

DRAFT

Petition No. 1678
The Connecticut Light and Power Company d/b/a Eversource Energy
West Devon Junction to Devon Substation Rebuild Project
Stratford and Milford

Staff Report
December 5, 2025

Notice

On July 14, 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 West Devon Junction to Devon Substation Rebuild Project (Petition or Project) within existing Eversource electric transmission line right-of-way (ROW) in the Town of Stratford and the City of Milford (collectively, the municipalities).

The Project consists of the replacement of electric transmission line structures and conductors, and the replacement of existing shield wire with optical ground wire (OPGW)¹ on the 1483, 1545 and 1580 Lines along approximately 2.17 miles of existing ROW between West Devon Junction in Stratford, East Devon Junction in Milford, and Devon Substation in Milford and on the 1710 and 1730 Lines spanning approximately 0.17 mile of the Housatonic River in Milford and Stratford; 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 July 14, 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 July 15, 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 August 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 July 24, 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

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/pe1678/sac_official_municipal_comments/pe1678_ceq-commentsrecd_a.pdf?rev=9fd636e2919e4988b46dfca9168b581f&hash=6F773F9375BDEB44183D92B6ACBE770D

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 21, 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 January 10, 2026, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

The Council issued interrogatories to Eversource on October 27, 2025. Eversource submitted responses to the interrogatories on November 17, 2025.

Community Outreach

Eversource provided an initial briefing on the Project to the municipalities in April 2025. Eversource met with the City of Milford on April 14, 2025. No concerns were expressed. Eversource met with the Town of Stratford on April 16, 2025. Concerns related to the State Route 110 (River Road) temporary detour and alternating traffic plan were discussed. A Traffic Management Plan (TMP) is being developed in coordination with the Connecticut Department of Transportation (DOT), the Town of Stratford and Eversource. No additional comments have been received since the filing of the Petition.

Eversource also briefed the Stratford Harbor Management Commission, Stratford Harbor Master, Stratford and Milford Police and Fire Departments, and the Stratford Public Safety Director about the Project. None of these entities expressed any concerns.

Also in April 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 2.17 miles of Eversource ROW that extends across residential and commercial/industrial areas, the Housatonic River, State Route 110, the Charles E. Wheeler Wildlife Management Area (CWWMA), Metro North Railroad (MNR) Waterbury line, Iroquois Gas transmission pipeline, Milford's Housatonic Wastewater Treatment Plant, and a capped coal ash landfill.

The ROW between South Naugatuck Substation in Naugatuck and Devon Substation in Milford was established in approximately 1923. Eversource's easements for the existing ROW grant Eversource rights to enter upon the land and erect, inspect, operate, patrol, 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.

Within the Project ROW, the 1545/1483 Lines are supported by 16 double-circuit lattice structures and one double-circuit monopole, and the 1580/1590 Lines are supported by 16 double-circuit lattice structures and one double-circuit monopole. The 1590 Line has been decommissioned and will not be replaced as part of the Project. The 1710/1730 Lines are supported by two double-circuit lattice structures within the Project ROW at the Housatonic River crossing (one on each side of the river). The other 1710/1730 Lines structures were rebuilt in the Petition No. 1291 – Towantic Lines Upgrade Project – that was approved by the Council in 2018.

The Project ROW is approximately 250 feet wide within Stratford, and it is maintained to a width of approximately 200 feet wide. The Project ROW is mostly 250 feet wide within Milford, with portions up to 500 feet wide and is maintained to widths between 250 feet and 450 feet.

Eversource typically performs routine vegetation maintenance from edge-to-edge of the ROW or within 100 feet from the outer conductor, whichever is less. Vegetation that matures to a height taller than 15 feet is incompatible with electric transmission lines and is removed. Vegetation management was last performed in 2020 involving cut floor work⁴, pruning of side vegetation and tree branches, and selective use of herbicides in 2021. Consistent with the recommendations of the Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) Report on Transmission Facility Outages During the Northeast Snowstorm of October 29-30, 2011, Eversource will implement vegetation management to clear trees to 100 feet from the outside conductor or to the edge of the easement, whichever is less, in 2026.

The two structures (Structures 813 and 814) at the Housatonic River crossing to be replaced as part of the Project and the existing lines are currently subject to Federal Aviation Administration (FAA) obstruction and lighting schemes that are compliant with FAA Advisory Circular 70/7460-1 M.

Project Need

The purpose of the proposed Project is to improve system reliability on the 1483, 1545, 1580, 1710, and 1730 Lines and to address identified asset condition deficiencies by replacing shield wire and smaller OPGW with new/larger OPGW to facilitate Eversource's long term build out of its fiber optic network; replacing electric transmission line structures due to 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 in this corridor similar to the projects approved by the Council in Petition Nos. 1527, 1582, 1614, 1640, and 1656.

A ground line inspection was performed in accordance with the Electric Power Research Institute (EPRI) guidelines for all lattice structures within the Project ROW in 2019. Structures exhibiting degradation and steel sections loss were either treated with a sealant or encased in additional concrete to extend the service life of the structures. Drone inspections were performed on each structure in 2024. Additional ground line inspections were completed in October 2025.

On October 27, 2025, Eversource notified the Council of the emergent need to replace Structure Nos. 284 and 298. These structures received a D inspection rating under the EPRI guidelines and were deemed unsafe to endure the winter season without replacement due to more than 50% section loss on at least one structure leg. Replacement work would occur in coordination with a scheduled outage.

