

Concord Briefing

March 2022

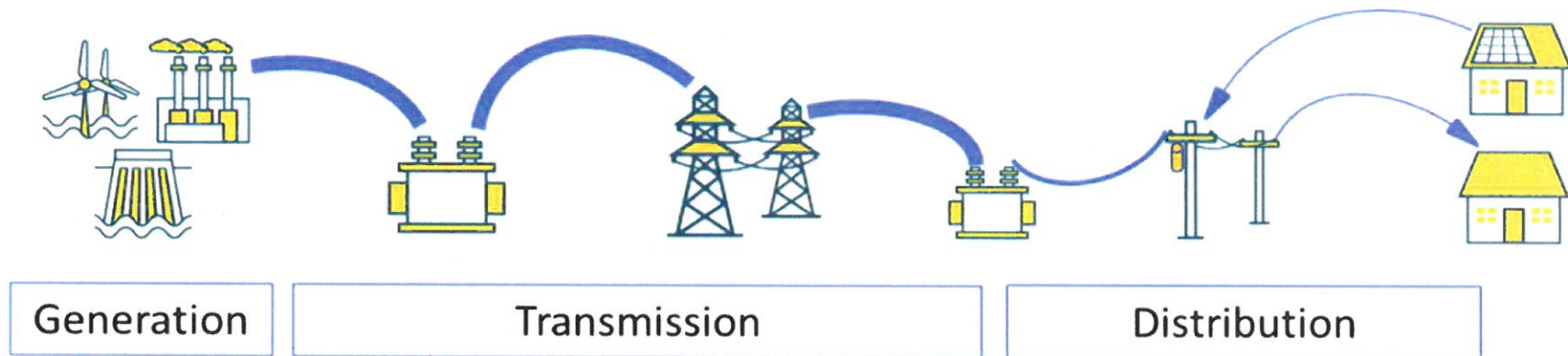
Concord to Bow (P145) Line Rebuild Project



The Transmission System

Getting Electricity to Where It Is Needed

A strong electrical transmission grid is vital to the safety, security and economic prosperity of the region. The transmission system serves a critical role to ensure that electricity flows with a high degree of reliability from wherever the power is generated to where power is needed.



Existing P145 Line/Corridor Overview

- **Power Line:** P145 line (Farmwood Substation in Concord to Merrimack Station in Bow)
- **Age:** Originally built in 1966
- **Voltage:** 115 kilo-volt (kV) line
- **Structures:** 165
- **Length:** 12.5 miles long
- **Towns:** Concord, Pembroke, Bow
- **Lines in Corridor:** Between 2 and 5 lines in the ROW (both Transmission and Distribution).
 - In general, transmission lines are H-frame (two pole) and mono-pole (one pole) structures
 - Distribution lines are monopole (single pole)
- **ROW Width:** Varies in width from 250' – 300'
- **Alignment:** Varies, but is centered in the City of Concord



Project Need

Increased reliability risk due to degraded structures and outdated communications

- Degraded Structures
 - Recent physical inspections and engineering analysis of the P145 line revealed that many of the existing structures are in poor condition due to their age, woodpecker and insect damage, and pole rot.
- Outdated Communications
 - Existing communication between substations relies on slower communication wire, which is less reliable and less secure than the optical ground wire (OPGW, also known as “fiber”), being installed throughout the Eversource transmission system.

Without this Project...

