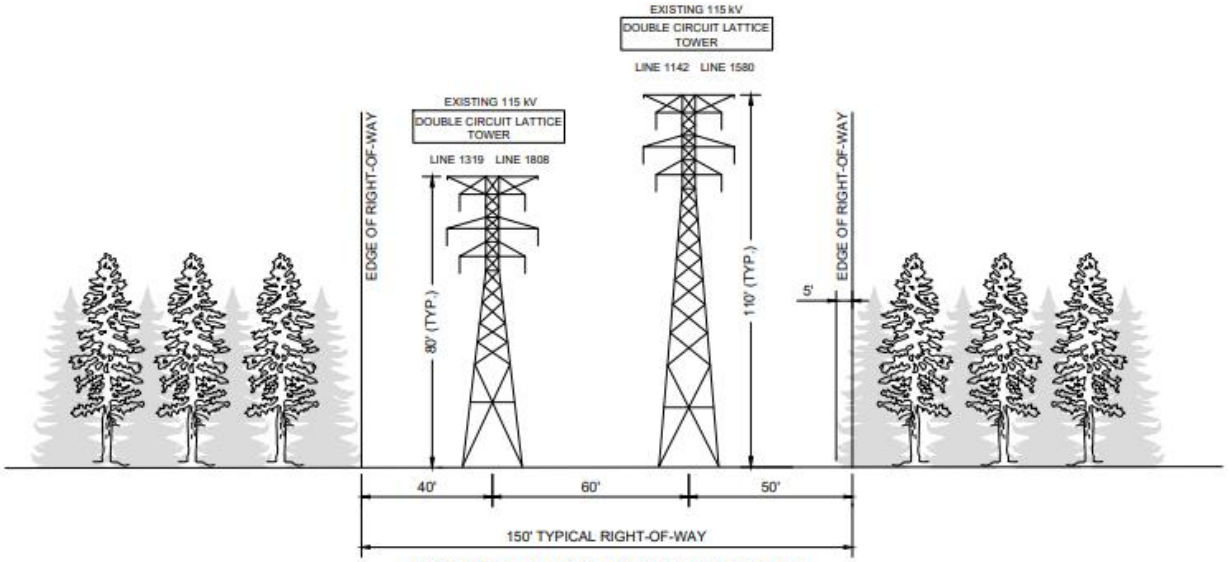

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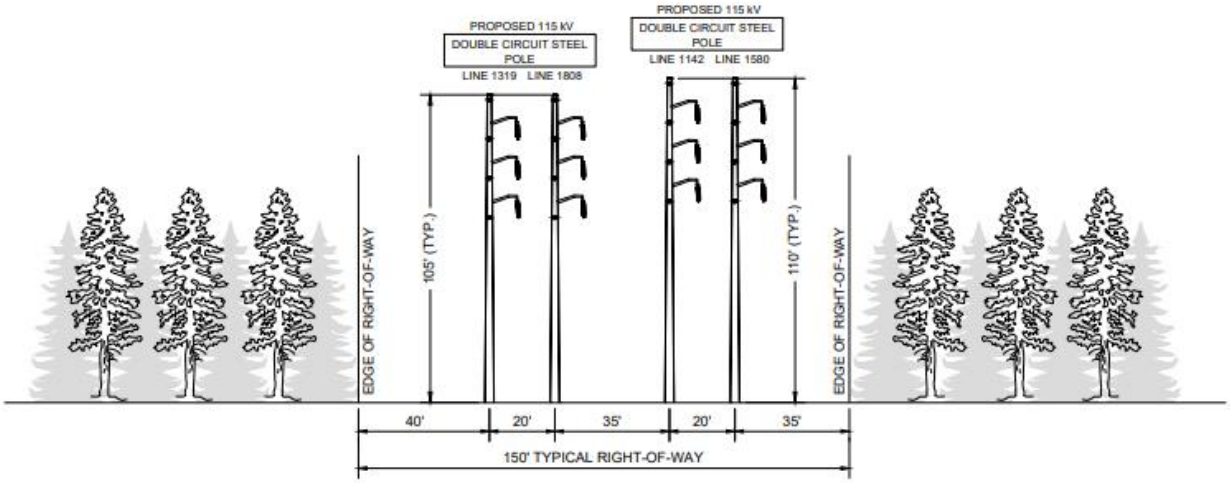