Over the past ten years, all five Lines have experienced outages caused by disturbances, including, but not limited to, line trips due to weather, vegetation contact and hotspots.

As it relates to other proposed, planned or constructed reliability and asset conditions projects, Eversource presented the Project to the Independent System Operator New England, Inc. (ISO-NE) at a Planning Advisory Committee meeting held on February 15, 2023. It was identified as Segment 3 of the South Naugatuck to Devon Corridor Rebuild.⁵ The Project is also identified in the ISO-NE Regional System Plan Asset Condition List as ACL 373. There are no generation or battery energy storage facilities listed on the ISO-NE interconnection queue associated with the proposed Project.

⁴ Cut floor work includes the removal of incompatible vegetation and floor cutting of lower growth vegetation to the edges of the maintained ROW. Incompatible vegetation is any tree or shrub that has a mature height of greater than 15 feet.

⁵ https://www.iso-ne.com/static-assets/documents/2023/02/a02_pac_2023_02_15_es_south_naugatuck_to_devon_corridor_rebuild.pdf

Cost

The total estimated cost of the Project is approximately \$44.53M. The 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 allocated⁷ as follows:

Eversource Connecticut ratepayers ⁸	18.32%	(\$8.16M)
Other Connecticut ratepayers ⁹	5.62%	(\$2.50M)
<u>Other New England ratepayers¹⁰</u>	<u>76.06%</u>	<u>(\$33.87M)</u>
Cost Total	100%	(\$44.53M)

Any cost overruns for the Project, as proposed, would be reviewed on a monthly basis and would become part of the total Project cost, which would be allocated to ratepayers in accordance with the percentages above. The estimated rate increase for Eversource Connecticut ratepayers in the first year of Project operation would be approximately \$0.0001 per kilowatt hour (kWh), or approximately 4 cents per month based on a 700 kWh retail customer.

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.¹¹ The first costs or costs to design, permit and construct a line are used as a comparison to total facility cost.¹²

The Project has a projected first cost of approximately \$44.53M, which is equal to the total Project cost.

Annual O&M costs are estimated at about \$68,960, \$34,480, and \$68,960 per mile for the 1545/1483 Lines, 1580 Line and 1710/1730 Lines, respectively, with an annual O&M cost escalation rate of 2 percent. Initial electrical loss costs are projected to be \$98,088 per year with an annual load growth of -0.07 percent and zero energy cost escalation. Utilizing a 40-year study period and 8 percent discount rate¹³, the total life cycle cost would be approximately \$55.96M for the proposed Project.

Galvanized steel poles are approximately 4 to 6 percent more costly than weathering steel monopoles.

Project Alternatives

Eversource evaluated five Project alternatives as follows:

1. **Alternative 1:** Rebuild 1580 and 1545/1483 Lines from West Devon Junction to Devon Substation, including the 1710/1730 Lines Housatonic River Crossing structures. This is the preferred alternative/proposed Project. It has an estimated cost of \$44.5 million.
2. **Alternative 2:** No action.

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 2024 actual loads.

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 2022 Life Cycle Report, p. 21

¹² O&M costs and electrical loss costs components are not related to the Project cost total.

¹³ 2022 Life Cycle Report, p. 21

3. **Alternative 3:** Rebuild 1580 and 1545/1783 Lines from West Devon Junction to Devon Substation without including the 1710/1730 Lines Housatonic River Crossing structures. This alternative has an estimated cost of \$39.9 million.
4. **Alternative 4:** Replace lattice structures only.
5. **Alternative 5:** Replace copper conductor and copperweld shield wire only.

Eversource did not conduct any studies relative to the installation of lines under the Housatonic River.

Eversource selected the proposed Project because it is a comprehensive and reliable solution that incorporates cost efficiencies associated with siting/permitting, materials procurement, contract execution and mobilization.

Conductor Alternatives

Advanced conductors incorporate material, design or technology that improves the electrical performance of electrical conductors in comparison to traditional aluminum conductor steel reinforced (ACSR) conductor and optimizes attributes such as current-carrying capacity, thermal performance, weight, sag, durability, corrosion resistance and efficiency, using materials such as high-conductivity alloys and conductor designs.¹⁴

Eversource prefers aluminum conductor steel supported (ACSS) conductor for the Project due to its ability to operate at high temperatures with less thermal sag. Standard ACSS conductor sizes include 556, 795, 954, 1272, 1590, and 2156 kcmil. Eversource rejected the 556-kcmil ACSS alternative because it may not reasonably handle future loads.

The total length of required conductor for the Project (irrespective of size) is approximately 108,600 linear feet. A cost comparison table below includes, but is not limited to, the conductor costs per foot, electrical loss costs and Project life cycle costs.

