

Lines 1132 & 1505 Asset Condition Structure Replacements

Planning Advisory Committee Meeting

April 20th, 2023

Agenda

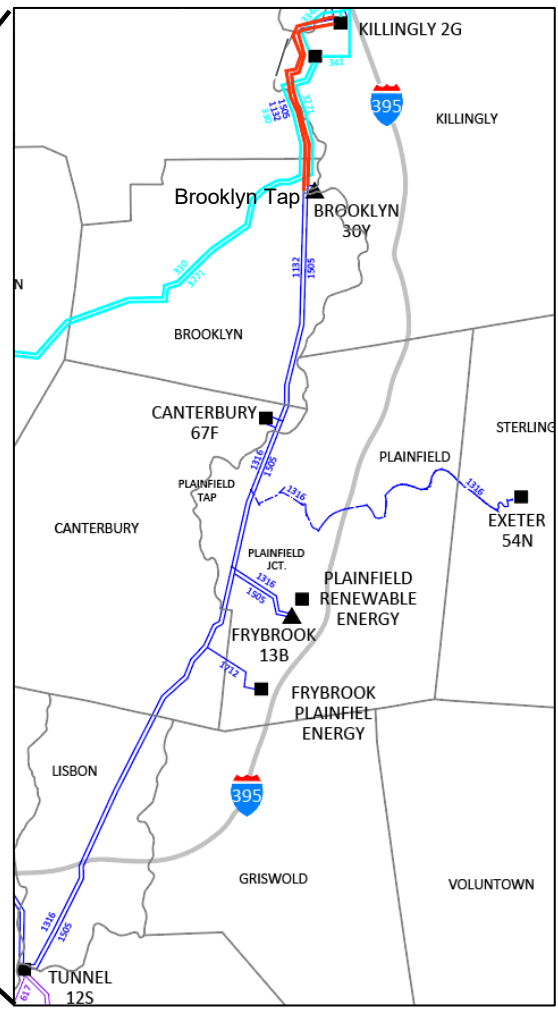
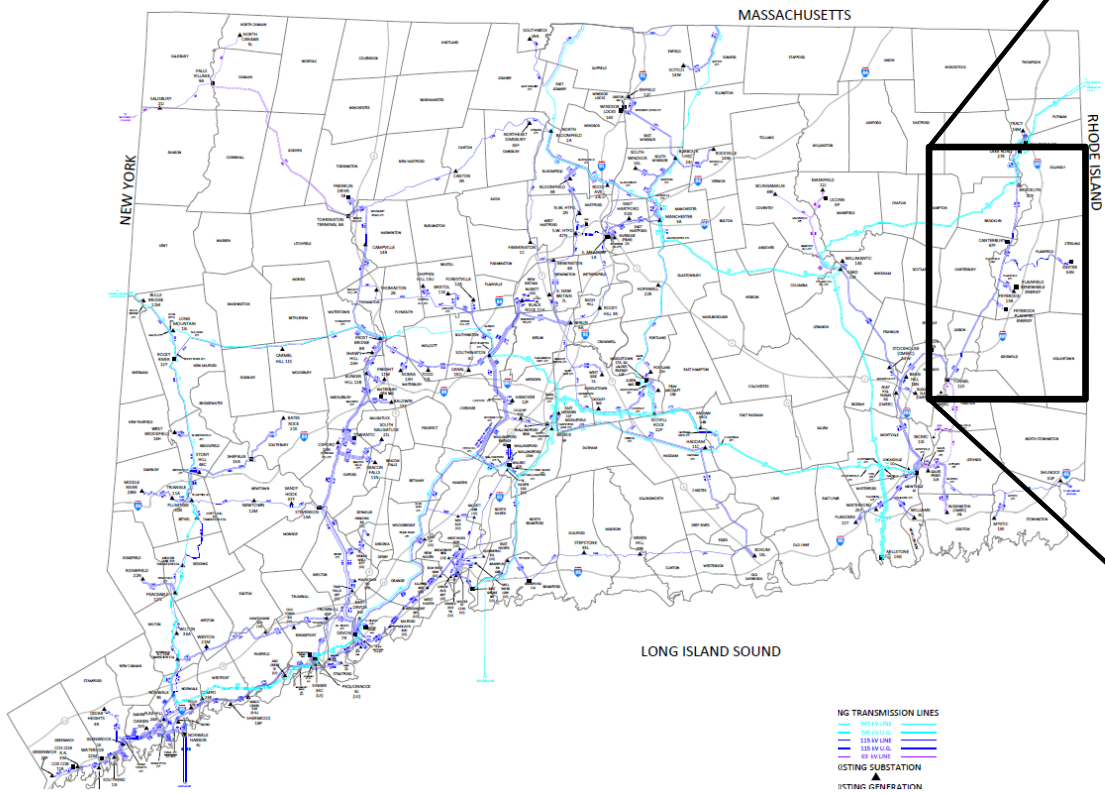
- Project Background
- Project Location
- Project Drivers
- Project Scope and Summary

