DRAFT

Petition No. 1672
The Connecticut Light and Power Company d/b/a Eversource Energy
Portland Substation to Hopewell Substation Rebuild Project
Portland and Glastonbury

Staff Report
November 7, 2025

Notice

On June 13, 2025, 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 Portland Substation to Hopewell Substation Rebuild Project (Petition or Project) within existing Eversource electric transmission line right-of-way (ROW) in the Towns of Portland and Glastonbury (collectively, the municipalities).

The Project consists of the replacement of electric transmission line structures, reinforcement of electric transmission structures and the replacement of existing shield wire with optical ground wire (OPGW)[1] on the 1759 Line along approximately 9.14 miles of existing ROW between Portland Substation, Ames Junction, and Hopewell Substation; and related electric transmission line and substation improvements.

The Project does not require any significant changes in the general physical characteristics of the existing transmission line facilities, nor does it require any exercise of eminent domain or expansion of any easement.

On June 13, 2025, in compliance with Regulations of Connecticut State Agencies (RCSA) §16-50j-40, Eversource provided notice of the proposed Project to the municipalities and abutting property owners.

On June 16, 2025, the Council sent correspondence to the municipalities stating that the Council has received the Petition and invited the municipalities to contact the Council with any questions or comments by July 13, 2025. No comments were received from the municipalities.

Under RCSA §16-50j-40, neither Eversource nor the Council is required to provide notice to the state agencies listed in CGS §16-50j(i) when a petition for a declaratory ruling for modifications to an ***existing facility*** is submitted to the Council. However, pursuant to CGS §4-176, there is a 30-day public comment period associated with every petition for a declaratory ruling submitted to the Council. On June 25, 2025, 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]

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[1] OPGW contains a conductor for lightning protection and fiber optics for communications between substations. It would be installed overhead. Shield wire consists of a conductor for lighting protection and can be replaced with OPGW.
[2] https://portal.ct.gov/-/media/csc/3_petitions-medialibrary/petitions_medialibrary/mediapetitionnos1601-1700/pe1672/sac_official_municipal_comments/pe1672_ceq-commentsrecd_a.pdf?rev=6f6ed7f487c94ce8949aa3e51dbff3ae&hash=DBFAD04A5A4D2FDFDB1E243205B9B729
[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 August 7, 2025, 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 December 10, 2025, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

The Council issued interrogatories to Eversource on October 3, 2025. Eversource submitted responses to the interrogatories on October 23, 2025.

Community Outreach

Eversource provided an initial briefing on the Project to the municipalities in January and February 2025. No concerns were expressed by the municipalities.

Also in January 2025, Eversource initiated outreach to property owners along the Project route. 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. No concerns were expressed by abutting property owners. 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 9.14 miles of Eversource ROW that extends through undeveloped forest including the Meshomasic State Forest, agricultural land, low-density residential and commercial development, and the Air Line State Park Trail.

The 1759 Line ROW was established in approximately 1957 between Middletown Substation in Middletown and Manchester Substation in Manchester. In the early 1970s, Portland Substation in Portland and Hopewell Substation in Glastonbury were constructed. The 1759 Line was reconfigured from Portland Substation and Hopewell Substation.[4] The 1759 Line shares the ROW with the 345-kV 3424 Line that was established in approximately 1964 from Ames Junction in Portland to Hopewell Substation. Eversource's easements for the existing ROW grant Eversource rights to enter upon the land and erect, inspect, operate, and maintain infrastructure related to the conduction of electricity. The easements also grant rights to trim, cut, and remove vegetation within or projecting into the ROW.

Between Portland Substation and Hopewell Substation, the 1759 Line is supported by 71 wood H-frame structures, 25 weathering steel H-frame structures, one wood three-pole structure, 5 weathering steel three-pole structures, and one galvanized steel monopole.

The ROW is approximately 125 to 150 feet wide between Portland Substation and Ames Junction, and this segment is maintained to its full width. From Ames Junction to Structure 9036, the ROW is approximately 350 feet wide, and it is maintained to its full width.

From Structure 9036 to Hopewell Substation, the ROW segment is approximately 300 to 350 feet wide, except for between Structures 9080 and 9084, where it is approximately 200 feet wide. The 300 to 350-foot wide sub-segment is maintained to its full width. The approximately 200-foot wide ROW sub-segment between Structures 9080 and 9084 is maintained to its full width.

Vegetation that matures to a height taller than 15 feet is incompatible with electric transmission lines and is removed. Vegetation management was most recently performed in the spring of 2025.

[4] The 1759 Line between Middletown Substation and Portland Substation was redesignated as the 1443 Line at that time.