Conductor Cost and Project Life Cycle Cost Comparison Table						
	Lines	Conductor Size/Type	Cost per Foot	Total Conductor Length (feet)	Total Conductor Cost	Project Life Cycle Cost ¹ (\$M)
Alt 1						
	1545/1483	1590-kcmil ACSS	\$8.29	68,800 ²	\$ 570,352	\$ 30.676
	1580	1590-kcmil ACSS	\$8.29	34,400 ³	\$ 285,176	\$ 19.103
	1710/1730	1590-kcmil ACSS	\$8.29	5,400 ⁴	\$ 44,766	\$ 6.181
Alt. 1 Total Conductor Cost:					\$ 900,294	\$ 55.960
Alt 2						
	1545/1483	795-kcmil ACSS	\$7.12	68,800	\$ 489,856	\$ 33.774
	1580	795-kcmil ACSS	\$7.12	34,400	\$ 244,928	\$ 21.356
	1710/1730	795-kcmil ACSS	\$7.12	5,400	\$ 38,448	\$ 6.722
Alt. 2 Total Conductor Cost:					\$ 773,232	\$ 61.852
Alt 3						
	1545/1483	2156-kcmil ACSS	\$12.03	68,800	\$ 827,664	\$ 31.879
	1580	2156-kcmil ACSS	\$12.03	34,400	\$ 413,832	\$ 20.319
	1710/1730	2156-kcmil ACSS	\$12.03	5,400	\$ 64,962	\$ 9.095
Alt. 3 Total Conductor Cost:					\$ 1,306,458	\$ 61.293

¹⁴ Public Act 25-173, Section 26, available at <https://www.cga.ct.gov/2025/ACT/PA/PDF/2025PA-00173-R00SB-00004-PA.PDF>

¹ Project Life Cycle Costs are derived from three major components; First Costs, operation and maintenance (O&M) costs, and electrical loss costs, over the 40-year life cycle period, with total values as summarized in the table below referencing the three conductor types in the transmission lines rebuild:

Conductor Type	First Costs	O&M Costs	Electrical Loss Costs
1590-kcmil ACSS	\$44,529,000	\$3,536,000	\$7,895,000
795-kcmil ACSS	\$42,708,000	\$3,536,000	\$15,607,000
2156-kcmil ACSS	\$51,645,000	\$3,536,000	\$6,111,000

(*Carrying costs are included in the total Project Life Cycle Cost, but are not included in the table above, consistent with the 2022 Life Cycle Report.)

² Total conductor length based on 2.17 miles of 1545 Line and 2.17 miles of 1483 Line, converted to feet.

³ Total conductor length based on 2.17 miles of 1580 Line, converted to feet.

⁴ Total conductor length based on 0.17 mile of 1710 Line and 0.17 mile of 1730 Line, converted to feet.

The proposed 1,590-kcmil ACSS conductor would match the standard conductor size/type in the Devon-Towantic-South Naugatuck Corridor. It has a higher cost per foot (\$8.29 per foot) basis than the 795-kcmil ACSS conductor and a lower cost on a per foot basis than the 2,156-kcmil ACSS conductor. The proposed 1,590-kcmil conductor is a slightly heavier conductor than 795, 954 and 1272-kcmil ACSS conductor alternatives, which results in less insulator swing on structures and more clearances to the edge of the ROW and adjacent circuits. The life cycle cost for the proposed Project with 1,590-kcmil ACSS conductor is \$55.96M.

The 795-kcmil ACSS conductor is feasible and is the smallest conductor that could reasonably handle proposed loads. It is also the lowest cost on a per foot (\$7.12 per foot) basis. However, its smaller size (and thus higher resistance) results in greater electrical loss costs over the life cycle. Also, the 795-kcmil ACSS conductor is lighter in weight (approximately 0.95 pounds lighter per foot than 1,590-kcmil ACSS), resulting in movement farther away from the structure centerline during high winds. Thus, additional structures would be required to maintain horizontal clearances to the edge of the ROW and/or adjacent circuits during high wind conditions. First costs (\$42.71M) are less than that of the proposed Project (\$44.53M) because the lower conductor costs for 795-kcmil offset the incremental costs associated with additional structures. However, the life cycle cost for the Project with 795-kcmil ACSS conductor (\$61.85M) is higher than that of the proposed Project with 1,590-kcmil (\$55.96M) due to the incremental electrical loss costs.

The 2,156-kcmil ACSS conductor is feasible and is the most expensive conductor because it has the highest cost on a per foot (\$12.03 per foot) basis of the three ACSS conductor alternatives. First costs are also higher than the proposed Project because 2,156-kcmil conductor requires increased material and construction costs for structures and foundations to support the high tensions and heavier conductor. It has the lowest electrical loss costs due to the lower resistance (resulting from the conductor size), but the lower electrical loss costs do not offset the increase in first costs. Thus, the life cycle cost for the Project with 2,156-kcmil ACSS conductor (\$61.29M) would have the highest life cycle cost of the three alternatives.

Eversource projects that life cycle costs for the 954-kcmil and 1272-kcmil ACSS conductors would be roughly between that of 795-kcmil (\$61.85M) and 1,590-kcmil (\$55.96M) ACSS conductors. Thus, 954-kcmil and 1,272-kcmil ACSS conductor alternatives would not be more economic than the proposed 1,590-kcmil ACSS conductor on a life cycle cost basis.

Thus, Eversource proposes the 1,590-kcmil ACSS conductor as the best option available for the Project.