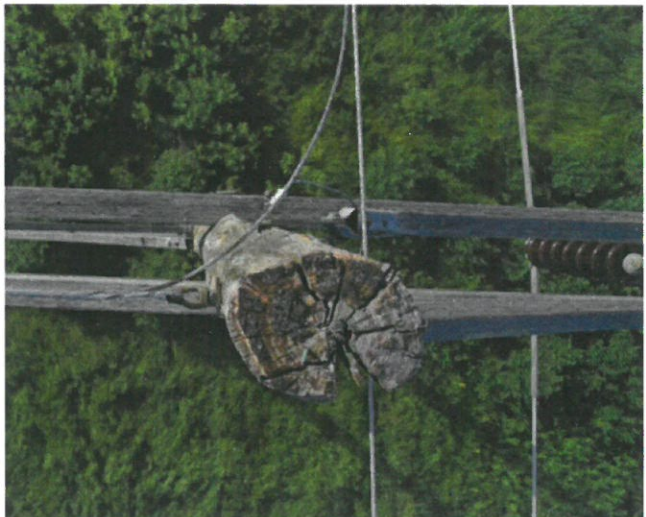
- Aging infrastructure is less resilient and could fail if stressed which could result in safety issues or electric outages.
- Less reliable communication wire between substations could make it more difficult to identify abnormalities and isolate failures, which could lead to outages.

Samples of Structure Degradation

Cracked Pole



Woodpecker Damage



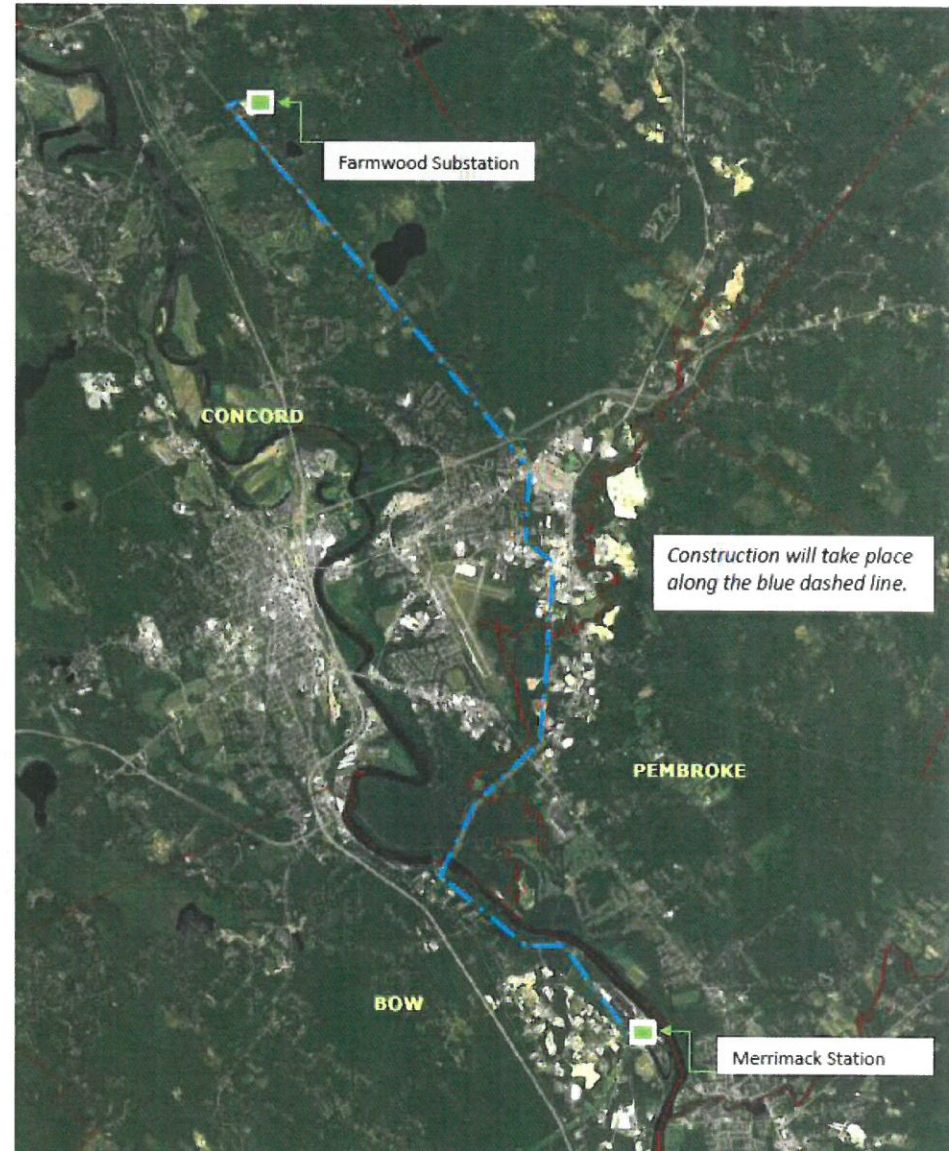
Pole Rot

Project Overview

A safer, more resilient, more reliable system

This Line Rebuild Project will:

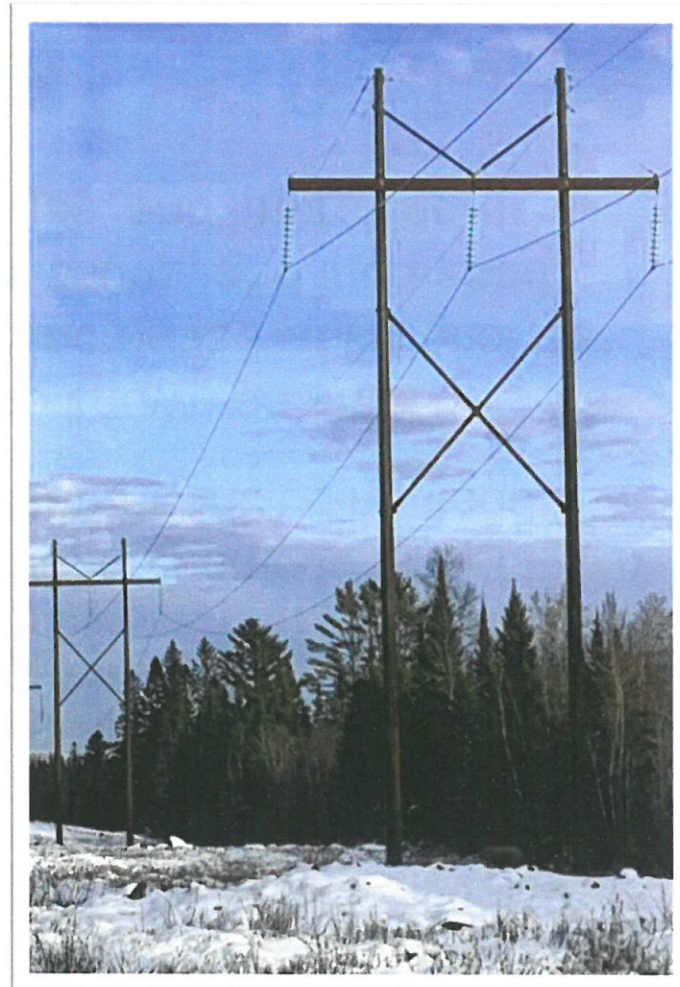
- Replace the older, degrading wooden structures with new weathering steel structures.
- Install new conductor and a new optical ground wire.
- Be built to present-day electrical safety standards and code.
- Collectively provide a safer, more resilient and more reliable electric supply.



Project Solution/Scope

Essentially a replacement of the existing transmission line

- Remove and replace 165 wooden structures that are over 50 years old with 160 new weathering steel structures.
- The new structures will be able to support the weight of the OPGW and can further withstand storms we experience here in New Hampshire.
- We intend to rebuild the line essentially in the same location it is today, though some structures will need to shift along the existing alignment.
- While structure height increases are unavoidable, we attempted to minimize them wherever possible. Structure heights changed due to several factors including:
 - Structure configuration to meet current regulatory standards
 - Present-day safety clearance requirements
 - Changes in topography
 - Minimizing environmental impacts