Project Need

The purpose of the proposed Project is to improve system reliability on the 1759 Line by addressing identified asset condition deficiencies that require replacement of shield wire with new OPGW to facilitate Eversource's long term build out of its fiber optic network; and replacement and reinforcement of electric transmission line structures due to structural loading issues and to meet National Electrical Safety Code (NESC) clearance standards.

The Project is identified in the Independent System Operator New England, Inc. (ISO-NE) Regional System Plan Asset Condition List and identified as ACL 491. 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 $18.2M. The Project cost would be eligible for regional cost allocation as it is associated with Pool Transmission Facilities.[5] Pending a final determination from ISO-NE, total costs are expected to be allocated[6] as follows:

Eversource Connecticut ratepayers[7]	18.32%	($3.33M)
Other Connecticut ratepayers[8]	5.62%	($1.02M)
Other New England ratepayers[9]	76.06%	($13.84M)
Cost Total	100%	($18.19M)

Any cost overruns for the Project, as proposed, would become part of the total Project cost, which would be allocated to ratepayers in accordance with the percentages above.

Per the Council's *2022 Life-Cycle Cost Analysis of Overhead and Underground Electric Transmission Lines* (2022 Life Cycle Report), the Life Cycle Cost (LCC) for a transmission project is the sum of the net present values (NPV) of three components over the study period: first costs, operations and maintenance (O&M) costs and electrical loss costs.[10] The first costs or costs to design, permit and construct a line are used as a comparison to total facility cost.[11]

The Project has a projected first cost of approximately $18.2M, which is equal to the total Project cost. With a 2 percent annual O&M escalation rate, the NPV of O&M costs is projected to be approximately $272k. Electrical loss costs would not be applicable because reconductoring is not being performed. Utilizing a 40-year study period, the total life cycle cost would be approximately $18.5M for the proposed Project.

Proposed Project

The Project includes the replacement of 14 single-circuit wood H-frame structures with 14 single-circuit weathering steel H-frame structures; replacement of 3 single-circuit wood H-frame structures with 3 single-circuit weathering steel three-pole structures; and installation of reinforcing cross bracing on 29 single-circuit wood H-frame structures. Fifty-five existing wood structures would not be replaced.

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[5] 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.
[6] These allocations are estimates based on 2024 actual loads.
[7] Electrical service customers of Eversource and located within Connecticut.
[8] Electrical service customers located within Connecticut but outside of Eversource's service territory.
[9] Electrical service customers located within New England but outside of Connecticut.
[10] 2022 Life Cycle Report, p. 21
[11] O&M costs and electrical loss costs components are not related to the Project cost total.

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 115-kV transmission corridors to have 11 feet of clearance to the ROW edge during specific wind events.[12]

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 conductor on the 1759 Line is approximately 67 years old and would be transferred from the existing structures to the replacement structures. The conductor was tested in 2024 and does not require replacement at this time. Based on the ISO-NE 2034 Study, the approximate forecast load for the 1759 Line is below the current Long Term Emergency line rating of 223 Mega Volt-Amperes (MVA). Thus, the existing conductor is adequate to support the forecast loading.

1759 Line

The 1759 Line is a 115-kV line supported by single-circuit H-frame wood structures, single-circuit weathering steel H-frame structures, a single-circuit wood three-pole structure, single-circuit weathering steel three-pole structures, and a galvanized steel monopole. The 1759 Line was originally installed in 1957. The existing conductor is 556.5-kcmil aluminum conductor steel reinforced (ACSR) conductor, and it is approximately 67 years old.

Portland Substation to Hopewell Substation — 9.14 miles

Project work consists of the following:

a) Replace 14 single-circuit wood H-frame structures with 14 single-circuit weathering steel H-frame structures;
b) Replace 3 single-circuit wood H-frame structures with 3 single-circuit weathering steel three-pole structures;
c) Install reinforcing cross bracing on 29 existing single-circuit wood H-frame structures; and
d) Replace the existing 3/8-inch Copperweld shield wire with 0.646-inch 96 fiber OPGW between Portland Substation and Hopewell Substation.

In addition to the structure replacements, reinforcements and OPGW installation, Project work includes installation of counterpoise and installation or transfer of the existing lightning arrestors, as needed.[13]

[12] Petition 1614, response to Council interrogatory 10.
[13] Counterpoise is typically installed at structure locations at a minimum depth of 18 inches in wooded areas.

Portland Substation and Hopewell Substation

To facilitate the OPGW installation, short runs of underground All-dielectric self-supporting (ADSS) cable would be installed from existing substation terminal structures to the control enclosures at Portland Substation and Hopewell Substation.

Public Health and Safety

There would be no increase of 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.