Proposed Project

The Project includes the replacement of a total of 34 double-circuit lattice structures with 10 double-circuit steel monopoles and 34 single-circuit steel monopoles¹⁵. The existing structures are not capable of supporting the proposed 1,590 ACSS conductor and OPGW. Existing dead end and angle lattice structures would have overstress because they would be at approximately 101% to 157% of structural capacity with the proposed conductor and OPGW loading. Even with the removal of the 1590 Line, the higher tension of the replacement conductor would result in overstress on angle and dead-end 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 115-kV transmission corridors to have 11 feet of clearance to the ROW edge during specific wind events.¹⁶

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 1545/1483 Lines utilize 795-kcmil ACSR conductor that is approximately 63 years old. The Copperweld shield wire on the 1545 Line is approximately 63 years old, and the Alumoweld shield wire on the 1483 Line is approximately 25 years old. The 1580/1590 Lines utilize 4/0 copper conductor that is approximately 72 years old, with a 250-foot long sub-segment of conductor that was replaced in 2018. The 19#10 Alumoweld shield wire is approximately 7 years old. The 1710/1730 Lines at the Housatonic River crossing utilize 795-kcmil ACSS and 24 fiber OPGW, which are both approximately 7 years old.

Eversource would replace the existing conductor on the 1545/1483 and 1580 Lines with 1590-kcmil ACSS for consistency and to complete the rebuild within the Devon-Towantic-South Naugatuck transmission line corridor. The conductor at the 1710/1730 Lines for the Housatonic River crossing would also be replaced with 1590-kcmil ACSS because the locations of the replacement structures would add about 200 feet to the crossing span length and would necessitate splices on both sides of the river. The NESC recommends avoiding conductor splices over crossing spans. Thus, the existing conductor would be replaced. Additionally, the existing OPGW would be replaced with newer OPGW due to the span length.

1483, 1545, 1580, 1710, and 1730 Lines

The 1545/1483 Lines are 115-kV lines supported by mostly double-circuit lattice structures and one double-circuit monopole. The 1545/1483 Lines were installed in approximately 1962 and were most recently upgraded in the Petition No. 1582 – Pootatuck to West Devon Junction Rebuild Project – that was approved by the Council in 2024. The 1545 Line spans approximately 4.69 miles between United Illuminating Company's

¹⁵ Inclusive of the emergency replacement of Structures 284 and 298.

¹⁶ Petition 1614, response to Council interrogatory 10.

(UI) Trap Falls Substation in Shelton and Devon Substation in Milford. The 1483 Line spans approximately 5.52 miles between UI's Pootatuck Substation in Shelton and Devon Substation in Milford.

The 1580/1590 Lines are 115-kV lines supported by mostly double-circuit lattice structures and one double-circuit monopole. The 1580/1590 Lines were installed in approximately 1923 and were most recently upgraded in Petition No. 1656 – South Naugatuck Substation to Beacon Falls Junction Rebuild Project – that was approved by the Council in 2025. The 1580 Line spans approximately 23.8 miles between South Naugatuck Substation and Devon Substation. The decommissioned 1590 Line conductor would be removed as part of the Project.

The 1710/1730 Lines are 115-kV lines that were installed in 1924 and were most recently upgraded in Petition No. 1291 – Towantic Lines Upgrade Project – that was approved by the Council in 2017 with the exception of two 101-year old double circuit lattice structures on either side of the Housatonic River. The 1710 Line spans approximately 7.07 miles between UI's Old Town Substation and Devon Substation. The 1730 Line spans approximately 4.13 miles between UI's Trumbull Substation and Devon Substation.

West Devon Junction to Devon Substation — 2.17 miles (inclusive of 0.17-mile Housatonic River crossing)

Project work consists of the following:

- a) Replace 6 double-circuit lattice structures with 3 double-circuit galvanized steel monopoles and 6 single-circuit galvanized steel monopoles for the 1545/1483 Lines;
- b) Replace 5 double-circuit lattice structures with 2 double-circuit galvanized steel monopoles and 6 single-circuit galvanized steel monopoles for the 1545/1483 Lines;
- c) Replace 2 double-circuit lattice structures (Structures 1312 and 1313) with 2 double-circuit galvanized steel monopoles at the Housatonic River crossing for the 1545/1483 Lines;
- d) Replace 2 double-circuit lattice structures (Structures 1314 and 1307) with two single-circuit galvanized steel monopoles and one double-circuit galvanized steel monopole for the 1545/1483 Lines;
- e) Replace 1 double-circuit lattice structure (Structure 1301) with two single-circuit galvanized steel monopoles for the 1545/1483 Lines;
- f) Replace 10 double-circuit lattice structures with 10 single-circuit galvanized steel monopoles for the 1580 Line;
- g) Replace 5 double-circuit lattice structures with 5 single-circuit steel monopoles for the 1580 Line¹⁷;
- h) Replace 1 double-circuit lattice structure (Structure 299) with one single-circuit galvanized steel monopole for the 1580 Line;
- i) Replace 2 double-circuit lattice structures (Structures 813 and 814) with 2 double-circuit galvanized steel monopoles at the Housatonic River crossing for the 1710/1730 Lines;
- j) Install 2 single-circuit galvanized steel monopoles (Structures 19499/19499A) for the 1545/1483 Lines;
- k) Remove 2 double-circuit steel monopoles (Structures 294A and 1306A) for the 1580/1590 and 1545/1483 Lines;
- l) Replace 795-kcmil aluminum conductor steel reinforced (ACSR) conductor with 1590-kcmil ACSS conductor for the 1545/1483 Lines from West Devon Junction to Devon Substation;
- m) Replace 4/0 copper conductor with 1590-kcmil ACSS conductor for the 1580 Line from West Devon Junction to Devon Substation;
- n) Remove decommissioned 1590 Line conductor;
- o) Replace 795-kcmil ACSS conductor with 1590-kcmil ACSS conductor for the 1710/1730 Lines at the Housatonic River crossing;
- p) Replace Copperweld and Alumoweld shield wire with 96-fiber OPGW for the 1545/1483 Lines;

¹⁷ Of these five replacements, two replacements were already acknowledged under the Emergency Structure Replacements of Structures 284 and 298.