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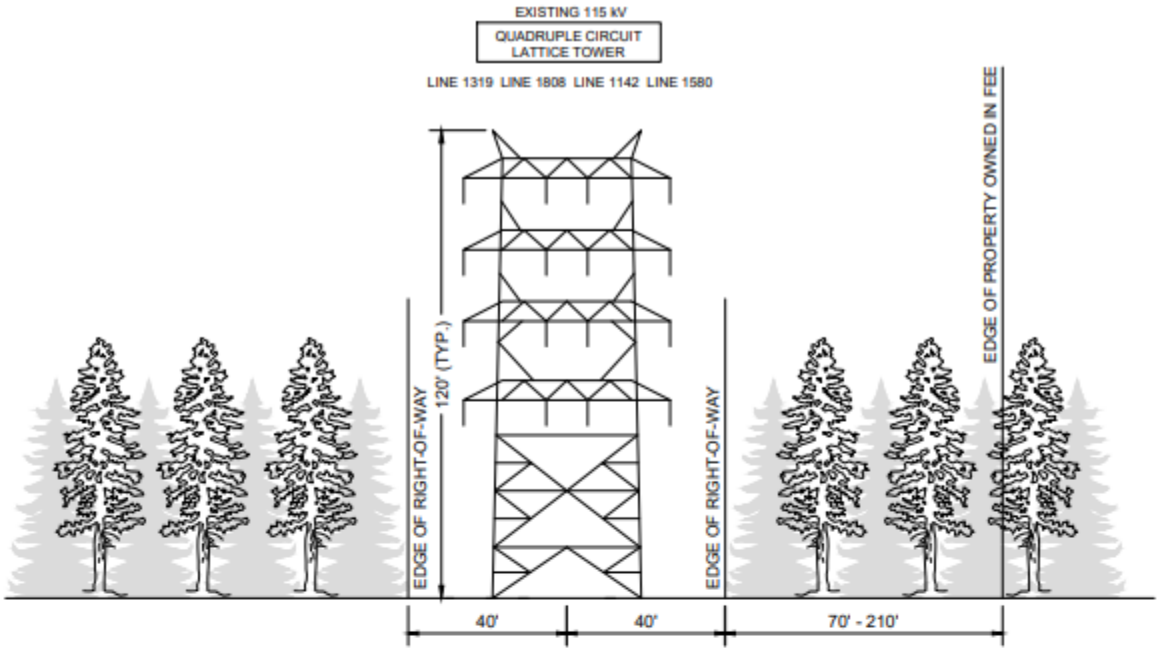

EXISTING R.O.W. CONFIGURATION
QUADRUPLE CIRCUIT STEEL LATTICE VERTICAL DESIGN
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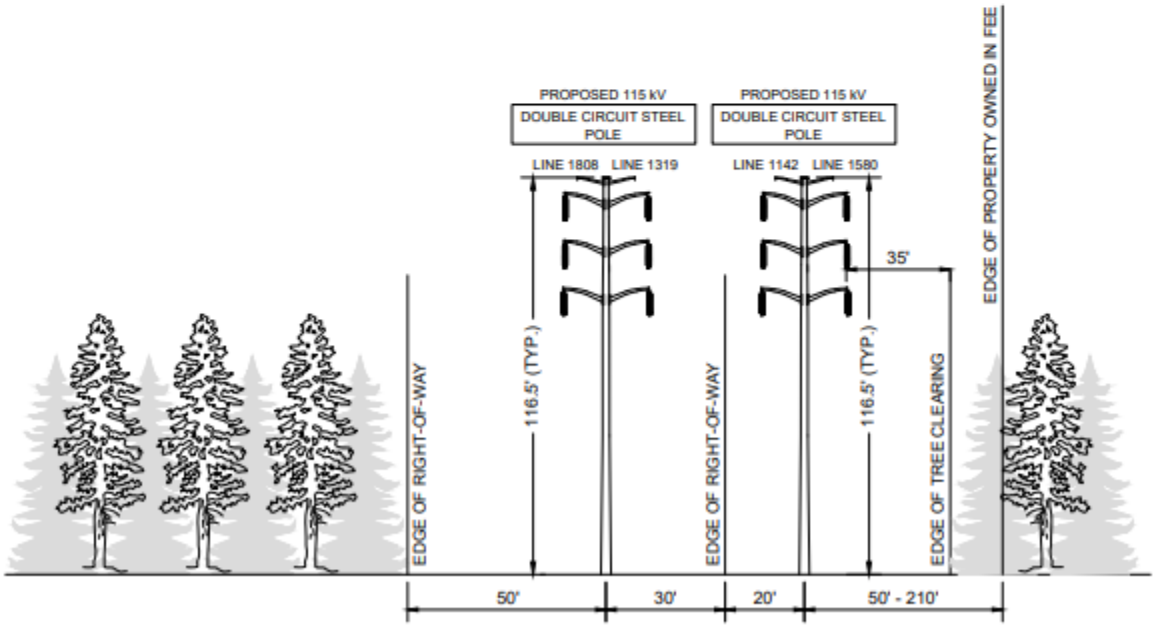
IN THE TOWN OF OXFORD, CT



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