

# DRAFT

Petition No. 1679

**The Connecticut Light and Power Company d/b/a Eversource Energy  
Scovill Rock Switching Station to East of Hurd State Park Rebuild Project  
Middletown, East Hampton, and Haddam**

**Staff Report  
December 5, 2025**

## Notice

On July 15, 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 Scovill Rock Switching Station to East of Hurd State Park Rebuild Project (Petition or Project) within existing Eversource electric transmission line right-of-way (ROW) in the Towns of East Hampton and Haddam, and the City of Middletown (collectively, the municipalities).

The Project consists of the replacement of electric transmission structures, conductors and the replacement of existing shield wire with optical ground wire (OPGW)<sup>1</sup> on the 1772, 376 and 362 Lines along approximately 2.4 miles of existing ROW between Scovill Rock Switching Station (SRSS) in Middletown and a point east of Hurd State Park (north of Rock Landing Road) in Haddam spanning the Connecticut River 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 17, 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 14, 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 14, 2025, the Council on Environmental Quality submitted comments on the Project.<sup>2</sup>

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.<sup>3</sup>

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<sup>1</sup> 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 lightning protection and can be replaced with OPGW.

<sup>2</sup> [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](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)

<sup>3</sup> *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 11, 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 28, 2025. Eversource submitted responses to the interrogatories on November 18, 2025.

### **Community Outreach**

In March 2023, Eversource initiated consultation with the Valley Railroad Company (VRC), which operates the Essex Steam Train, related to the Project ROW crossing within Connecticut Valley Railroad State Park (CVRSP) in Middletown. VRC is currently only operating the Essex Steam Train on portions of the railroad tracks that are to the south of the railroad track ROW crossing associated with the Project.

Also in March 2023, Eversource initiated consultation with the Department of Energy and Environmental Protection (DEEP) related to the Project ROW crossing within Hurd State Park. DEEP expressed concerns regarding protected species along the ROW, work pads, state land notifications for use of off-ROW access roads in the park and special use licenses for Project construction. During a field review of the Project site within the park, DEEP suggested Eversource explore methods to reduce the size and number of gravel work pads and to use temporary matting given the rugged terrain along the ROW. Concerns associated with protected species, work pads, state land notifications for use of off-ROW access roads in the park and special use licenses for Project construction, among other jurisdictionally relevant concerns, are addressed in the Environmental Effects and Mitigation Measures, Public Health and Safety, and Project Construction sections of this document, pursuant to CGS §16-50p.

Eversource provided an initial briefing on the Project to the municipalities in March 2024. The City of Middletown expressed concerns about the condition of River Road after construction. Eversource confirmed that River Road would be restored after construction is completed. Eversource conducted additional outreach to the municipalities in May 2025. No additional comments have been received since the filing of the Petition.

Eversource attended meetings of the Connecticut River Gateway Commission (CRGC) in August 2024 and May 2025 and thereafter provided periodic updates to CRGC regarding the Project. CRGC expressed concerns regarding the overhead river crossing, visual impacts in the CRGC Zone,<sup>4</sup> type of structure finish, amount of tree clearing and location of any Project work within the CRGC Zone. Eversource provided CRGC with an alternatives analysis, advanced conductor technology assessment, amount of tree clearing, photo simulations of the proposed replacement structures, contact information for Eversource personnel, and the only Project work in the CRGC Zone is limited to two temporary matted construction work pads within the existing Eversource ROW. CRGC's concerns, among other jurisdictionally relevant concerns, are addressed in the Environmental Effects and Mitigation Measures and Project Construction sections of this document, pursuant to CGS §16-50p.

In June 2024, 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. An abutting property owner to SRSS in Middletown expressed concerns regarding structure heights, visibility, easement rights, noise, property values and the location of construction activities. Eversource provided the abutting property owner with a comparison of the heights of existing and replacement structures, the approximate location of the replacement structures in relation to the

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<sup>4</sup> The Connecticut River Gateway Conservation Zone was established to conserve aesthetic and ecological riverway resources in eight towns along the lower Connecticut River.

property and the proposed structure configuration. The existing ROW, lattice structures and switching station are visible from the property. No existing or replacement structures or Project work are located on the property.

The Council's evaluation criteria under CGS §16-50p does not include the consideration of property ownership or property values nor is the Council otherwise obligated to take into account the status of property ownership or property values.<sup>5</sup> Concerns associated with structure heights, visibility, noise, and the location of construction activities, among other jurisdictionally relevant concerns, are addressed in the Environmental Effects and Mitigation Measures, Public Health and Safety, and Project Construction sections of this document, pursuant to CGS §16-50p.

Since the filing of the Petition, a second abutting property owner expressed concern with the heights of the proposed replacement structures at the Connecticut River crossing. Eversource provided the abutting property owner with the proposed structure configuration and structure heights (average 45 feet shorter than the existing structures) at the Connecticut River crossing.

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 2.4 miles of Eversource ROW that extends east from SRSS across undeveloped forest and rural residential areas, crossing over CVRSP and the Connecticut River to Hurd State Park on the east side of the river and undeveloped forest areas before terminating just north of Rock Landing Road in the Haddam Neck section of Haddam. Approximately 50% of the existing facility site is located on Eversource-owned property (approximately 1.2 miles) and approximately 50% of the existing facility site is located on property subject to Eversource easements (approximately 1.2 miles).

The ROW was established in the early 1960s. The 1772 Line occupies the north side of the ROW, the 376 Line occupies the middle of the ROW, and the 362 Line occupies the south side of the ROW. 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.

Within the Project ROW, the Lines are supported by 31 single-circuit lattice structures, one single-circuit wood H-frame structure and two custom-designed triple-circuit structures, one on either side of the Connecticut River. Other structures along the ROW were rebuilt in the Petition No. 1565 – East of Hurd State Park to East Haddam Junction Line Rebuild Project – that was approved by the Council in 2023.

The Project ROW varies in width, ranging from about 700 feet directly east of the Connecticut River to approximately 375 feet east of Hurd State Park. The ROW is remote and features rugged terrain on both sides of the river. The proposed Project would not require any expansion of the ROW.

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 most recently performed in 2022. 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 implemented vegetation management to clear trees to 100 feet from the outside conductor or to the edge of the easement, whichever is less. At the Connecticut River crossing, vegetation was not cleared below the 30-foot-elevation contour to

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<sup>5</sup> CGS §16-50p (2025); *Woodbridge Newton Neighborhood Env't Trust, et al v. Conn. Siting Council*, 2024 Conn. LEXIS 163 (2024); *Goldfisher v. Conn. Siting Council*, 95 Conn. App. 193 (2006)

protect river resources, except for the selective removal of trees that could affect the existing transmission lines. Vegetation species such as native grasses, flowers, ferns, and low growing shrubs are considered desirable and, whenever possible, are preserved.

The two existing structures at the Connecticut River crossing to be replaced as part of the Project and the three existing lines are not currently subject to Federal Aviation Administration (FAA) obstruction and lighting schemes pursuant to FAA Advisory Circular 70/7460-1 M.

### **Project Need**

The purpose of the proposed Project is to improve system reliability on the 1772, 376 and 362 Lines and to address identified asset condition deficiencies by replacing aging infrastructure on all three transmission lines including structures, conductors, shield wire, and a section of existing OPGW on the 1772 Line, with new structures, upgraded conductors and new OPGW; address contingency issues by replacing the triple circuit Connecticut River structures with single circuit structures; and to meet National Electrical Safety Code (NESC) clearance standards.

Ground line inspections were performed in accordance with the Electric Power Research Institute (EPRI) guidelines for all lattice structures within the ROW in 2024. Past maintenance activities associated with the lattice towers include, but are not limited to, replacement of damaged hardware and bonding, applying corrosion inhibitors on degrading steel foundation members and bolts, and foundation repairs and concrete sealing where necessary. Drone inspections were performed on each structure in 2024. Structures 12054, 12058, 12065 and 12066 on the 376 Line and Structure 19095 on the 362 Line received a C inspection rating under the EPRI guidelines. All other structures proposed for replacement received a B rating.

Over the past ten years, all three Lines have experienced outages caused by disturbances, including, but not limited to, line trips due to weather, equipment 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 (PAC) meeting held on January 18, 2024 with a corresponding follow up presentation to the PAC on April 18, 2024. The Project is identified in the ISO-NE Regional System Plan Asset Condition List as ACL 431. There are no generation or battery energy storage facilities listed on the ISO-NE interconnection queue associated with the proposed Project.

### *Cost*

The total estimated cost of the Project is approximately \$63.48M. The Project cost would be eligible for regional cost allocation as it is associated with Pool Transmission Facilities.<sup>6</sup> Pending a final determination from ISO-NE, total costs are expected to be allocated<sup>7</sup> as follows:

Eversource Connecticut ratepayers <sup>8</sup>	18.32%	(\$11.63M)
Other Connecticut ratepayers <sup>9</sup>	5.62%	(\$3.56M)
<u>Other New England ratepayers<sup>10</sup></u>	<u>76.06%</u>	<u>(\$48.29M)</u>
Cost Total	100%	(\$63.48M)

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<sup>6</sup> 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.

<sup>7</sup> These allocations are estimates based on 2024 actual loads.