- q) Replace Alumoweld shield wire with 96-fiber OPGW for the 1580 Line;
- r) Remove decommissioned shield wire for the 1590 Line;
- s) Replace 24-fiber OPGW with 96-fiber OPGW for the 1710/1730 Lines at the Housatonic River crossing; and
- t) Remove two low-voltage electric service wires spanning the Housatonic River.¹⁸

In addition to the structure replacements, reinforcements and OPGW installation, Project work includes installation of counterpoise and installation lightning arrestors, as needed.¹⁹

Devon Substation

The three new conductor lines would be tied into the existing termination structures. All-dielectric self-supporting (ADSS) cable would be spliced to the three new OPGW lines and tied into the substation control house.

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 state noise control standards. Notwithstanding, any construction-related noise would be short-term and localized in the vicinity of work sites.

The Project is not located within one-half mile of an airport runway. Eversource received Federal Aviation Administration (FAA) No Hazard Determinations in November 2022 for all proposed replacement structures for the Project, except for Structures 813 and 814. In April 2024, Eversource submitted updated Notices of Proposed Construction or Alteration to FAA for six structures on either side of the Housatonic River crossing due to structure height changes. In September 2024, the FAA issued No Hazard Determinations to Eversource for Structures 813 and 814, subject to marking and lighting of such structures.²⁰ This includes flashing white lights on the top, middle and bottom of each structure, as well as evenly spaced lighted and unlighted marker balls along the 1710/1730 Lines at the Housatonic River Crossing.

No other structures will require marking or lighting.

Eversource would consult further with FAA for the use of cranes for installation of the replacement structures and removal of the existing structures.

The Housatonic River is a navigable waterway under the jurisdiction of the United States Army Corps of Engineers (USACE). The area of the Housatonic River where the Project crossing is located is part of a Federal Navigation Project.

Recreational and commercial watercraft traffic passing through the Housatonic River overhead work zone limits would be halted intermittently during wire pulling or controlled wire let down activities. Eversource will coordinate public outreach to river users in advance of the work and will have watercraft on either side of the Housatonic River overhead work zone to intercept watercraft traffic.

¹⁸ Future FAA structure lighting would be powered by distribution lines located on both sides of the river.

¹⁹ Counterpoise is typically installed at structure locations at a minimum depth of 18 inches.

²⁰ A final design adjustment resulted in Structure 813 being reduced in height from 203 feet above ground level (agl) to 195 feet agl. While Eversource anticipates that marking/lighting will still be required for Structures 813, Eversource submitted an updated notice to FAA in November 2025.

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*.

MF would increase slightly along the southern edge of the ROW for the West Devon Junction to Housatonic River segment; along both edges of the ROW for the Housatonic River Crossing; and along the eastern edge of the ROW for the Housatonic River to East Devon Junction segment. MF would stay the same or decrease in other areas along the ROW edge. The highest calculated MF at the edge of the ROW for this Project is 60.7 mG along the western edge of the East Devon Junction to Devon Substation segment.

Environmental Effects and Mitigation Measures

Most of the Project work would occur within maintained ROWs. However, some select tree removal to the east of the 1685 Line in Milford would be cleared to 100 feet from the outside overhead conductor or to the edge of the easement or fee owned property, whichever is less, consistent with the FERC and NERC Report on Transmission Facility Outages During the Northeast Snowstorm of October 29-30, 2011. Vegetation removal may be necessary for access roads, structure work pads and pull pad areas prior to applying gravel in upland areas.

Tree clearing would occur within the non-maintained 50-foot wide southerly portion of the 250-foot wide ROW in the Town of Stratford in three areas: between West Devon Junction and Main Street on Eversource property; west of Route 110 in an Eversource ROW; and east of Route 110 on Eversource property. Total tree clearing is approximately 1.66 acres.

Trees to be removed would be cut parallel to and close to the ground. Limited, if any, stump removal would be conducted, but it would be performed in consultation with the affected property owner(s), as applicable.

Tree clearing and vegetation removal would be accomplished using mechanical methods or manually. Mechanical methods include the use of mowers, brush hogs or other types of mowing equipment, skidders, forwarders, flat-bed trucks, bucket trucks, and chippers. Vegetation removal activities would be performed in accordance with Eversource's April 2022 Best Management Practices Manual for Massachusetts and Connecticut (BMPs).

A total of 6 wetlands and 3 watercourses (including the Housatonic River) are located within the ROW or in adjacent off-ROW areas. Wetland boundaries were delineated in the field using fluorescent flagging tape.

Approximately 350 square feet of permanent wetland impacts would result from the installation of eight proposed structures where wetlands cannot be reasonably avoided. Total tree clearing within wetlands would be approximately 0.24-acre.

Temporary wetland/watercourse impacts related to Project construction matting would total approximately 2.47 acres. Construction activities within wetlands and watercourses would be conducted in accordance with Eversource BMPs.

Eversource conducted vernal pool surveys in fall 2020, spring 2021 and spring 2022. One cryptic vernal pool (VP1) was identified within Wetland 1. The Project would not result in any direct impacts to VP1. No proposed replacement structures would be located within the 100-foot Vernal Pool Envelope (VPE) of VP1. Portions of a temporary matted pull pad would be located within the VPE. Eversource would conduct work in these areas in accordance with the Project-specific 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 (NDDDB) Determination and in compliance with DEEP General Permit requirements.