In January 2025, Eversource utilized the Federal Aviation Administration (FAA) Notice Criteria Tool for the proposed structures. The results indicate that none of proposed structures exceeded the Notice Criteria. Thus, a FAA determination is not required. None of the existing structures are marked or lighted; thus, no marking or lighting of any proposed structures would 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.*

The Project would generally not alter the configuration of the conductors; thus, electric and magnetic fields would only change slightly directly underneath the replacement structures. At the edges of the ROW and beyond, any changes to EMF would be negligible. Additionally, because the replacement structures would increase the vertical clearance between the conductor attachments and ground level, EMF levels would be expected to decease due to increased distance.

The Algonquin natural gas transmission pipeline runs parallel to and traverses the Project ROW in certain locations. Eversource consulted with Algonquin and held an on-site meeting to coordinate protective measures at specific locations along the Project ROW. Eversource would utilize matted air bridges for access crossings over the pipeline to allow construction vehicles and equipment to safely cross over such pipeline without direct contact or ground pressure on pipeline below.

Environmental Effects and Mitigation Measures

Most of the Project work would occur within maintained ROWs. Minimal tree removal and/or trimming would be required to meet current clearance standards. Trimming and vegetation management work would be limited to accommodate access road/work pad installations and improvements, as necessary. Generally, vegetation would be cut to approximately 6 to 8 inches above ground level or mowed where necessary.

Vegetation removal/tree trimming would be accomplished using mechanical methods or manually. Mechanical methods include the use of mowers, brush hogs or other types of mowing equipment, 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 62 wetlands and 22 watercourses are located within the ROW or in adjacent off-ROW areas.

No permanent wetland impacts would result from the Project. Eversource would utilize seven existing permanent watercourse crossings such as bridges, culverts or stone fords, but no new permanent watercourse crossings would be installed.

Wetland boundaries were delineated in the field using fluorescent flagging tape. Temporary wetland/watercourse impacts related to Project construction matting would total approximately 1.08 acres. Construction activities within wetlands and across watercourses would be conducted in accordance with Eversource BMPs.

Eversource performed a vernal pool survey in June 2024 that identified eight potential vernal pools (PVPs) at the Project site. The Project would not result in any direct impacts to the PVPs. No proposed replacement structures would be located within any of the 100-foot Vernal Pool Envelopes (VPEs) of the PVPs. Two existing work pads, two matted access roads and three existing gravel access roads are located within the VPEs. Eversource would conduct work in these areas in accordance with vernal pool protection measures and Eversource BMPs to minimize impacts.

The Project would comply with the USACE self-verification procedures and Eversource's BMPs. An environmental inspector would perform oversight of 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 Federal Emergency Management Agency (FEMA) designated flood zones associated with Carr Brook and Roaring Brook. No proposed replacement structures would be located within a 100-year flood zone.

Proposed temporary fill would be limited to the placement of matted work pads for existing Structures 9036 and 9100 within the 100-year flood zone of Carr Brook and Roaring Brook, respectively. Eversource BMPs would be utilized including, but not limited to, the use of constructing matting for work pads and access roads. Prior to significant storm events, Eversource would secure construction mats to impede lateral movement during temporary flooding. The proposed activities 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.

During field work conducted in June 2024, observations of eastern box turtle, spotted turtle and wood turtle, all of which are state-listed special concern turtle species, were recorded. Eversource would implement turtle protection measures, including, but not limited to, conducting work during the dormant period of November 1 through March 31 and minimizing ground disturbance along the ROW edge. For work that occurs during the active period of April 1 through October 31, Eversource would implement protection measures, including, but not limited to, contractor training and on-site environmental monitoring.

On March 21, 2025, DEEP issued a final NDDB Determination for portions of the Project between Structures 9049 and 9087 in Portland and Glastonbury; and Hopewell Substation to Structure 9104 in Glastonbury. This determination identified three state-listed Species of Special Concern plant species. Eversource would implement protection measures during construction and conduct post-construction monitoring of needlegrass in areas where impacts are unavoidable.

The NDDB Determination also identified a state-endangered reptile species, 2 state-listed special concern species of birds; and 4 species of freshwater mussels, one of which is state-endangered and three of which are special concern species. For the identified bird species, Eversource would implement whip-poor-will and brown thrasher protection measures that would apply to both species, including, but not limited to, avoiding vegetation and ground disturbance between March 1 and August 30, and not disturbing shrubby habitat. Eversource would also implement freshwater mussel protection measures that were agreed upon in consultation with DEEP.

Eversource would also implement DEEP-recommended protective measures for the state-endangered reptile, including, but not limited to, time of year best management practices, and species sweeps.