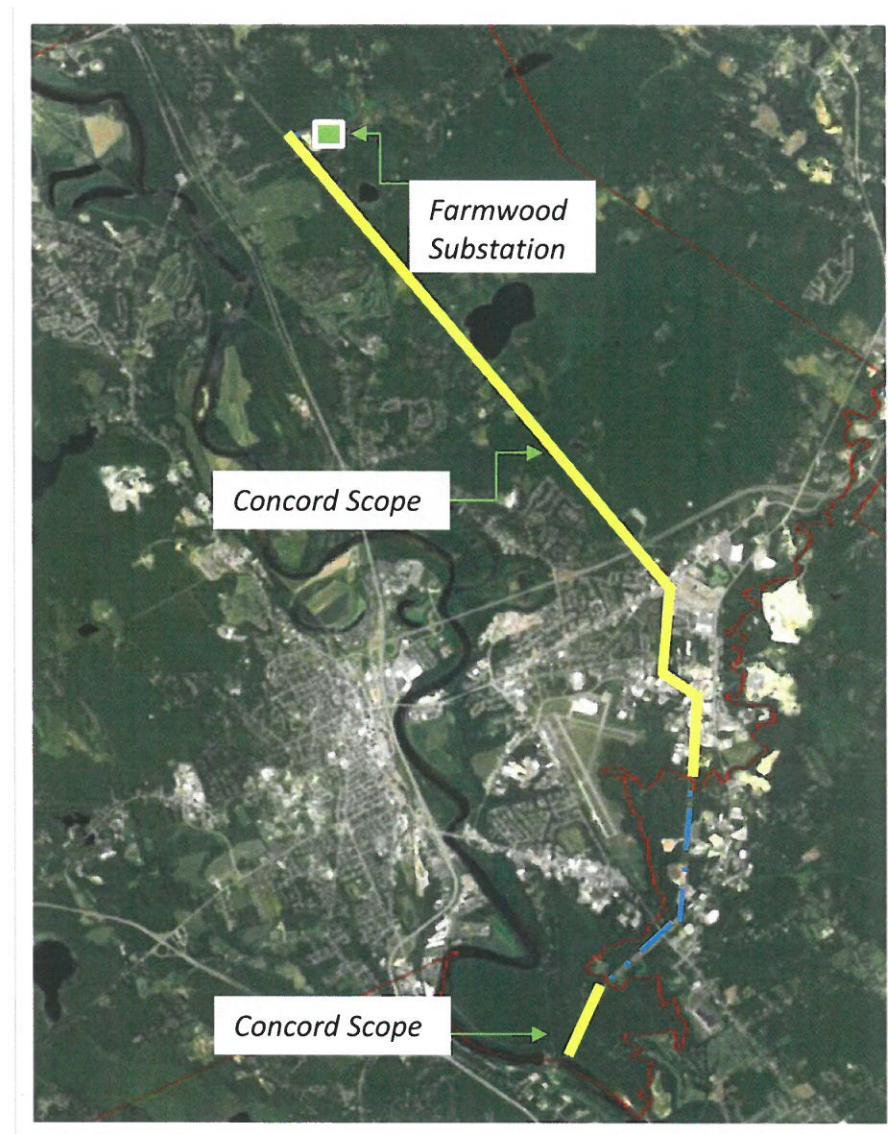
Project Benefits

Improved power system reliability

- Once rebuilt, the power line will result in greater electric **reliability** for communities.
- The new steel structures will be more **resilient** and will not be susceptible to woodpecker damage, insect damage or pole rot.
- The new structures will have **reliability** enhancements to protect the system from damage due to severe weather, including floods.
- The new optical ground wire, (OPGW, also known as “fiber”), to be installed between substations will provide increased visibility of our system, quicker response time for system issues, and increased automation, reducing the duration of outages, and improving **reliability** across the electric system.