Invasive species mitigation measures would be conducted in accordance with Eversource 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 Housatonic River and unnamed stream S2. Three double-circuit lattice structures would be removed from the regulatory floodway, and four double-circuit lattice structures would be removed from the 100-year flood zone. Proposed Structures 19511, 19112 and 813 would be located within the regulatory floodway. Proposed Structures 19510, 19510A, 19509, 19111, and 19110 would be located within the 100-year flood zone and outside of the regulatory floodway. These proposed structures cannot be located outside of the regulatory floodway or 100-year flood zone due to design constraints. The removal and installation of structures within the floodway and/or 100-year flood zone would have a negligible effect on flood storage volume.

Proposed temporary fill would be limited to the placement of matted access and work pad in the 100-year flood zone of Stream S2; temporary matted work pads, pull pads and access within the regulatory floodway and flood zones associated with the Housatonic River. 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 or a DEEP-designated Aquifer Protection Area. 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.

Five structure replacements would be located within the Coastal Boundary in Stratford, and all proposed structure replacements in Milford would be located within the Coastal Boundary. Eversource would avoid or minimize adverse impacts to coastal resources by use of temporary matting for work pads and access, erosion and sedimentation controls, and Eversource BMPs. On June 24, 2025, Eversource submitted a Certificate of Permission (COP) application to DEEP regarding proposed transmission rebuild work beneath the coastal jurisdiction line. Eversource would construct the Project in accordance with the conditions of the Project-specific COP.

On June 2, 2025, DEEP issued a Natural Diversity Database (NDDDB) Determination identifying two state-listed special concern plant species; one state-listed threatened plant species; one state-listed endangered plant species; two state-listed special concern bird species; four state-listed threatened bird species; one state-listed endangered bird species; three state-listed special concern reptile species; and one state-listed special concern insect species that may occur within the Project area. Eversource conducted surveys for the state-listed plant species and consulted with DEEP to develop specific mitigation measures to protect plant populations.

Protective measures for state-listed plant species include, but are not limited to, a follow-up survey for the state-listed endangered plant species. Protective measures for state-listed bird species include, but are not limited to, installation of temporary matting prior to the breeding season; buffer distances from certain nests; and time of year restrictions. Protective measures for state-listed reptile species include, but are not limited to, contractor education by a herpetologist; reporting requirements; and minimizing equipment use within 100 feet of streams and brooks. No protective measures are recommended by DEEP for the state-listed insect species.

The Project ROW is proximate to osprey habitat. Eversource would remove any inactive nests and install osprey deterrents at structures prior to March 15, 2026, the start of the active nesting season for osprey. The replacement double-circuit and single-circuit monopoles are not specifically designed to deter osprey, but would have less surface area available for osprey nesting opportunities than existing lattice structures.

The designated uses for the Housatonic River are as habitat for marine fish, other life and wildlife; commercial shellfish harvesting; recreation; industrial water supply; and navigation. Eversource consulted with DEEP Fisheries regarding the proposed Project. By letter dated March 7, 2025, DEEP Fisheries indicated that the proposed Project would not result in a significant impact to any fisheries and/or habitat subject to protective measures such as use of erosion and sedimentation controls in accordance with Eversource BMPs; use of buoys to support each existing conductor being removed over the Housatonic River to prevent scour and entanglement; and coordination with DEEP Boating Division with regard to navigational issues.

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 tricolored bat (TCB), a federal proposed Endangered Species and state-listed Endangered Species; and the monarch butterfly, a federal candidate species. The tricolored bat was not identified in the NDDDB determination; thus, no impacts to this species would be expected.

The utility corridors provide linear habitat for monarch butterflies and other pollinators. While the monarch butterfly is a federal candidate species, it not currently federally listed or proposed for federal listing. Gravel work pad restoration in sensitive areas (such as NDDDB areas) would be seeded with a DEEP-approved seed mix to include pollinator-friendly native vegetation.

The northern long-eared bat (NLEB), a federal and state-listed Endangered Species, occurs in Connecticut. There are no known NLEB maternity roost trees within 150 feet of the site, and the nearest known NLEB hibernaculum is located over 17 miles to the north-northeast in North Branford.²¹ Additionally, there are no known occurrences of NLEB in Stratford and Milford.²² Thus, no impacts to NLEB are expected.

²¹ https://portal.ct.gov/-/media/deep/endangered_species/images/nlebmappdf.pdf

²² <https://portal.ct.gov/-/media/deep/nddb/nolongearedbat-map.pdf>

A Phase 1A Cultural Resources Assessment (Phase 1A) indicated that one previously identified archaeological site is located within 500 of the site. No properties/districts or historic structures listed on the National or State Register of Historic Places were identified within 500 feet of the site. The Phase 1A did identify four locations at the site having 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 shovel testing. By letter dated November 29, 2022, 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).

The nearest publicly-accessible recreational resource is the CWWMA. Construction within the ROW at CWWMA would result in permanent wetland impacts associated with the proposed replacement Structures 19509 and 19510. A state land notification (SLN) was submitted to DEEP on September 9, 2025 associated with proposed temporary access and structure placement within the CWWMA. Eversource would coordinate with DEEP prior to construction in this area and would comply with the terms and conditions of the SLN.