As of October 3, 2025, Eversource has not received the final DEEP NDDB Determination for the remaining portions of the Project. Notwithstanding, Eversource will continue to coordinate with DEEP regarding appropriate species protection measures and will comply with any additional DEEP-recommended protection measures.

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. IPaC identified the northern long-eared bat (NLEB), a federal-listed and state-listed Endangered Species; the tricolored bat (TCB), a federal proposed Endangered Species and state-listed Endangered Species; and the small whorled pogonia, a federal-listed Threatened Species. Eversource conducted a preliminary impact analysis for the NLEB and TCB using the IPaC determination keys, which resulted in a determination of no effect. There are no known NLEB maternity roost trees within 150 feet of the site, and the nearest known NLEB hibernaculum is located approximately 15 miles to the north-northwest in East Granby.[14] Additionally, there are no known occurrences of NLEB in Portland or Glastonbury.[15] Thus, the Project is not expected to impact the NLEB or TCB. Additionally, Eversource's review of the IPaC determination key indicated that the Project is not likely to adversely affect the small whorled pogonia.

A Phase 1A Cultural Resources Assessment (Phase 1A) did not identify any properties/districts listed on the National or State Register of Historic Places within 500 feet of the Project ROW. The Phase 1A did identify three previously identified archaeological sites located near the Project ROW. Two of these sites are located sufficiently far away from the Project site that they are not expected to be impacted by the Project. The third site is not eligible for listing on the National Register of Historic Places.

[14] https://portal.ct.gov/-/media/deep/endangered_species/images/nlebmappdf.pdf
[15] https://portal.ct.gov/-/media/deep/nddb/nolongearedbat-map.pdf

The Phase 1A also identified 43 Project work areas that have a moderate to high potential for archaeological sensitivity and recommended a Phase 1B Cultural Resources Reconnaissance Survey (Phase 1B). A Phase 1B was performed that included a pedestrian survey and shovel testing. By letters dated January 30, 2025 and April 11, 2025, SHPO concurred that that no further archaeological testing is warranted, and no historic properties would be affected by the Project. No comments were received from the Tribal Historic Preservation Offices (THPOs).

Stone walls that must be breached for access during Project construction would be restored to original condition during restoration unless directed otherwise by the property owner.

The nearest publicly-accessible recreational resource is the Air Line State Park Trail (ALSPT), a portion of which runs parallel to the ROW for approximately one mile from Portland Substation to Structure 9015. Eversource would use ALSPT to access Structures 9011, 9012 and 9013. Eversource would coordinate with the Town of Portland and deploy signage and flaggers to inform the public of any work being performed proximate to the trail. While some of the work may temporarily affect public use of the trail, it would not prevent the public from traversing the trail through the site. Work proximate to the trail would occur over an approximately 6-month time period. Eversource would also follow any applicable BMPs associated with work in the vicinity of trails.

The Project ROW abuts the Meshomasic State Forest (MSF) in Portland in two places and traverses the MSF for approximately 1.6 miles. Eversource was granted perpetual easements from DEEP to access over and across the MSF and the right to erect, inspect, operate, and maintain infrastructure related to the conduction of electricity and to trim, cut, and remove vegetation within or projecting into the ROW.

The Project would require increasing the height of many replacement structures primarily to meet NESC clearance requirements within the existing ROW. Existing structures to be replaced on the lines range from 43 to 61 feet above ground level (agl). The replacement structures on the lines would range from 52 feet to 82 feet agl, with an average height increase of approximately 11 feet to meet NESC clearance requirements.

One replacement structure would increase in height by 30 feet or more. This structure location is between Middle Haddam Road and Breezy Corner Road in Portland (increase of 30 feet) and proximate to Portland Substation.

Due to the increase in structure heights to comply with NESC clearance criteria and the change from an H-frame design to a 3-pole design in three locations, there would be limited impacts to the visual profile of the 1759 Line from the surrounding area. However, all proposed replacement structures would have a weathering steel finish to blend in with the surrounding wooded landscape. Weathering steel poles are more economical than galvanized steel poles because galvanized steel poles cost roughly 4 to 6 percent more. The Project would not materially change the existing visual character of the line and corridor; thus, it is not expected to have a negative visual impact.

Project Construction

Eversource would utilize a staging/laydown area for the Project at 37 Lebanon Road in Franklin. This staging/laydown area is approximately 3 acres and would contain Project equipment, office trailers, and vehicles. This staging/laydown area is located approximately 27 miles from the site.

Eversource would utilize existing in-ROW access roads to the extent possible during construction. Where existing access roads are not present, new in-ROW access 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. wetlands, critical habitats, residential lawns, and driveways) 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, straw bales, 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. 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 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 would typically be approximately 125 feet by 125 feet. Work pad dimensions would vary based on site specific conditions such as terrain. Work pads would typically be composed of gravel. Temporary matted work pads would be used in sensitive areas such as wetlands, critical habitats, residential lawns, and driveways.