Concord Scope

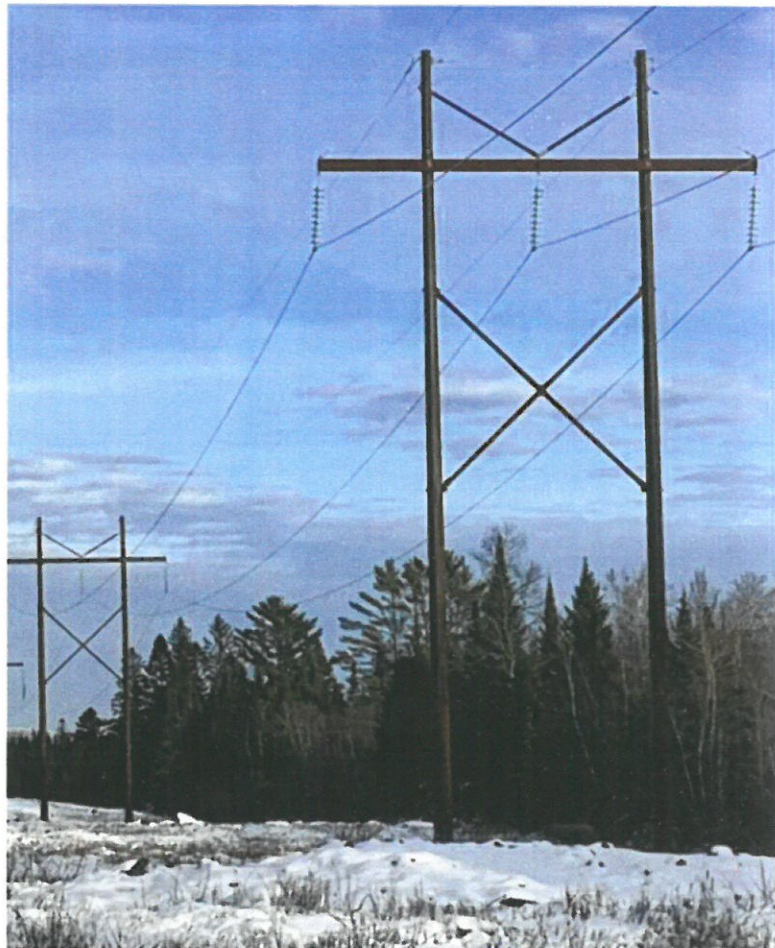
- 97 structures are located in Concord.
- 71% of the structures will increase less than 15 feet (69 structures).
- Of the structures that are increasing over 15 feet, 11 are within 500 feet of a residence.



Project Scope

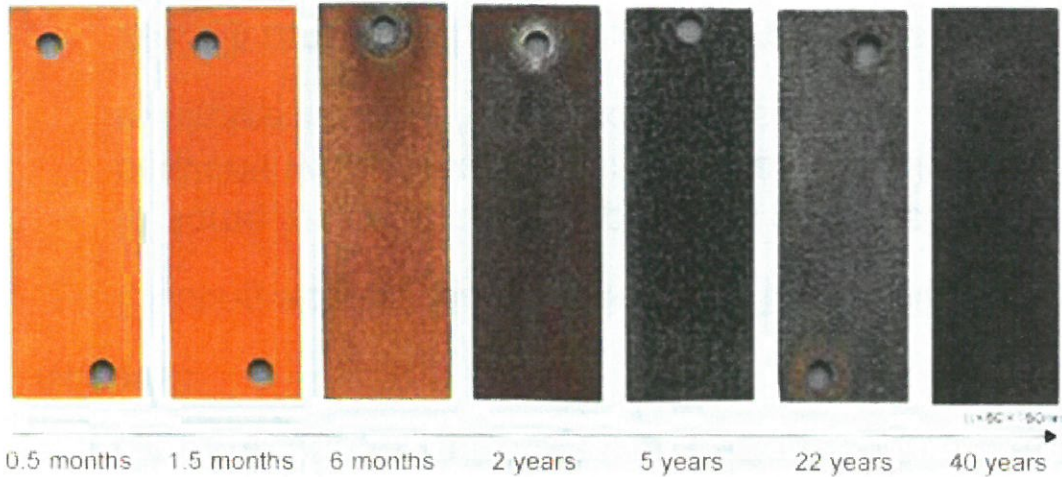


Example of existing structure to be removed



Example of typical structures to be installed

Weathered Steel



Mimics a rust look, darkens and blends in more over time.