Caswell Cove is located farther to the south and includes a marina and a public park along the Housatonic River.

Eversource would continue to coordinate with the representatives for these public recreational resources and provide pre-construction notifications and community outreach and/or signage for public safety.

The Project would require increasing the height of many replacement structures primarily to meet NESC clearance requirements within the existing ROW and also to address differences in ground elevation and avoid uplift conditions. Existing structures to be replaced on the lines range from 76 to 209 feet above ground level (agl). The replacement structures on the lines would range from 95 feet to 195 feet agl, with an average height increase of approximately 30.6 feet to meet NESC clearance requirements and/or avoid uplift conditions.

Six replacement structures would increase in height by 50 feet or more, and of those, five are adjacent to Caswell Street in Milford (increases of 50 to 69 feet); and one is adjacent to September Lane in Stratford (increase of 52 feet).

Due to the increase in structure heights and change from lattice structures to monopoles, there would be some change to the visual character of the transmission lines. However, the proposed monopole structures would have a more streamlined appearance. Additionally, the galvanized steel finish would generally match the finish of the existing lattice structure as well as that of other structures within the same ROW beyond the limits of the site.

The FAA structure lighting at both sides of the Housatonic River crossing and the FAA conductor marker balls over the river would be similar to existing conditions and would not create any new visual impacts. Thus, the Project is not expected to adversely impact visual resources.

The FERC Electric Power Transmission and the Environment Guidelines for the Protection of Natural, Historic, Scenic, and Recreational Values in the Design and Location of Rights-of-way and Transmission Facilities (FERC Guidelines) include basic principles and elements of good practice concerning ROW routes and transmission facility design. The Project conforms to the FERC Guidelines as follows:

1. Existing ROWs should be given priority and joint use of existing ROWs should be considered. The Project proposes the five electric transmission line facilities to extend over the existing ROW.
2. Coordination with state agencies where electric transmission lines cross state lands. Eversource is coordinating with DEEP regarding the CWWMA.

3. In scenic areas, clearing of natural vegetation should be limited to the material that poses a hazard to the transmission line subject to the NEWC and other electric safety and reliability requirements. The Project proposes to limit vegetation removal at the Housatonic River crossing to 0.15 acre on the west side, and no tree removal is required on the east side.
4. The size of transmission towers should be kept to the minimum feasible. The Project proposes to minimize the height of replacement structures to the extent feasible to comply with requirements.
5. Materials used to construct transmission structures and the colors of the components of the structures should comport with the natural surroundings and use of weathered galvanized steel structures should be considered when silhouetted against the sky. The Project proposes to install galvanized steel structures that match the other transmission line structures in the existing joint ROW.

Project Construction

Eversource would utilize an existing staging/laydown area for the Project at 12 North Division Street in Derby. This staging/laydown area is approximately 3.45 acres and is located approximately 9 to 10 miles to the north-northeast of the site. Eversource would also utilize an Eversource-owned staging/laydown area at 591 Bic Drive in Milford. This staging/laydown area is approximately 1.7 acres and is located proximate to the site. Staging/laydown areas would contain Project equipment, construction matting, office trailers, and vehicles. No Project staging areas are located adjacent to residential properties.

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) 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 BMPs.²³ 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 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. DEEP and USACE determinations do not typically include conditions that alter the Project design.

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 in size vary based on site specific conditions and range from approximately 140 to 180 feet long by 120 to 140 feet wide. Work pads would typically be composed of gravel. Temporary matted work pads would be used in sensitive areas such as wetlands, watercourses, lawns, and a VPE.

Pull pads, necessary to accommodate machinery needed for pulling conductors and/or OPGW, would typically be 120 feet by 80 feet. Pull pad dimensions may vary subject to site specific conditions such as terrain and would be constructed with temporary matting.

²³ [2022 Eversource Best Management Practices MA_CT](#)

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, mechanical excavators, pneumatic hammers, augers, dump trucks, concrete trucks, grapple trucks, cranes, and light duty trucks. If groundwater is encountered to be impacted during a pre-characterization sampling from the proposed structures foundations, then water generated from dewatering operations would be placed in a fractionation tank, tested and discharged or disposed off-site in accordance with local, state and federal requirements. If non-impacted 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 and hardware would be delivered by flatbed truck to the structure locations for assembly using a crane and bucket trucks.

After the new structures are installed, new conductors and OPGW would be installed using wire reels, compressors, pulling and tensioning rigs, guard trucks or structures, and bucket trucks. The removal of the existing conductor and shield wire for the 1545/1483, 1710/1730 and 1580 Lines would take place during the installation of new conductor and OPGW because the existing conductor and 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.

The removal of the 1590 Line in areas outside of the Housatonic River crossing would involve a “controlled let down” where the line would be lowered under relaxed tension before being cut and immediately removed to the sides by crews and equipment. Appropriate traffic controls and railroad track crossing precautions would be utilized in consultation with DOT and MNRR during this process.

At the Housatonic River crossing, the removal of the 1590 Line (three conductors and shield wire) and two low voltage FAA lighting wires would require a controlled let down onto the river surface. A buoy would be attached to each wire to prevent them from dragging across the bottom of the river. The wires would be lowered individually under relaxed tension onto the river surface before being cut and immediately pulled to the sides of the river by crews and equipment. Helicopter use is not feasible for this portion of wires removal due to the lengths of the wires.