Project Background

- Eversource manages ~4,000 circuit miles of overhead transmission lines
 - Nearly 40% of all transmission in New England
- Eversource takes a proactive approach to maintain long-term structural integrity and continued reliability of its transmission infrastructure through regular inspections (walkdown ground inspections, structure ground line, flyovers, etc.)
- Lines 1132 and 1505 are located in Connecticut and share a right-of-way spanning between Canterbury Switchyard and Killingly Station
 - Line 1505 spans approximately 25.7 miles between Tunnel, Fry Brook, Brooklyn, and Killingly Stations
 - Line 1132 spans approximately 11.4 miles between Canterbury and Killingly Stations
 - Structures to be replaced as part of this project are between Killingly and Brooklyn Tap (5.38 miles)
- Structures targeted for replacement as part of this project are all natural wood
- Inspections have indicated significant degradation and decreased load carrying capability of wood structures
 - Replacing the structures with light duty steel pole equivalents resolves structural, hardware, and reliability issues

Project Location

— Lines 1132 and 1505 sections in scope



NEW TRANSMISSION LINES
150 KV LINE
138 KV LINE
138 KV TAP
69 KV LINE
EXISTING SUBSTATION
EXISTING GENERATION

Project Drivers

- Completed inspections of these lines and graded condition of all structures in accordance with Electric Power Research Institute (EPRI) guidelines:
 - *A: Nominal Defect – No Action Required*
 - *B: Minimal Defect – Monitor Degradation*
 - *C: Moderate Defect – Repair or Replace under next maintenance*
 - *D: Severe Defect – Repair, Reinforce, or Replace immediately*
- Grade D and C wood structures showed one or more of the following age-related degradations, leading to decreased load carrying capability:
 - Woodpecker / insect damage
 - Rot
 - Decay / splitting
- Additional grade B structures were identified for replacement based on efficiencies in required permits and other approvals required to replace Grade C and D structures
 - Minimizes environmental impacts
- If not addressed, these issues jeopardize the long-term integrity of the transmission system and its continued reliability

Project Drivers (Cont'd)