Pull pads, necessary to accommodate machinery needed for pulling conductors and/or OPGW, would typically be 80 feet by 50 feet. Pull pad dimensions may vary subject to site specific conditions such as terrain.

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, air compressors, 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; the DEEP General Permit; and federal, state and local requirements. 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 would be installed using wire reels, compressors, pulling and tensioning rigs, guard trucks, and bucket trucks or structures. The removal of shield wire would take place during the active installation of OPGW as the existing shield wire would be used as pulling lines if possible. Helicopters may be used. If helicopters are utilized, Eversource would provide advanced notification to the municipalities and property owners.

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

After the replacement structures are in place, conductor is transferred and OPGW are installed, the existing structures would be removed. The existing structures, shield wire and hardware would be reused, recycled or properly disposed of.

[16] 2022 Eversource Best Management Practices MA_CT

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.

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 2025 with anticipated completion in May 2026 and full restoration by October 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.

Eversource initially requests outages from the Connecticut Valley Electric Exchange (CONVEX). CONVEX reviews the request and submits the request to ISO-NE for final approval.

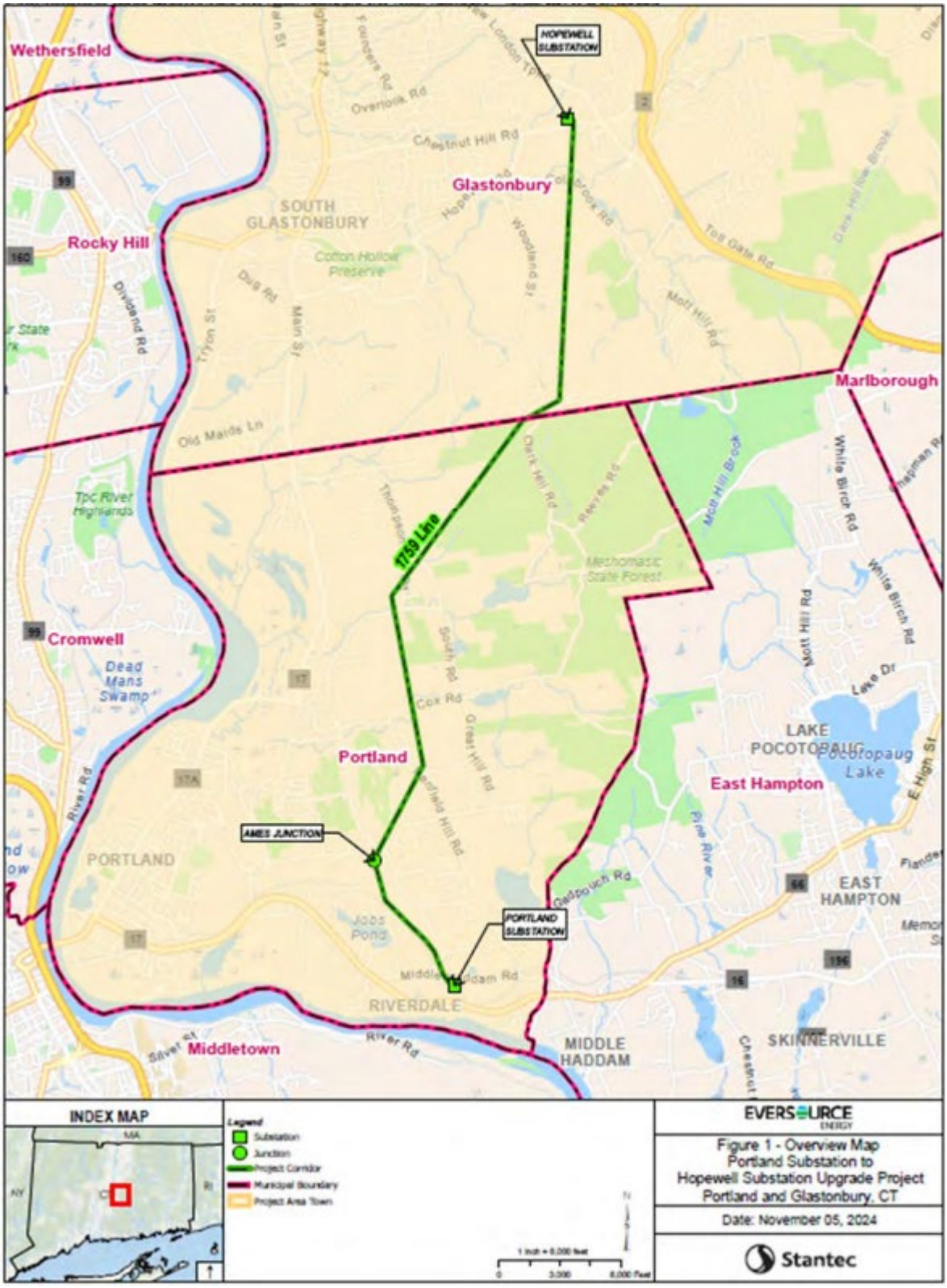
Additionally, during an outage switching, in order to re-energize or de-energize a line, access to substations may be required outside of typical work hours. These substations include, but are not limited to, Eversource's Portland Substation, Hopewell Substation, Kleen Energy Substation, and Manchester Substation.