<sup>8</sup> Electrical service customers of Eversource and located within Connecticut.

<sup>9</sup> Electrical service customers located within Connecticut but outside of Eversource's service territory.

<sup>10</sup> Electrical service customers located within New England but outside of Connecticut.

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 customers in the first year of Project operation would be approximately \$0.0001 per kilowatt hour (kWh), or approximately 6 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.<sup>11</sup> The first costs or costs to design, permit and construct a line are used as a comparison to total facility cost.<sup>12</sup>

The Project has a projected first cost of approximately \$63.48M, which is equal to the total Project cost.

Annual O&M costs are estimated at about \$29,636 per mile for the 1772 Line with an O&M cost escalation rate of 2 percent. Initial electrical loss costs are projected to be \$ on average per circuit mile per year with an annual load growth of 2 percent. applicable because reconductoring is not being performed. Utilizing a 40-year study period and 8 percent discount rate,<sup>13</sup> the total life cycle cost would be approximately \$152.9M for the proposed Project.

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

### **Project Alternatives**

Eversource examined four overhead and two underground alternatives as follows:

- 1. Alternative OH-1:** Install 1590 ACSS conductor at the Connecticut River crossing. The structures on the west side of the river would be 226.5 feet tall (1772 Line), 231.5 feet tall (376 Line), and 241.5 feet tall (362 Line). The structures on the east side of the river would be 226.5 feet tall for both the 1772 and 376 lines and 241.5 feet tall for the 362 Line. In total, the heights of the replacement monopoles using this alternative would range from 24.5 to 59.5 feet taller than the existing triple-circuit structures to account for the pulling tension and sag of the standard 1590 ACSS conductors. This alternative was rejected due to the height of the replacement structures on either side of the river. The total cost estimate for this alternative is approximately \$38M.
- 2. Alternative OH-2:** Install 2048 kcmil Evans specialty aluminum encapsulated carbon core (AECC) conductor at the Connecticut River crossing. This advanced conductor has increased capacity, a higher pulling tension and lower sag over long spans compared to other conductors allowing for shorter structure heights on either side of the river while maintaining U.S. Army Corps of Engineers (USACE) Connecticut River clearance requirements. This is the preferred alternative/proposed Project. The total cost estimate for the preferred alternative/proposed Project is approximately \$34M.
- 3. Alternative OH-3:** Install 1590 ACSS conductors and double-circuit monopoles for the 1772 Line and 376 Line and single circuit structures with 1590 ACSS conductors. Although the number of proposed structures on both sides of the river would be reduced from 6 to 4, the 1590 ACSS conductors would require structures that are taller than the existing triple circuit structures. The total cost estimate for this alternative is approximately \$34M.
- 4. Alternative OH-4:** Same as Alternative OH-3 except install 2048 Evans AECC conductors for 362 Line. The total cost estimate for this alternative is approximately \$34M.

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<sup>11</sup> 2022 Life Cycle Report, p. 21

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

<sup>13</sup> 2022 Life Cycle Report, p. 21

5. **Alternatives UG-1:** Install an underground crossing for all three lines. This alternative would require temporary platforms on the Connecticut River, more construction related land disturbance, permanent transition structures and transition yards, and would be 2 to 2.5 times more costly than the proposed Project. The total cost estimate for this alternative is approximately \$84M.
6. **Alternative UG-2:** Install an underground crossing of the 376 Line and 362 Line combined with an overhead crossing of the 1772 Line using Evans AECC conductor. This alternative would require temporary platforms on the Connecticut River, more construction related land disturbance, permanent transition structures and transition yards, and would be 2 to 2.5 times more costly than the proposed Project. The total cost estimate for this alternative is approximately \$70M.

No site-specific inspections of the 954 and 1272 ACSR were performed. The conductors are original to the establishment of the lines in the 1960s. Eversource would replace the conductors based on the risk of degradation/damage and maximize construction efficiencies, avoiding repeated disturbance to environmental resources within the ROW and costs ratepayers would incur from repeated mobilization and restoration efforts.

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 improve the electrical performance of electrical conductors in comparison to traditional 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<sup>14</sup>.

Eversource prefers ACSS conductor due to its ability to operate at high temperatures with less thermal sag than ACSR conductor. Eversource specified a standard ACSS 1590 kcmil “Falcon” conductor for the Project, excluding the Connecticut River crossing where an advanced conductor would be used.

Eversource rejected the ACSS 1272-kcmil “Pheasant” conductor alternative because it is less economic than the proposed 1,590-kcmil ACSS “Falcon” conductor on a life cycle cost basis. Eversource projects that life cycle costs for the 1272-kcmil conductor alternative would be approximately \$157M. A cost comparison table below includes, but is not limited to, the conductor costs per foot, electrical loss costs and Project life cycle costs.

**Cost Table with 1590 Falcon Conductor (Proposed Project)**

Scovill Rock Switching Station to East of Hurd State Park Rebuild Project Estimated Project First Costs (Net Present Value)			
Item Description	Total Costs		
	1772 Line	376 Line	362 Line
Engineering & Indirect*	\$ 1,128,000	\$ 1,632,000	\$ 1,836,000
Structures & conductor (excluding river crossing)	\$ 9,054,000	\$ 18,705,000	\$ 21,251,000
Structures & conductor (river crossing only)	\$ 2,937,000	\$ 2,930,000	\$ 3,490,000
Substation	\$0	\$ 0	\$ 0
Environmental	\$ 212,000	\$ 153,000	\$ 157,000
<b>Total</b>	<b>\$ 13,331,000</b>	<b>\$ 23,420,000</b>	<b>\$26,734,000</b>
40 Year Life Cycle Total Costs			
	1772 Line	376 Line	362 Line
	\$29,456,206	\$58,490,015	\$64,994,908

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

### Project Cost Table with 1272 Pheasant Conductor

First Costs Net Present Value	Total Costs		
	362 Line	376 Line	1772 Line
Engineering & Indirect*	\$ 1,836,000	\$ 1,632,000	\$ 1,128,000
Structures & conductor (excluding river crossing)	\$ 21,158,000	\$ 18,614,000	\$ 8,959,000
Structures & conductor (river crossing only)	\$ 3,490,000	\$ 2,929,000	\$ 2,938,000
Substation	\$ 0	\$ 0	\$ 0
Environmental	\$ 157,000	\$ 153,000	\$ 212,000
<b>Total</b>	<b>\$ 26,641,000</b>	<b>\$ 23,328,000</b>	<b>\$ 13,237,000</b>
<b>1272 "Pheasant" ACSS 40 Year Life Cycle Total Costs</b>			
1772	376	362	
\$33,092,012	\$59,041,524	\$65,257,977	

Each of the triple-circuit structures, (west side is 182-foot-tall, east side is 202 feet tall) would be replaced with single-circuit monopoles resulting in lower structure heights (by a range of 30.5 to 65.5 feet) than the existing triple circuit structures. At the Connecticut River crossing, the 2048 kcmil Evans AECC conductors will be a minimum of approximately 111.2 feet above the water surface, exceeding the USACE minimum required clearance of 101 feet above mean high water.

Thus, Eversource proposes the 1590-kcmil conductor for the three lines and 2048-kcmil conductor for the Connecticut River Crossing.

### Proposed Project

The Project includes the replacement of 31 single-circuit lattice towers, one single-circuit wood H-Frame structure, and two custom-design triple-circuit structures. The existing structures are not capable of supporting the proposed 1590 ACSS conductor and shield wire. The structures would have overstress of approximately 105% and 610% of structure strength. Project work also includes installation of counterpoise and installation lightning arrestors, as needed.<sup>15</sup>

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.<sup>16</sup>

<sup>15</sup> Counterpoise is typically installed at structure locations at a minimum depth of 18 inches in wooded areas.

<sup>16</sup> Petition 1614, response to Council interrogatory 10.

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 existing conductor on the 1772, 376 and 362 Lines ranges from 58 to 65 years old, except at the Connecticut River crossing where it is 42 years old. All three transmission lines at the Connecticut River crossing use a custom ACSR with a custom stranding configuration, which is no longer manufactured. It would be replaced due to degradation concerns based on an inspection of a similar Connecticut River crossing in Haddam-East Haddam using the same custom conductor. This inspection found fraying damage which was repaired using a rod attached to the conductor by lineman in a helicopter. At the Connecticut River crossing, the custom conductor is supported by two custom-design triple-circuit structures that are 182 feet tall on the west side and 202 feet tall on the east side.

#### *1772 Line*

The 1772 Line is supported on 16 structures of varying ages and types. It was established in 1965. Six of the structures are in Middletown, west of the Connecticut River and 10 structures are in East Hampton, east of the Connecticut River. The existing conductor is 1272-kcmil ACSR conductor. The conductors and shield wire are approximately 60-65 years old. OPGW was installed between 1999 and 2003.

Project work consists of the following:

- a) Replace 1 single-circuit wood H-frame structures and 3 single-circuit lattice towers with 4 single-circuit steel H-frames;
- b) Install 2 single-circuit steel poles at the Connecticut River crossing;
- c) Replace the existing 1272 ACSR conductor with 1590 ACSS conductor;
- d) Replace the existing 1192.5 ACSR with 2048 Evans Aluminum Encapsulated Carbon Core (AECC) conductor at the Connecticut River crossing; and
- e) Replace existing shield wire with OPGW and replace existing OPGW over the Connecticut River.