After the new conductor and OPGW installation is complete, the existing structures would be removed from the ROW and 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 temporary construction mats. 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, Project permitting 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. Eversource anticipates intermittent one-lane alternating traffic on Route 110 in the Town for the first 5 weeks and the last 10 weeks of approximately 30 weeks of construction in this area. The 15 weeks in between would result in the closure of Route 110 and the detour of route traffic onto a section of Main Street. During the detour, spotters/flaggers would be on-site during active construction and signage would be posted for public safety.

Construction is expected to begin in the first quarter of 2026 with anticipated completion in December 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. Project construction would be sequenced to accommodate scheduled line outages.

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. CONVEX determines what switching is required and when, and CONVEX coordinates the activity with Eversource and additional utilities such as UI as necessary to support the outage. CONVEX then assigns the outage switching times according to the switching resource availability.

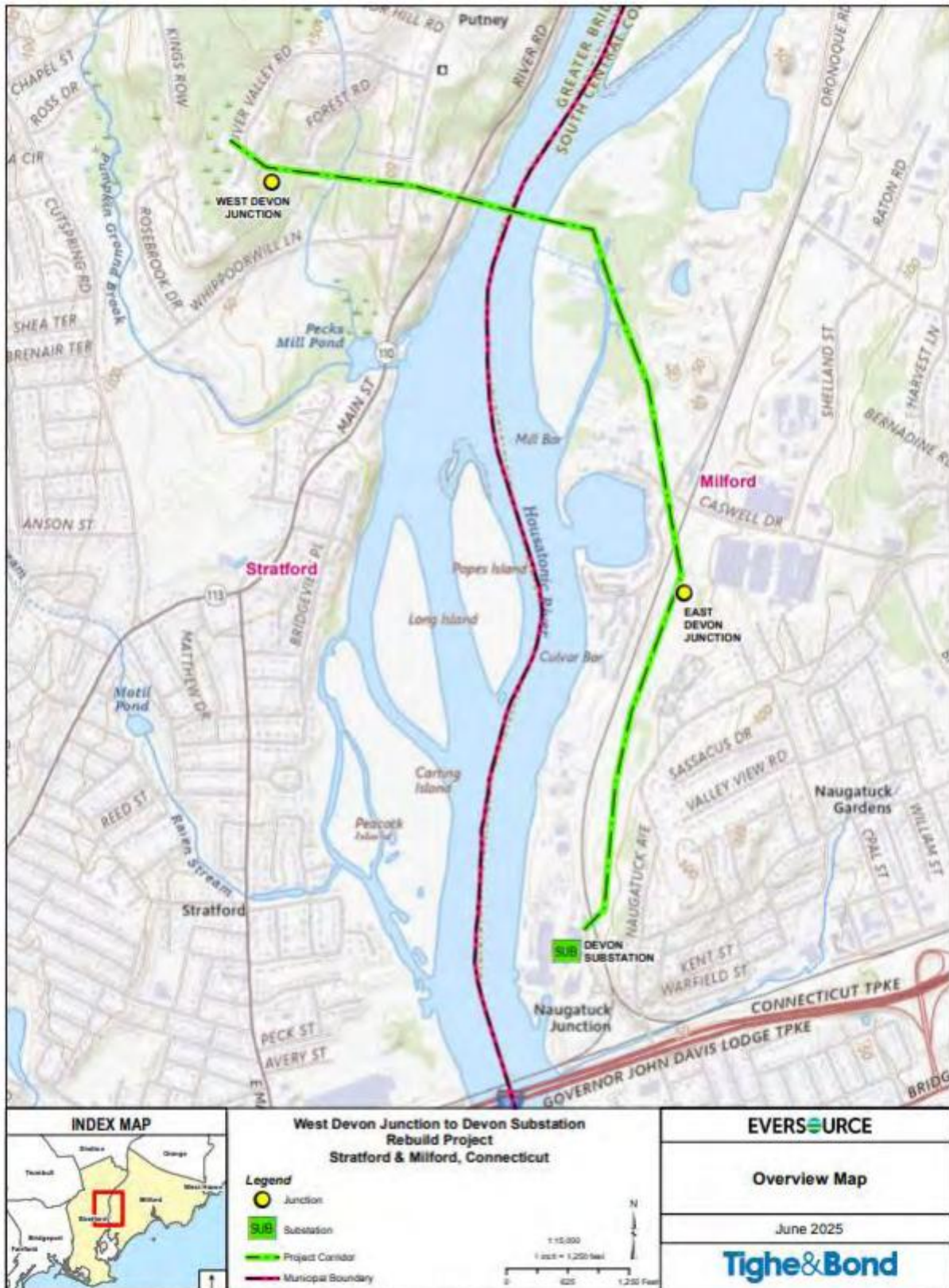
Additionally, during an outage switching, in order to re-energize or de-energize a line, access to substations may be required outside of typical work hours. These substations include, but are not limited to, Eversource's Devon Substation, East Devon Substation, and South Naugatuck Substation; and UI's Old Town Substation, Pequonnock Substation, Trap Falls Substation, and Trumbull 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 Traffic Management Plan;
4. Submit the final FAA marking/lighting plans for Structures 813 and 814 and marker ball plans for the Housatonic River crossing prior to commencement of construction at the river crossing;
5. Incorporate pollinator habitat in the restoration of disturbed areas consistent with CGS §16-50hh, where feasible;
6. Use of net-less E&S controls to prevent wildlife entanglement; 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