Weathered steel structure representative of what will be installed on P145

Project Scope

Limited clearing required

- **Vegetation Management:**

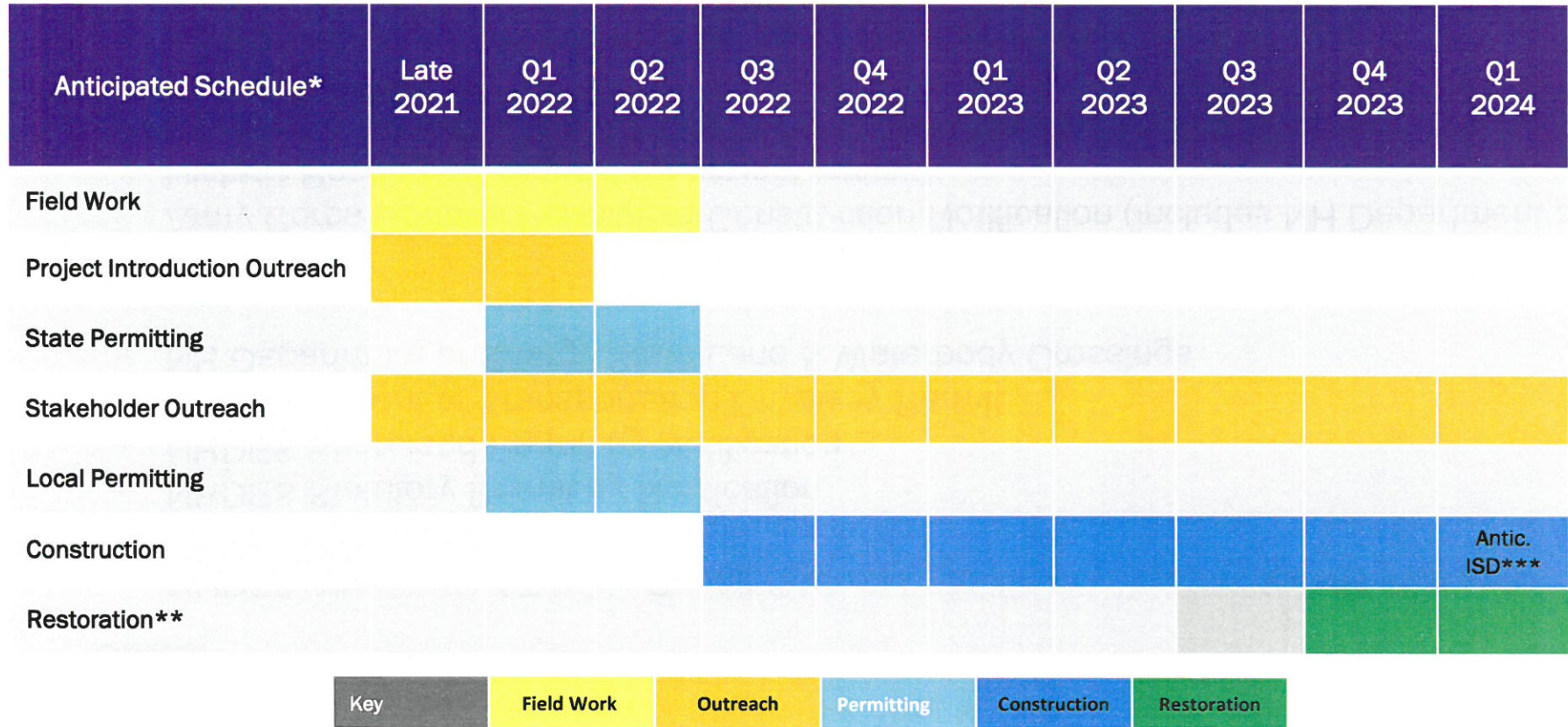
- Standard cyclical vegetation management work has been moved up from 2023 to pre-line rebuild construction in 2022 (first and second quarter), with a second pass in the fall for any regrowth between summer and fall.
 - Work is starting soon and includes mowing the floor of the existing right of way and removing incompatible vegetation to the edge of the maintained corridor.
 - Coordination of activities helps to limit duration of impact to abutting property owners.
 - Substantial outreach was performed in advance of the start of work.