#### *376 Line*

The 376 Line is supported on 15 single-circuit lattice steel structures, 14 of which were installed in 1966 and one of which was installed in 1983. It was installed in 1966. Six of the structures are in Middletown, west of the Connecticut River and 9 are in East Hampton, east of the Connecticut River. The existing conductor is 1272-kcmil ACSR conductor. The conductor and shield wire were also installed in 1966.

Project work consists of the following:

- a) Replace 14 single-circuit lattice towers with 14 single-circuit steel H-frames;
- b) Install 2 single-circuit steel poles at the Connecticut River crossing;
- c) Replace the existing 1272 ACSR conductor with 1590 ACSS conductor;
- d) Replace the existing 1192.5 ACSR with 2048 Evans AECC conductor at the Connecticut River crossing;
- e) Perform modifications inside SRSS to connect the new conductors; and
- f) Replace existing shield wire with OPGW.



### *362 Line*

The 362 Line is a 345-kV line supported on 14 single-circuit lattice steel structures, 13 of which were installed in 1967 and one of which was installed in 1983. The 362 Line was installed in 1967. The existing conductor is 1272-kcmil ACSR conductor. The conductor and shield wire were also installed in 1967.

Project work consists of the following:

- a) Replace 14 single-circuit lattice towers with 16 single-circuit steel H-frames;
- b) Replace 2 triple-circuit poles at river crossing with 2 single-circuit steel poles;
- c) Replace the existing 1272 ACSR conductor with 1590 ACSS conductor;
- d) Replace the existing 1192.5 ACSR with 2048 Evans AECC conductor at the Connecticut River crossing;
- e) Replace existing shield wire with OPGW; and
- f) Perform modifications inside SRSS to connect the OPGW.

### *Connecticut River Crossing*

At the Connecticut River crossing, all three transmission lines utilize a custom conductor supported by two custom-design triple-circuit structures, assigned to the 362 Line, one on either side of the Connecticut River. The existing Connecticut River crossing was certificated by the Council in Docket No. 19 in 1981. The river crossing was installed in 1983. The Connecticut River is approximately 1,220 feet wide at the crossing point. The length of the conductor span over the Connecticut River from structure to structure is approximately 1,673 feet.

At the Connecticut River crossing, the conductors would transition from the 2048 kcmil Evans AECC to 1590 kcmil Falcon ACSS at dead-end structures, which are designed to handle the differential tensions from the different types of conductors.

### **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.

Eversource filed a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) for the Project, including a river crossing design which specified taller structures and a different conductor (1590 ACSS Falcon) than what is currently proposed.

On November 27, 2023, the FAA issued Determinations of No Hazard for all of the proposed structure replacements, including the 2023 river crossing design which had taller structures than what is currently proposed. No lighting or marking of the proposed structures is required. A revised FAA filing for the proposed river crossing design is not required as the structures are shorter in height than the 2023 design.

The FAA requires unlit aviation visibility marker balls on the OPGW on the east half of the Connecticut River crossing span. The marker balls are required where OPGW is greater than 200 feet above ground or Mean High Water elevation. A total of four marker balls (2 yellow, 1 orange, 1 black) would be installed on the East Hampton side of the river, two on the upriver 1772 Line and two on the downriver 362 Line. No marker balls are required on the Haddam side of the river. The marker balls are 36-inches in diameter and would be installed at intervals of 200 feet.

None of the replacement structures in the Project ROW, including the Connecticut River crossing require FAA marking or lighting.

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

The Project ROW is not located within half mile of an airport runway. The nearest airports to the ROW are the privately-owned Goodspeed Airport and Seaplane Base in East Haddam, approximately 6.6 miles southeast of the ROW and the Salmon River Airfield in Marlborough, approximately 6.3 miles northeast of the ROW.

Construction of the Connecticut River crossing would require the establishment of a watercraft isolation zone across the river during installation of new conductor and OPGW for each of the three lines. Recreational and commercial watercraft traffic passing through the Connecticut 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 Connecticut River overhead work zone to intercept watercraft traffic.

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*.

Once the Project is completed, MF would decrease within and along the edges of the ROW (2026 loads). The highest calculated MF within the ROW is 27.1 mG and 8.9 mG along north edge of the ROW.

### **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 consistent with the FERC and NERC Report on Transmission Facility Outages During the Northeast Snowstorm of October 29-30, 2011. 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.

Tree clearing would occur at the Connecticut River crossing to establish construction work areas and for conductor clearance requirements. Approximately 0.78 acre of trees would be removed within the ROW at the Connecticut River crossing; 0.25 acre on the west side and 0.53 acre on the east side. No tree clearing would occur below the 30-foot elevation contour along the river, except for selective removal of tall tree species, where necessary. The Project does not require any in-water work at the Connecticut River crossing.

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 Natural Diversity Data Base (NDDDB) habitat areas. Vegetation removal activities would be performed in accordance with Eversource's April 2022 Best Management Practices Manual for Massachusetts and Connecticut (BMPs).<sup>17</sup>

A total of 22 wetlands and 16 watercourses are located within the ROW or in adjacent off-ROW areas. Wetland boundaries were delineated in the field using fluorescent flagging tape.

Eversource designed the Project to align work pads in upland areas, and to use existing access roads to avoid or minimize water resource crossings. The Project design includes the relocation of one existing structure out of a wetland and relocation of another existing structure to the edge of a wetland. The footings for these structures would be left in place to minimize wetland disturbance.

Approximately 0.12 acre of permanent wetland impacts would result from the installation of three proposed structures (two within Wetland 11/Stream 4, and one within Wetland 20/Stream 16), and within Wetland 19 from the restoration of an access road in a beaver flooded area. These replacement structures must be located in and/or proximate to wetland resources to maintain the appropriate alignment of the 1772, 376 and 362 Lines and the separation of the transmission line conductors.

Temporary wetland/watercourse impacts related to Project construction matting would total approximately 1.96 acres. Construction activities within wetlands and across watercourses would be conducted in accordance with Eversource BMPs.

Eversource proposes to install a permanent bridge across stream S5 between 362 Line Structures 19087 and 19088 for permanent access along the transmission line ROW for operation and maintenance purposes. The pre-cast concrete bridge would be approximately 40-feet-long by 20-feet-wide. It would be 5 feet above the stream, above the 100-year flood level. During construction, temporary matting would be established on either side of the crossing. No permanent wetland impact is anticipated.

An existing access drive within the ROW across Wetland 19 is periodically flooded by beaver activity. Eversource would raise the access drive to 3 feet above mean high water and install culverts to maintain ROW access. Currently, access to the ROW to avoid the flooded area from Hurd State Park uses public access roads, requiring a Special Use License from DEEP on a case-by-case basis.

Eversource performed a vernal pool survey in Spring of 2023 and 2024 that identified four vernal pools (VPs) within the ROW. The Project would not result in any direct impacts to the VPs. One existing access road is within the 100-foot vernal pool envelope (VPE) of one VP.

Structure work would occur within 100 feet from the VPE of VP-4 at Structure 19090 on the 362 Line in East Hampton. Approximately 6,603 square feet of temporary disturbance and 1,239 square feet of permanent disturbance of the VPE is required to establish the gravel work pad.

Eversource would conduct work at the VPs in accordance with Eversource BMPs as well as Project specific VP protective measures, which include, but are not limited to, selective tree/shrub vegetation clearing with hand tools where necessary, avoidance of clearing (as practicable) during periods of peak vernal pool species breeding and migration, establishment of erosion and sedimentation (E&S) controls, use of temporary matting, and restoration using native species.

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<sup>17</sup> [2022 Eversource Best Management Practices MA\\_CT](#)

A Project-specific Stormwater Pollution Control Plan (SWPCP) would be developed for registration under a Department of Energy and Environmental Protection (DEEP) Stormwater Permit. The Stormwater Permit requires the designing qualified professional to conduct the SWPCP Implementation Inspection that confirms compliance with the Stormwater Permit and the initial implementation of all SWPCP control measures for the initial phase of construction. The SWPCP also requires a qualified inspector to inspect the work areas at least once per week and within 24-hours after a rain event that meets certain permit criteria.

The DEEP-approved SWPCP would contain details regarding the E&S control measures that would be implemented to protect wetlands and vernal pools. E&S controls would also be inspected weekly by a qualified inspector, as required by the SWPCP. The Project would comply with the SWPCP, USACE self-verification procedures, and Eversource BMPs. In addition, the qualified inspector would be on-site to confirm compliance with applicable provisions of all Project approvals and permits.

Construction areas would be isolated by establishing E&S controls in accordance with the 2024 Connecticut Guidelines for Soil Erosion and Sediment Control and BMPs. Typical E&S control measures include, but are not limited to, straw blankets, hay bales, silt fencing, gravel anti-tracking pads, soil and slope protection, water bars, check dams, berms, swales, plunge pools, and sediment basins.

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 the Connecticut River and Bible Rock Brook in Haddam. No proposed replacement structures would be located within a 100-year flood zone.