Conclusion

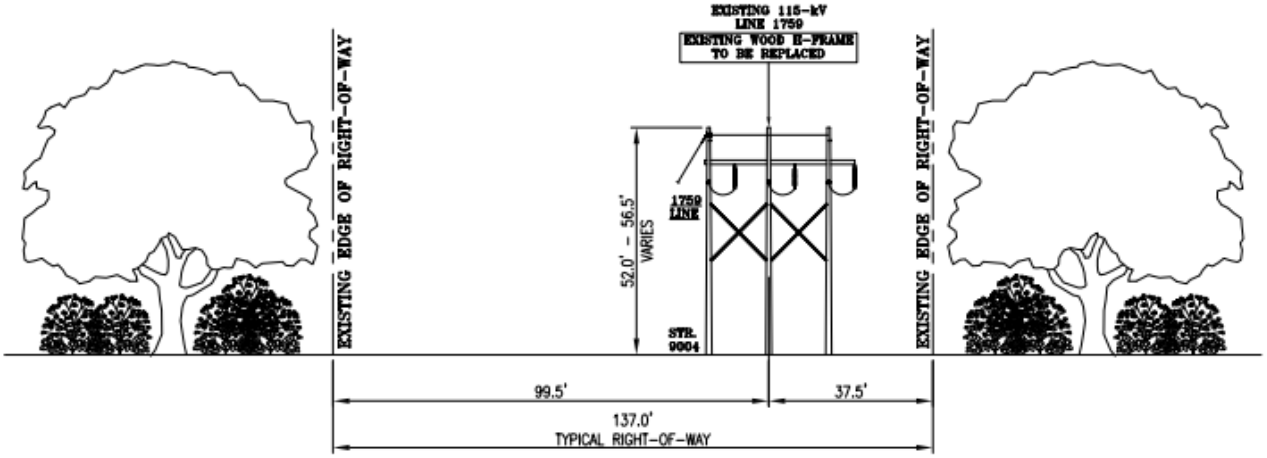
If approved, staff recommends the following conditions:

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. Submit a copy of the final DEEP Natural Diversity Database Determination(s) prior to commencement of construction for areas outside of between Structures 9049 and 9087 in Portland and Glastonbury and areas outside of Hopewell Substation to Structure 9104 in Glastonbury;
4. Incorporate pollinator habitat in the restoration of disturbed areas consistent with CGS §16-50hh, where feasible;
5. Use of net-less E&S controls to prevent wildlife entanglement; and
6. An environmental monitor shall oversee construction activities in sensitive resource areas that are identified in the Project maps.