Woodpecker damage



Structure 7347A

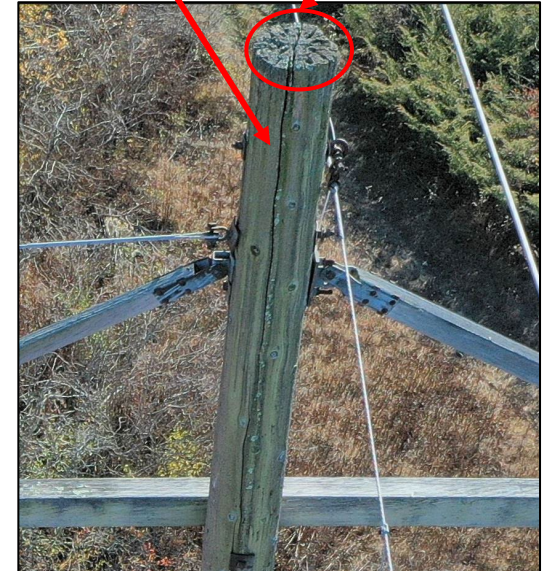
Loose hardware



Structure 7318A

Pole crack

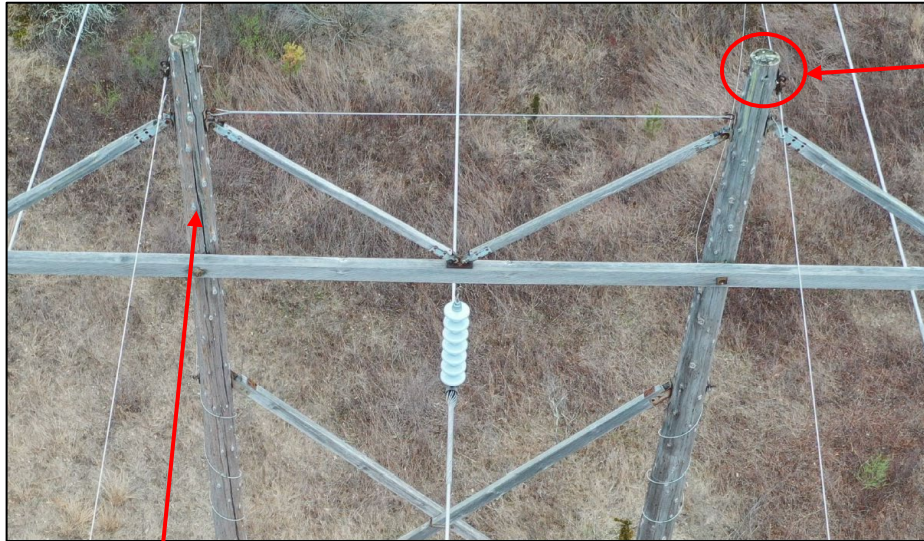
Split pole top



Structure 7358

Split Pole Tops, Cracks, Woodpecker Damage, & Loose Hardware

Project Drivers (Cont'd)

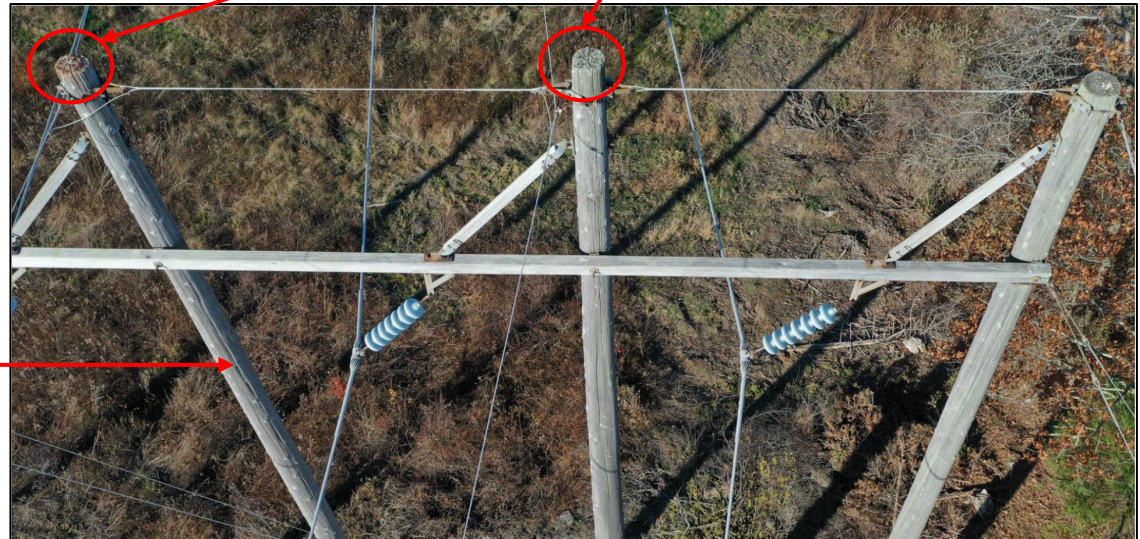


Woodpecker damage & split pole top

Structure 7348A

Pole crack

Split pole top



Structure 7319

Pole crack

Split Pole Tops, Cracks, Woodpecker Damage, & Missing Grounds

Project Scope and Summary

- Replace all 40 remaining wood structures on Lines 1132 and 1505 spanning approximately 5.38 miles between Brooklyn Tap and Killingly Station
 - Inspections indicated significant degradation of wood structures on the lines
 - Replacement of Grade B structures along with Grade C and D structures takes advantage of access and permitting efficiencies to perform an expanded scope of work that would otherwise require additional efforts in the future
- Existing structures will be replaced with similar light duty weathering steel structures which provide a much greater life expectancy and higher storm resiliency than wood
 - Supports long-term integrity and reliability of the Eversource transmission system
- Resolves multiple structural issues and supports long-term integrity and reliability of the Eversource transmission system
- Replacement structures will be designed to meet current design criteria

Estimated PTF Cost: \$13.38M (-25% / +50%)

Proposed In-service Date: Q1 2024

Questions