The Project is not within a Public Drinking Water Supply Watershed or within 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 proper storage, secondary containment, and handling of diesel fuel, motor oil, grease, and other lubricants.

In 1998, the Connecticut River was designated by the federal government as an American Heritage River. The designated uses for the Connecticut River are commercial; scenic; and recreational, including boating, bird watching, fishing, commerce, and travel.

The Project would not require any in-water work within the Connecticut River and would not impact fish species. Eversource will submit 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 August 8, 2025, DEEP issued a NDDDB Determination identifying 15 state-listed Species (nine plants, two invertebrates, three turtles, and one bird) that may occur within the Project area. Eversource conducted surveys for the listed plant species and consulted with DEEP to develop specific mitigation measures to protect plant populations. In addition, Eversource would implement DEEP-recommended protection measures for the animal species to mitigate construction related impact.

Eversource also consulted with the U.S. Fish & Wildlife Service's (USFWS) Information, Planning and Consultation (IPaC) service regarding federally-listed species that may be present within the Project area. The IPaC identified the northern long-eared bat (NLEB), a federal-listed and state-listed Endangered Species as potentially occurring within the Project area. There are no known NLEB hibernacula or known maternity roost trees within 0.25 miles and 150-feet, respectively, of the Project location. In June 2025, (USFWS) determined that tree clearing associated with Project construction may affect, but is not likely to affect NLEB. Based on this determination, Eversource would follow the USFWS recommendation to conduct tree clearing from October 1 – April 14.

The Project ROW is proximate to osprey habitat and an osprey nest was observed on the Structure 19089 located on the west side of the Connecticut River in Middletown. Eversource would remove this nest during the non-nesting period of September to February, followed by periodic monitoring to ensure any nest is removed prior to eggs being placed. After construction is complete, osprey deterrents would be installed on the replacement structures. The replacement structures were not designed to deter osprey nesting; however, Eversource has used deterrents when deemed necessary.

A Phase 1A Cultural Resources Assessment (Phase 1A) identified one historic resource within 0.75 mile<sup>18</sup> of the Project and three structures over 50 years old but without designation. A visual assessment indicated the northern portion of the Higganum Landing Historic District would have a slight increase (less than 1.5 acre) in year-round and potential seasonal visibility of the replacement structures. A Phase 1B Cultural Resources Reconnaissance Survey was conducted at locations within 500 feet of the ROW. None of these locations were determined to be significant. Due to the proximity of one pre-existing archeological site to an existing access road, Eversource would install high visibility fencing to prevent disturbance in this area. On July 18, 2025, SHPO determined that the Project would not impact archaeological or historic resources. No comments were received from Tribal Historic Preservation Offices.

Recreational resources within and adjacent to the Project include Hurd State Park and George D. Seymour State Park Scenic Reserve on the east side of the Connecticut River. Eversource would consult with DEEP regarding Project access using paved and dirt roads within Hurd State Park. The main paved access road within Hurd State Park also would remain open to the public during Project construction.

A DEEP Special Use License (SUL) would be required for Eversource to use three off-ROW gravel access drives within Hurd State Park. One of the gravel roads extends from the paved road within Hurd State Park, crossing the ROW into the George D. Seymour State Park Scenic Reserve. Eversource would consult with DEEP regarding Project through Hurd State Park and would maintain safe public access to the recreational trails and roads in both parks, including the provision of trail detours (if necessary), the installation of construction work zone signs, and the use of flaggers.

Two hiking trails near Bible Rock Brook in Haddam cross existing ROW access roads that would be used for the Project. Eversource would maintain barriers and signs to alert trail users of construction activities.

The Project would require an increase in 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 52 to 121 feet above ground level (agl), not including the Connecticut River crossing. The replacement structures on the lines would range from 57 feet to 126 feet agl, with an average height increase of approximately 12 feet to meet the NESC clearance requirements. Four replacement structures would increase in height by 25 feet or more.

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<sup>18</sup> SHPO requested historic resources within a 0.75-mile radius of the Project be assessed, instead of the standard 500-foot radius, due to the location of the Project ROW to these resources.

The Connecticut River crossing would include the replacement of the two 182-foot and 202-foot-tall triple circuit structures, painted green, with six galvanized steel monopole structures: 136.5/136.5-foot tall structures on the 1772 Line, 141.5/146.5-foot tall structures on the 376 Line and 151.5/151.5-foot tall structures on the 362 Line.

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. The proposed river crossing structures would be lower in height, thereby minimizing the visual effects above the tree line. The single-circuit steel monopoles and the adjacent single circuit steel H-frame structures upland of the monopoles, would have a galvanized finish, helping the structures blend with the sky and from vantage points within Hurd State Park, George D. Seymour State Park Scenic Reserve (Higganum Meadows), and the Connecticut River. The remaining structures would have a weathering steel finish to blend in with the surrounding wooded landscape.

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 three 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 state parks.
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 Connecticut River crossing to only include select tall tree species.
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 at the Connecticut River crossing that blend in with the sky and weathering steel structures in wooded areas.

### **Project Construction**

Eversource would utilize a staging/laydown area for the Project at 2175 South Main Street in Middletown, which is currently used as a staging area for the Southington to Black Rock to Berlin project. This staging/laydown area is approximately 2.1 acres in size. Some construction activities would also be staged at SRSS. Other laydown areas may be established proximate to work areas.

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 E&S controls in accordance with the *2024 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource BMPs. 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/DEEP Self-Verification Notification process in regard to the Connecticut River crossing and wetland impact. The self-verification notification forms would be submitted to the USACE - New England District and DEEP prior to the start of project construction, as required by the SWPCP. 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. In some areas, grading of rugged topography would be required. Work pads would typically be composed of gravel and pad dimensions would vary based on site specific conditions such as terrain and the type of construction activities to be performed. Temporary matted work pads would be used in sensitive areas such as wetlands, critical habitats, residential lawns, and driveways. Based on consultations with DEEP, Eversource would use temporary matting or gravel on fabric for work pads within Hurd State Park to the extent possible.

Pull pads, necessary to accommodate machinery needed for pulling conductors and/or OPGW, would typically be 100 feet by 60 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. Structures within Hurd State Park will be installed on concrete foundations, avoiding the need for guy wires. 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, new conductors OPGW would be installed using wire reels, compressors, pulling and tensioning rigs, guard trucks, and bucket trucks or structures. 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 the line work.

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

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

During restoration, gravel would be removed from the Connecticut River crossing structures within Hurd State Park, and another structure and one access road, also within the park. Gravel work pads that are to remain in other areas would be covered with stockpiled soil and/or processed stone and seeded with a native seed mixture to promote native grasses, pollinators, and to discourage the establishment of invasive species.

In accordance with Eversource 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. Eversource would coordinate with the Connecticut DOT to obtain an Encroachment Permit for construction ingress/egress from State Route 154 to an on-ROW access road.

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.