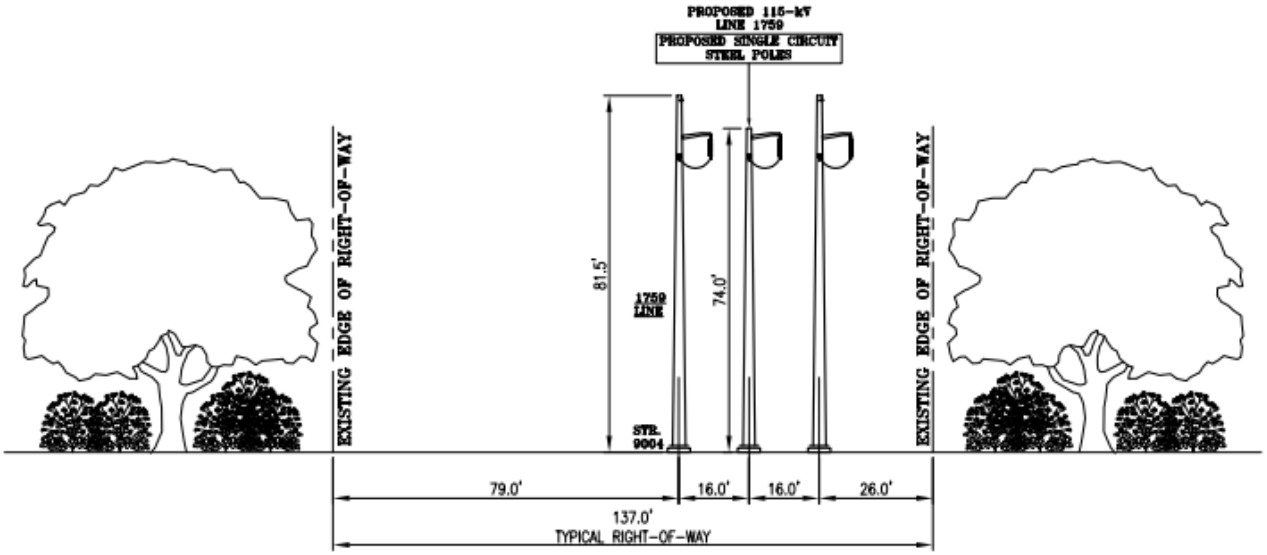
Project Location



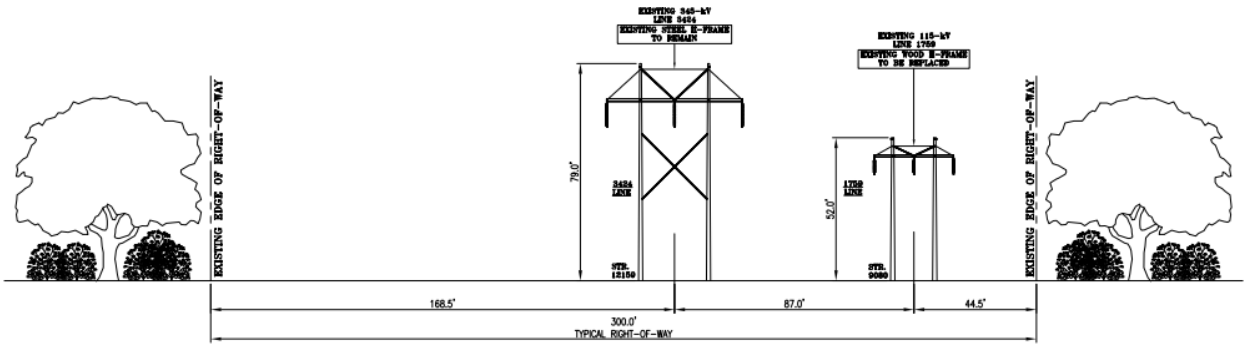
Project ROW Profiles



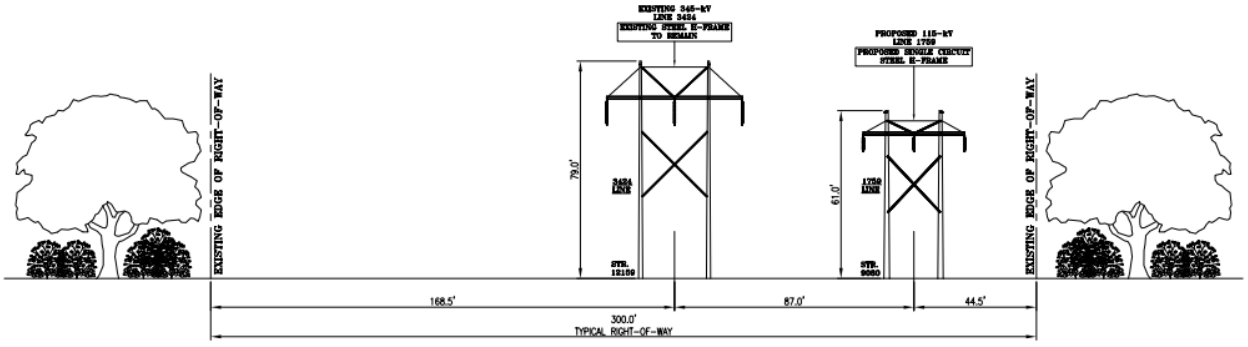
EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT WOOD H-FRAME DESIGN
LOOKING FROM PORTLAND SUBSTATION TO AMES JUNCTION
IN THE TOWN OF PORTLAND, CT
STR. #9004