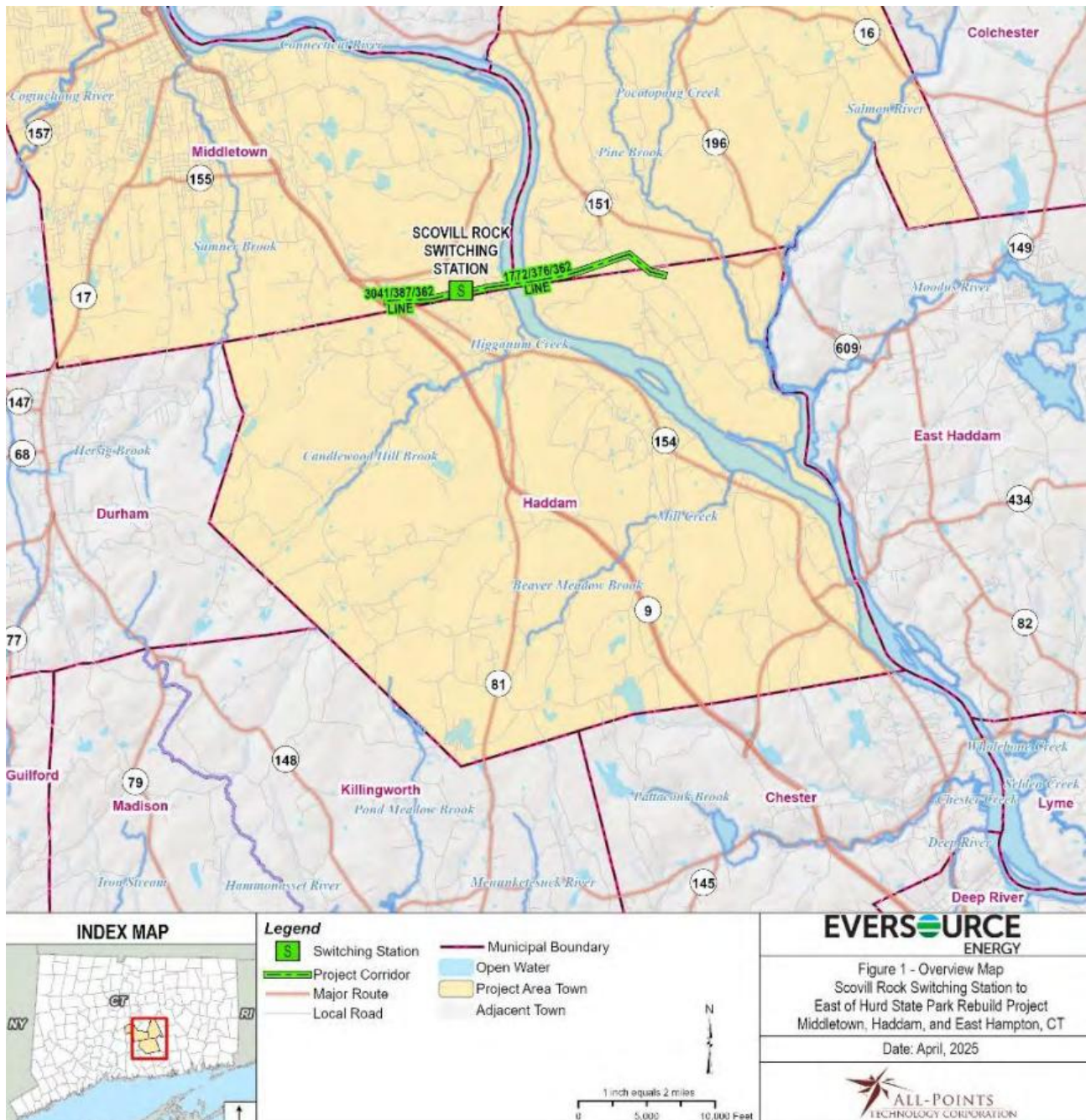
### **Conclusion**

If approved, staff recommends the following conditions:

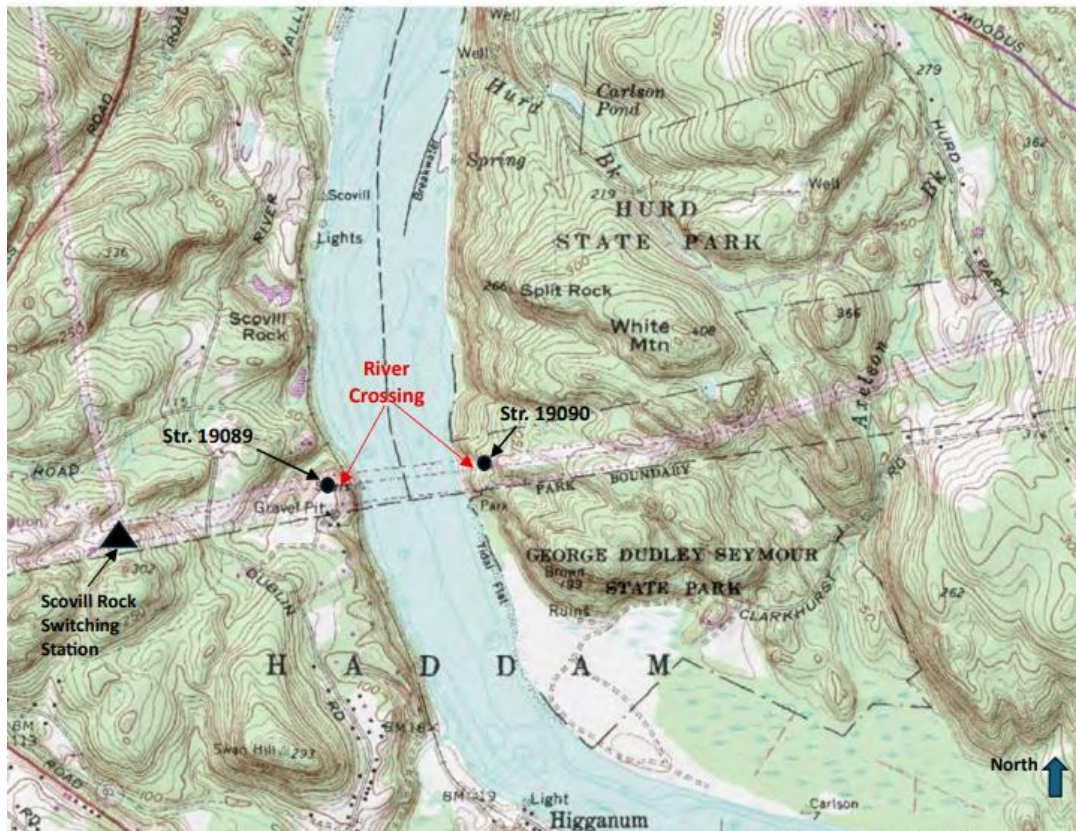
1. Approval of any Project changes be delegated to Council staff;
2. Submit a copy of the DEEP Stormwater Permit prior to commencement of construction;
3. Incorporate pollinator habitat in the restoration of disturbed areas consistent with CGS §16-50hh, where feasible;
4. Submit the final design of the permanent bridge crossing of Stream 5;
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



### Connecticut River Crossing Location

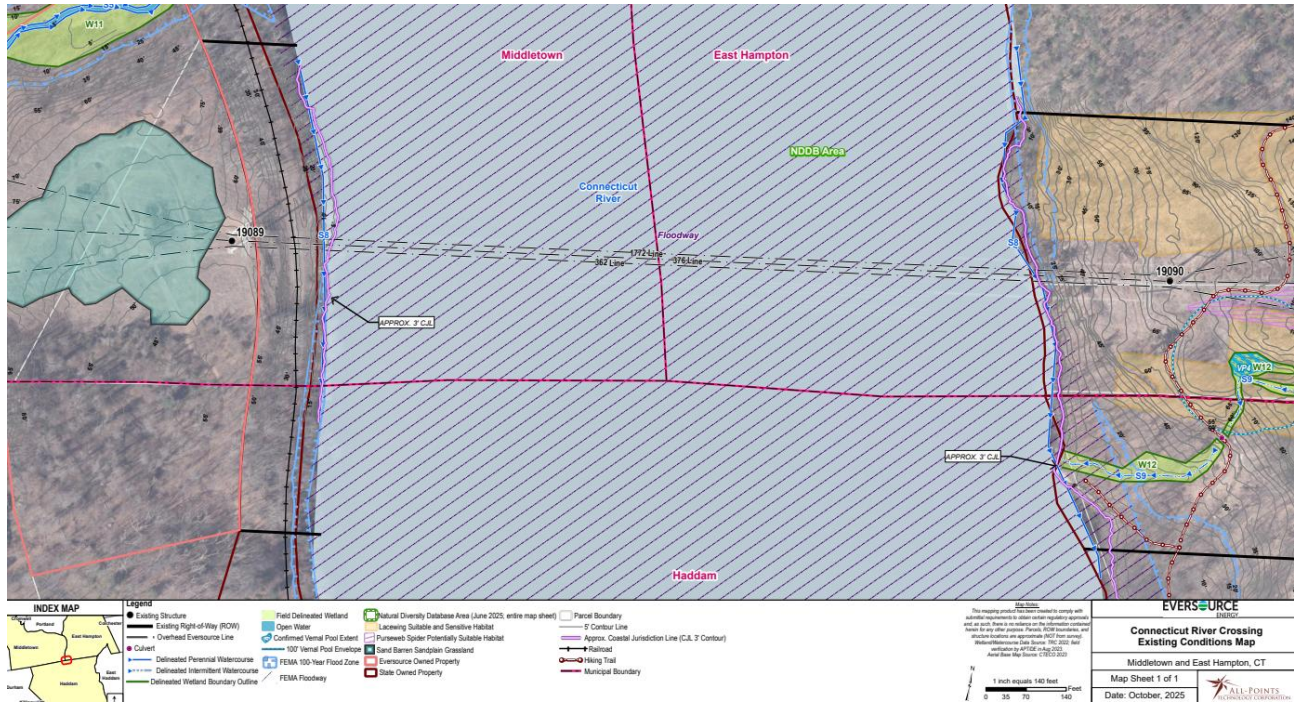


### Existing Structures at Connecticut River Crossing

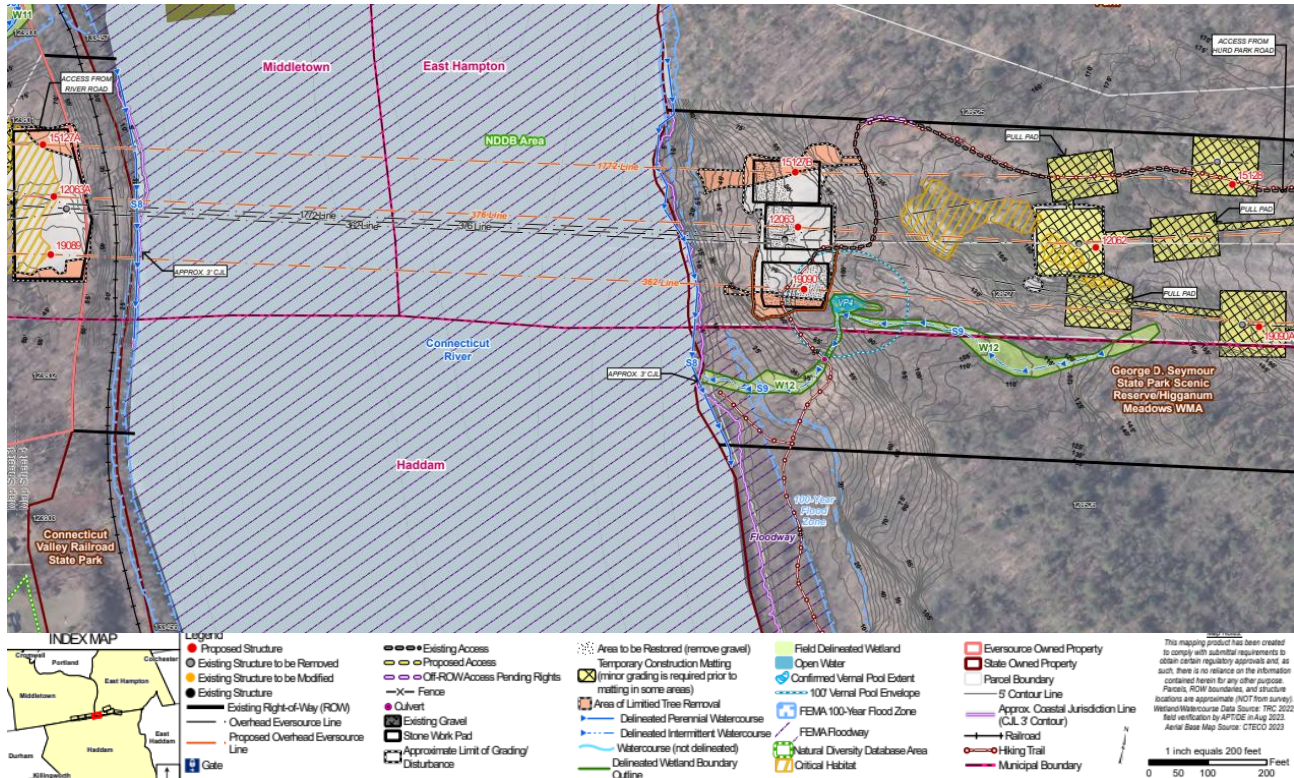




## Connecticut River Crossing- Existing



## Connecticut River Crossing- Proposed Work Plan



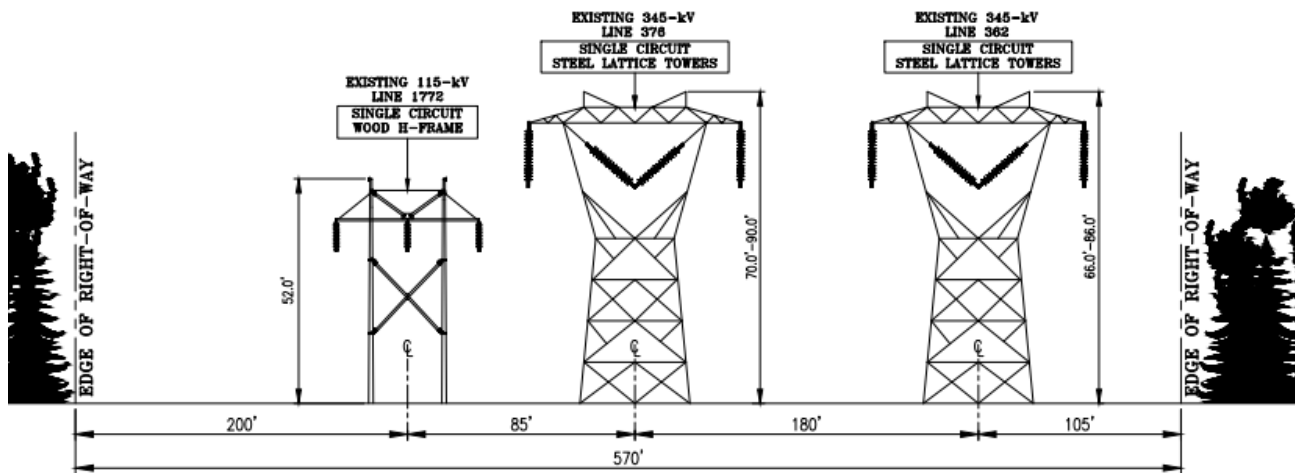


## Don't need this River Crossing Cost Alternatives

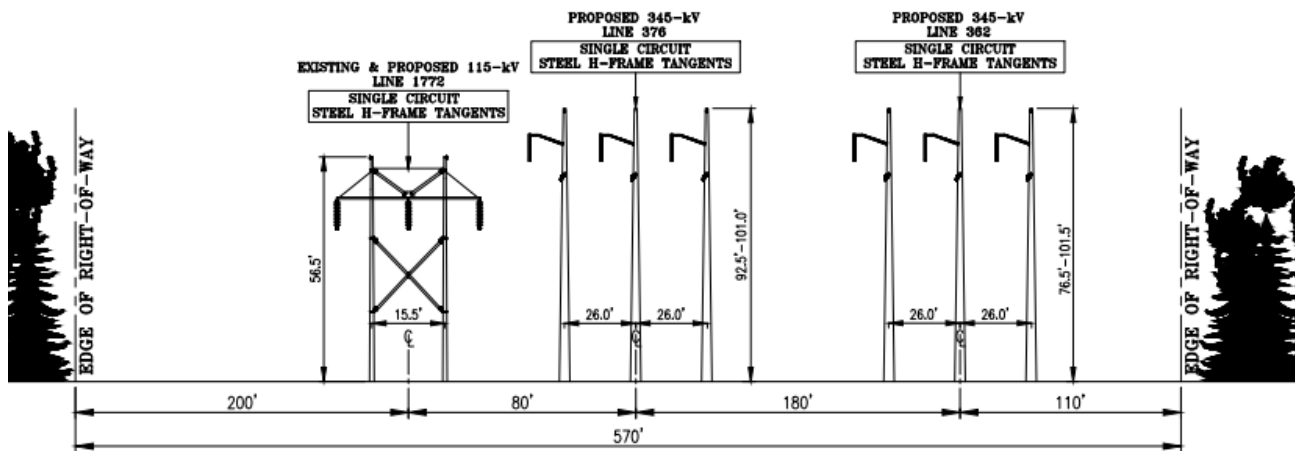
Alternative OH-2 is the Proposed Project

ALTERNATIVE	Scovill Rock Switching Station to East of Hurd State Park Rebuild Project CONNECTICUT RIVER CROSSING ORDER OF MAGNITUDE COST ESTIMATES (\$) (-50% to +200%)			
	1772 LINE	362 LINE	376 LINE	TOTAL
<b>Overhead<sup>1</sup></b>				
Alternative OH-1: Circuit Separation with all Single-Circuit Structures, Eversource Standard Conductor (1590 kcmil ACSS (Falcon) and Standard OPGW	\$ 12,216,800	\$ 13,235,600	\$ 12,576,600	\$ 38,029,000
Alternative OH-2: Circuit Separation with all Single-Circuit Structures, Specialty Conductor (2048 kcmil Evans AECC) and Specialty OPGW	\$ 11,345,300	\$ 11,694,500	\$ 11,219,100	\$ 34,258,900
Alternative OH-3: Replace Triple-Circuit Structures with Single- and Double-Circuit Structures with Eversource Standard Conductor (1590 kcmil ACSS Falcon) and Standard OPGW	\$ 8,970,600	\$ 13,095,500	\$ 12,160,000	\$ 34,226,100
Alternative OH-4: Replace Triple-Circuit Structures with Double-Circuit Structures for the 1772/376 Lines with Eversource Standard Conductor (1590 kcmil ACSS Falcon) and Standard OPGW & Single-Circuit Structures for the 362 Line with Specialty Conductor (2048 kcmil Evans AECC) and Specialty OPGW	\$ 8,275,700	\$ 11,893,800	\$ 13,405,400	\$ 33,574,900
<b>Underground<sup>2</sup></b>				
Alternative UG-1: All three lines (115-kV and both 345-kV) Underground with XLPE Cables at river crossing, with remaining aboveground portion as described in Alternative OH-2	\$ 25,009,100	\$ 29,293,500	\$ 29,293,500	\$ 83,596,100
Alternative UG-2: (Hybrid) 345-kV 376 and 362 Lines Underground with XLPE Cables, and 115-kV 1772 Line Overhead with Specialty Conductor (2048 kcmil Evans AECC) and Specialty OPGW at river crossing, as described in Alternative OH-2, and with remaining aboveground portion as described in Alternative OH-2	\$ 11,345,300 <sup>3</sup>	\$ 29,293,500	\$ 29,293,500	\$ 69,932,300