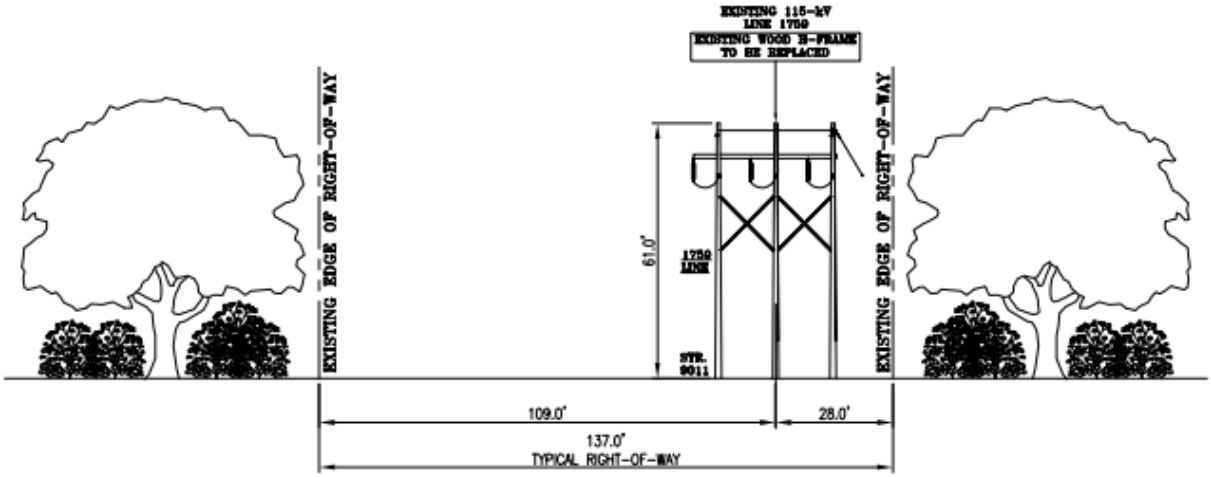
PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT STEEL 3-POLE DESIGN
LOOKING FROM PORTLAND SUBSTATION TO AMES JUNCTION
IN THE TOWN OF PORTLAND, CT
STR. #9004



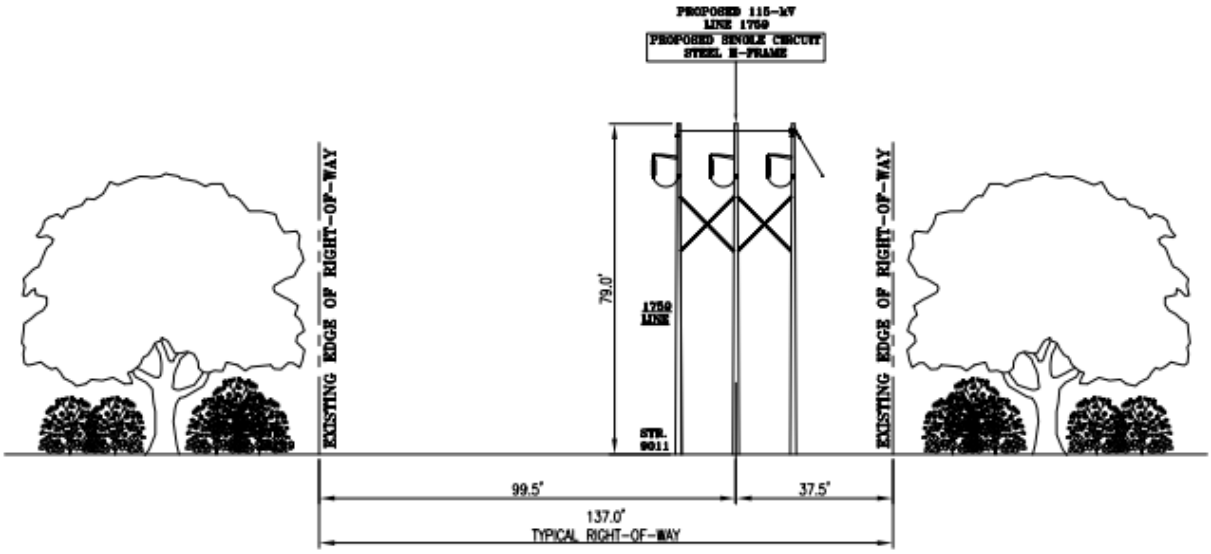
EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT WOOD H-FRAME DESIGN
LOOKING FROM AMES JUNCTION TO HOPEWELL SUBSTATION
IN THE TOWNS OF PORTLAND & GLASTONBURY, CT
STR. #9080



PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT STEEL H-FRAME DESIGN
LOOKING FROM AMES JUNCTION TO HOPEWELL SUBSTATION
IN THE TOWNS OF PORTLAND & GLASTONBURY, CT
STR. #9080



EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT WOOD H-FRAME DESIGN
LOOKING FROM PORTLAND SUBSTATION TO AMES JUNCTION
IN THE TOWN OF PORTLAND, CT
STR. #9011



PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT STEEL H-FRAME
LOOKING FROM PORTLAND SUBSTATION TO AMES JUNCTION
IN THE TOWN OF PORTLAND, CT
STR. #9011