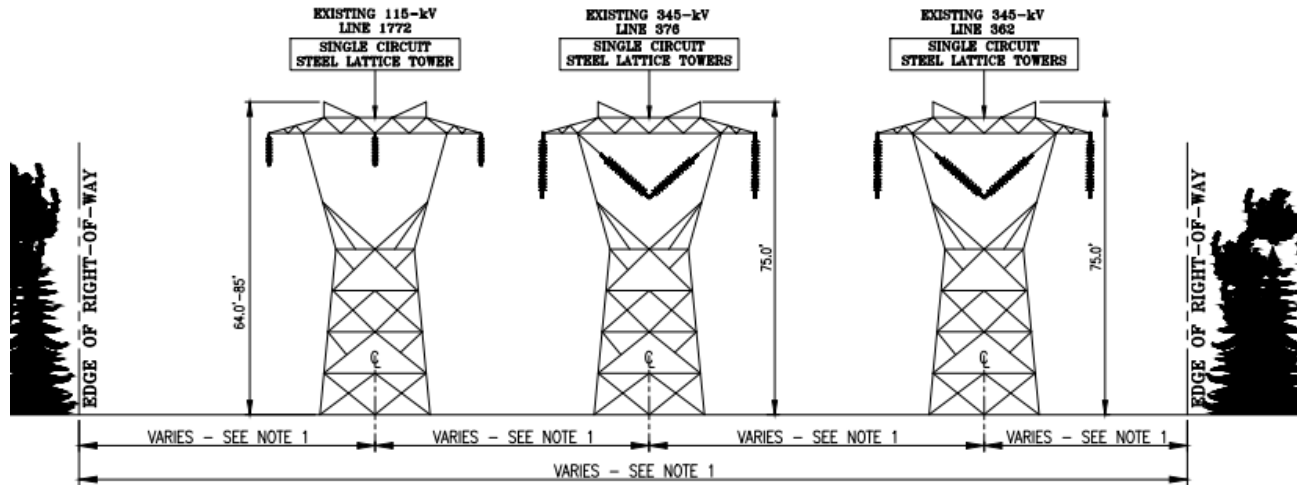
### Project ROW Profiles



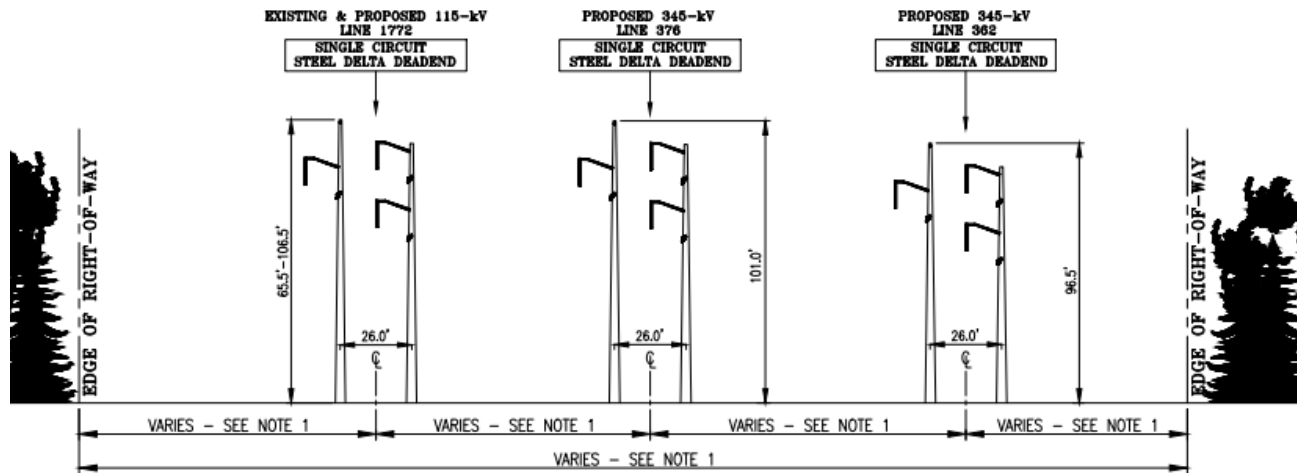
**EXISTING R.O.W. CONFIGURATION**  
**LOOKING EAST TOWARD HADDAM NECK S/S**  
**SCOVILL ROCK SWITCHING STATION TO EAST OF RIVER ROAD**  
**IN THE CITY OF MIDDLETOWN, CT**  
**LINE 1772: STR #15122 TO STR #15125**  
**LINE 376: STR #12068 TO STR #12065**  
**LINE 362: STR #19084 TO STR #19087**



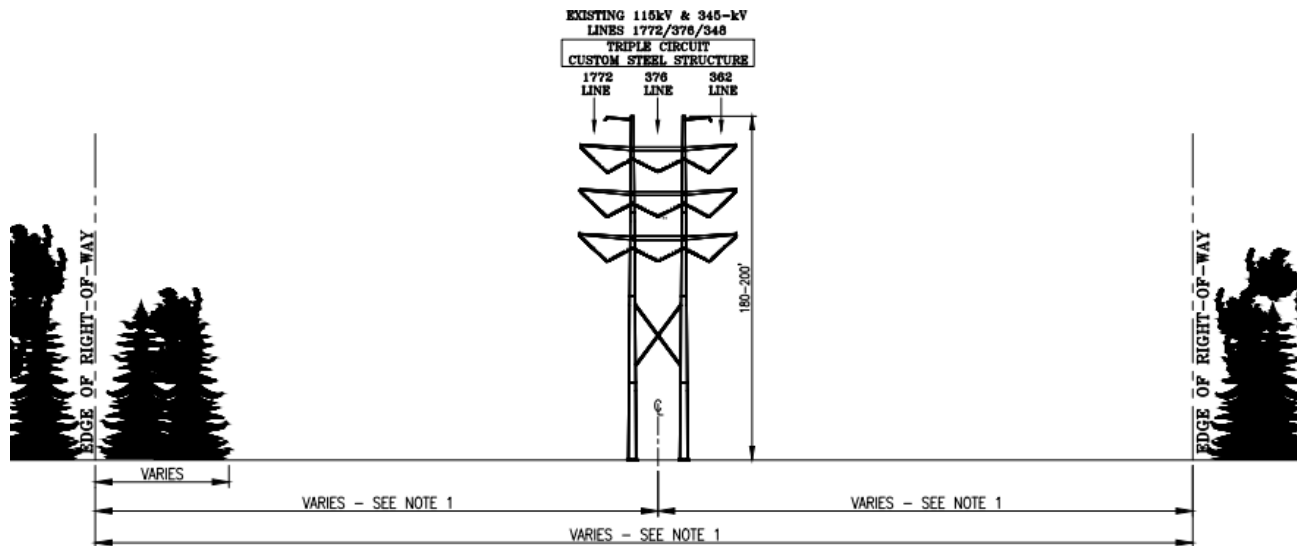
**PROPOSED R.O.W. CONFIGURATION**  
**NO ADDITIONAL ROW REQUIRED**



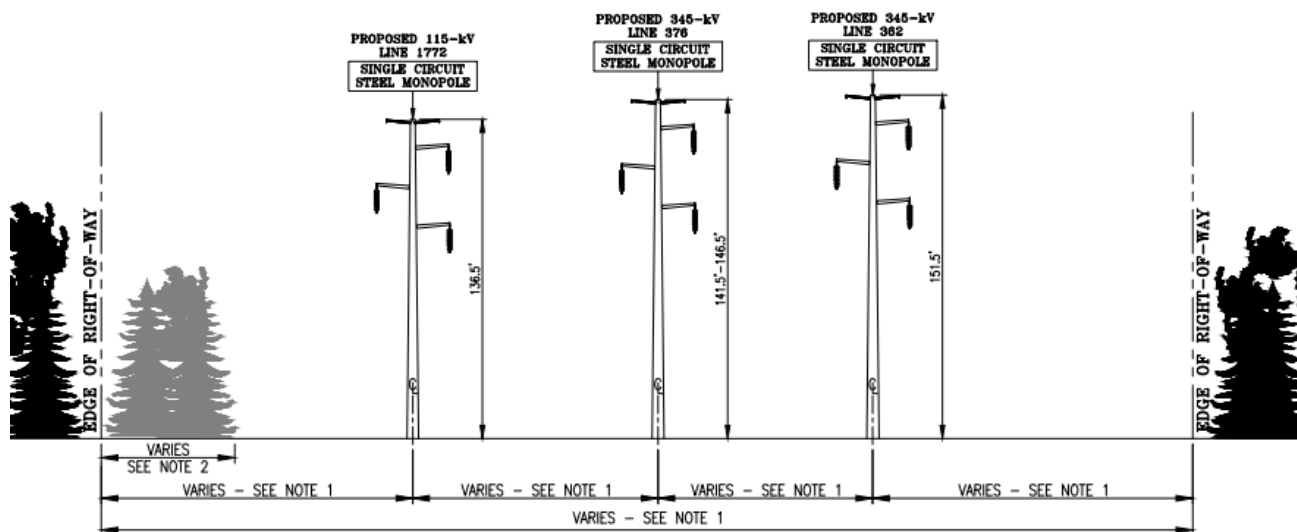
**EXISTING R.O.W. CONFIGURATION  
LOOKING EAST TOWARD HADDAM NECK S/S  
IN THE CITY OF MIDDLETOWN, CT  
LINE 1772: STR #15125 TO STR #15127  
LINE 376: STR #12065 TO STR #12064  
LINE 362: STR #19087 TO STR #19088**



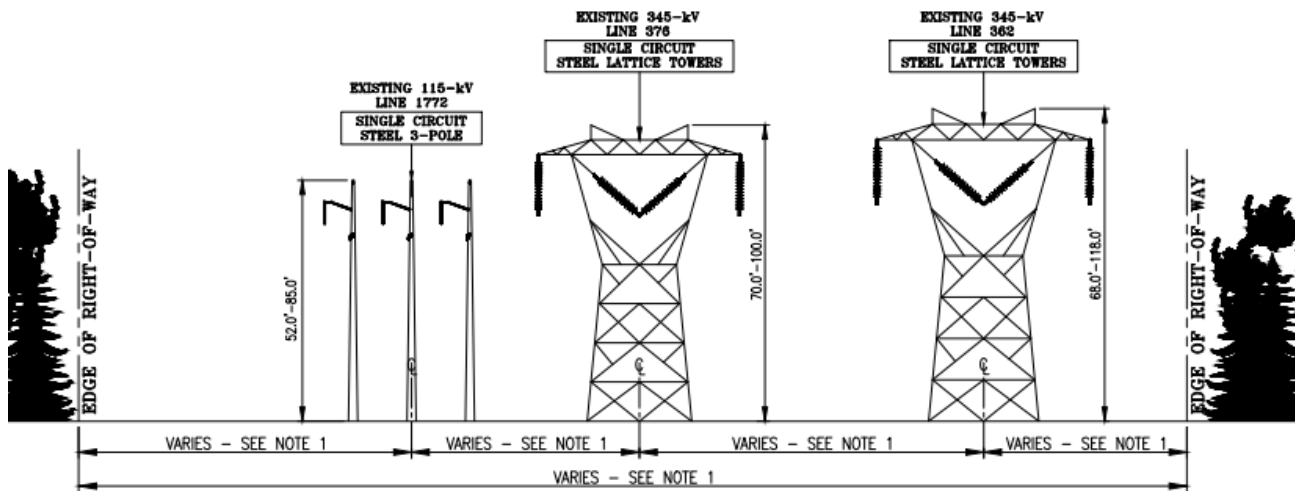
**PROPOSED R.O.W. CONFIGURATION  
NO ADDITIONAL ROW REQUIRED**



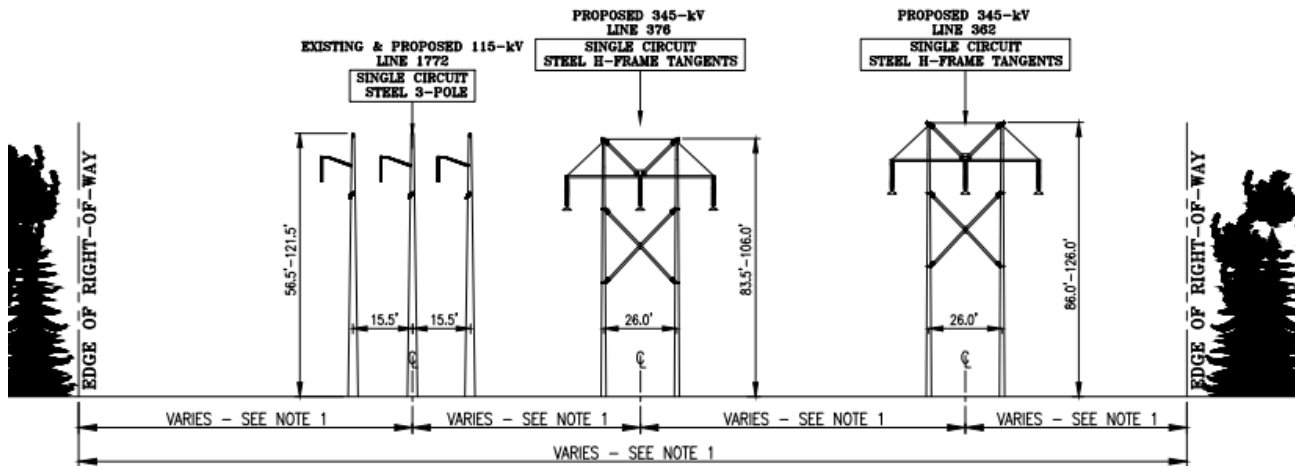
**EXISTING R.O.W. CONFIGURATION  
LOOKING EAST TOWARD HADDAM NECK S/S  
CONNECTICUT RIVER CROSSING  
IN THE CITY OF MIDDLETOWN & TOWN OF EAST HAMPTON, CT  
LINE 1772, LINE 376, LINE 362: STR #19088 TO STR #19090**



**PROPOSED R.O.W. CONFIGURATION  
NO ADDITIONAL ROW REQUIRED**

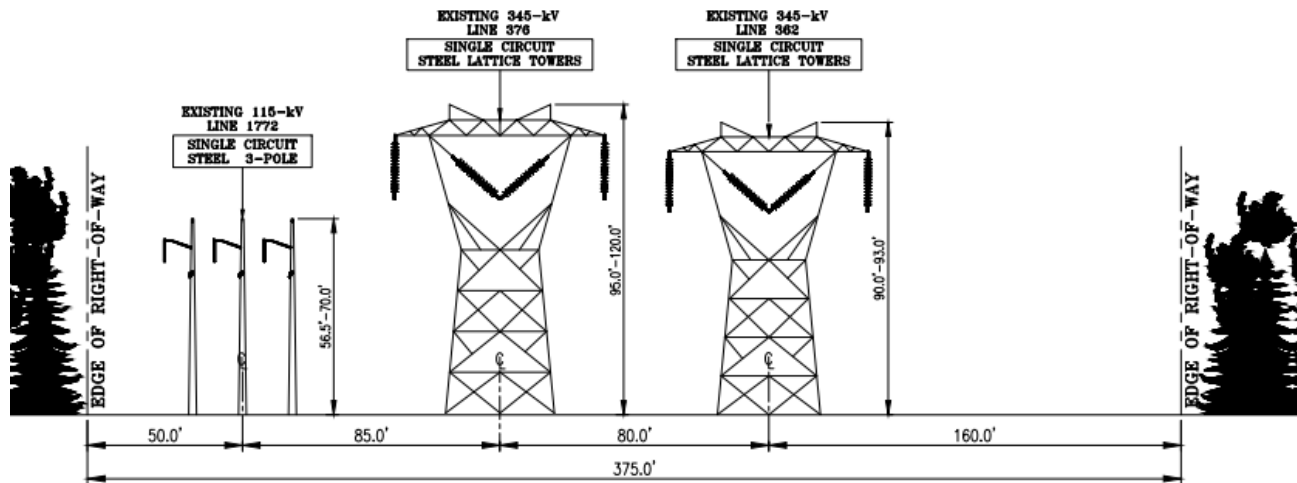


**EXISTING R.O.W. CONFIGURATION**  
**LOOKING EAST TOWARD HADDAM NECK S/S**  
**IN THE TOWN OF EAST HAMPTON, CT**  
**LINE 1772: STR #15128 TO STR #15134**  
**LINE 376: STR #12062 TO STR #12057**  
**LINE 362: STR #19090A TO STR #19095**

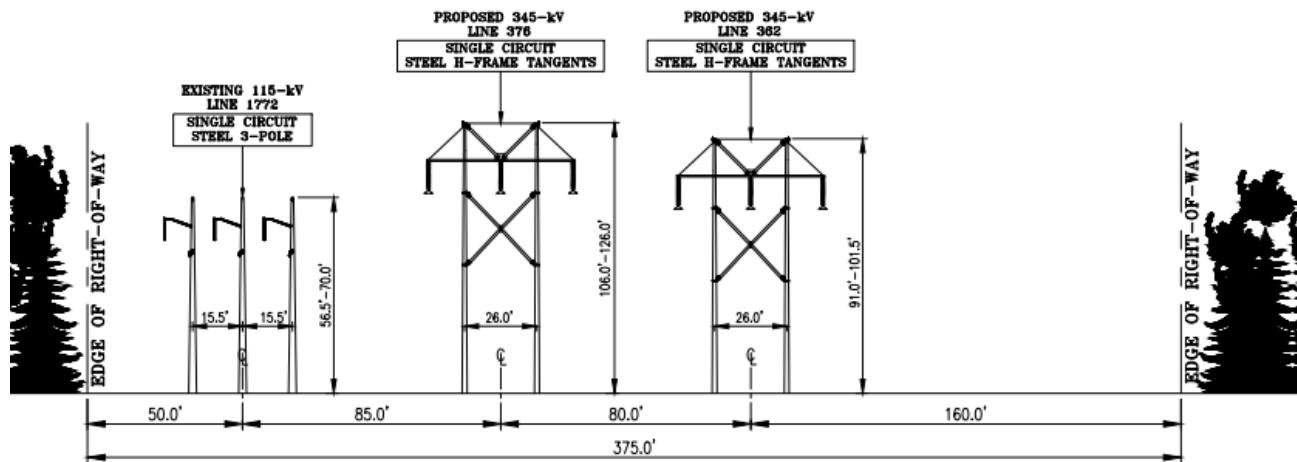


**PROPOSED R.O.W. CONFIGURATION**  
**NO ADDITIONAL ROW REQUIRED**





**EXISTING R.O.W. CONFIGURATION  
LOOKING EAST TOWARD HADDAM NECK S/S  
IN THE TOWN OF EAST HAMPTON, CT  
LINE 1772: STR #15134 TO STR #15138  
LINE 376: STR #12057 TO STR #12054  
LINE 362: STR #19095 TO STR #19098**



**PROPOSED R.O.W. CONFIGURATION  
NO ADDITIONAL ROW REQUIRED**