- **Access:**

- Existing access roads, within the ROW, will be used where available.
- In some instances, the application of gravel and/or timber mats will be necessary in sections where access is inadequate. Routes have been designed to minimize impacts to the extent possible.
- We will request off-ROW access from several property owners.

Concord to Bow Line Rebuild Project

**Projected Timeline, pending necessary permits and approvals*



**This schedule is weather dependent and subject to change.*

***To the extent possible, restoration will be ongoing during construction for stabilization.*

****ISD means "In-Service Date", which indicates when construction is complete.*

Permitting

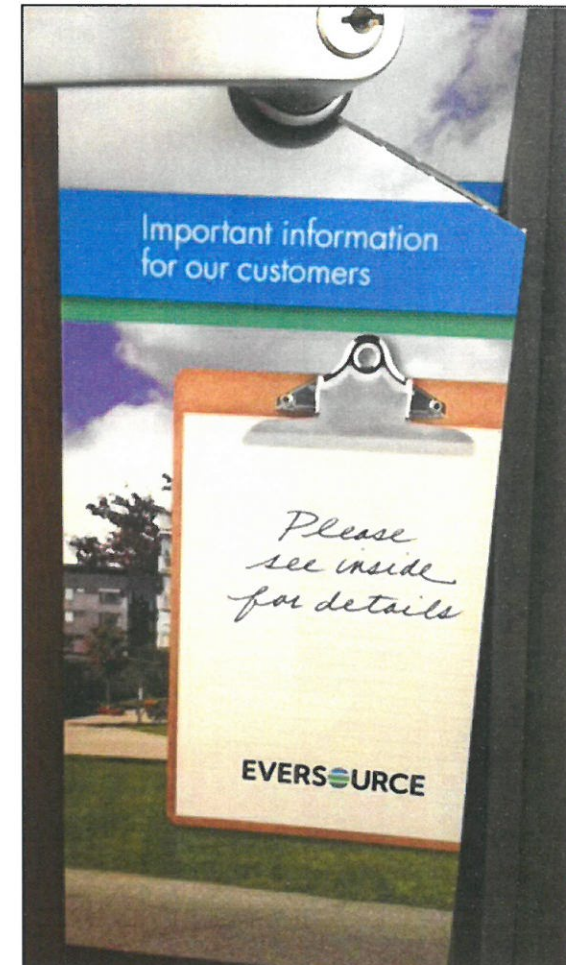
- **Local:**
 - Eversource will work with the City to determine and acquire local permits necessary for the project.
- **State:**
 - NHDES Alteration of Terrain Permit (includes habitat assessment for NH Fish and Game Department)
 - NHDES Statutory Permit by Notification
 - NHDES Shoreland Permit by Notification
 - NH Department of Transportation Driveway Permit
 - NH Department of Energy State Land & Waterbody Crossings
- **Federal:**
 - Army Corps General Permit/Pre-Construction Notification (includes NH Department of Historic Resources' request for project review)
 - Environmental Protection Agency Construction General Permit/Stormwater Pollution Prevention Plan
 - Federal Aviation Administration review of structure heights

Outreach Efforts

Eversource is committed to updating and proactively communicating with neighbors, businesses and all community members about project activities and will continue this outreach throughout the construction process.

Outreach methods:

- **Project Information Letters:** Letters mailed to property owners along the right of way (power line corridor), sharing project updates.
- **Field Outreach Representatives:** Eversource representatives who are on-site prior to, and during, construction. They communicate with residents and businesses in-person about the project and respond to any questions or concerns, following CDC guidelines for COVID-19 safety precautions.
- **Project Webpage:** To share project information, including maps, schedule updates, construction status, and contact information.
www.eversource.com/P145-Line-Project
- **Project Hotline & Email:** Provides prompt response to stakeholder inquiries.



sample door hanger

Stay Informed / Contact Information

Project Services (Project Outreach)

Sarah Hoodlet

Email: Sarah.Hoodlet@eversource.com

Community Relations

David Creer

Email: David.Creer@eversource.com

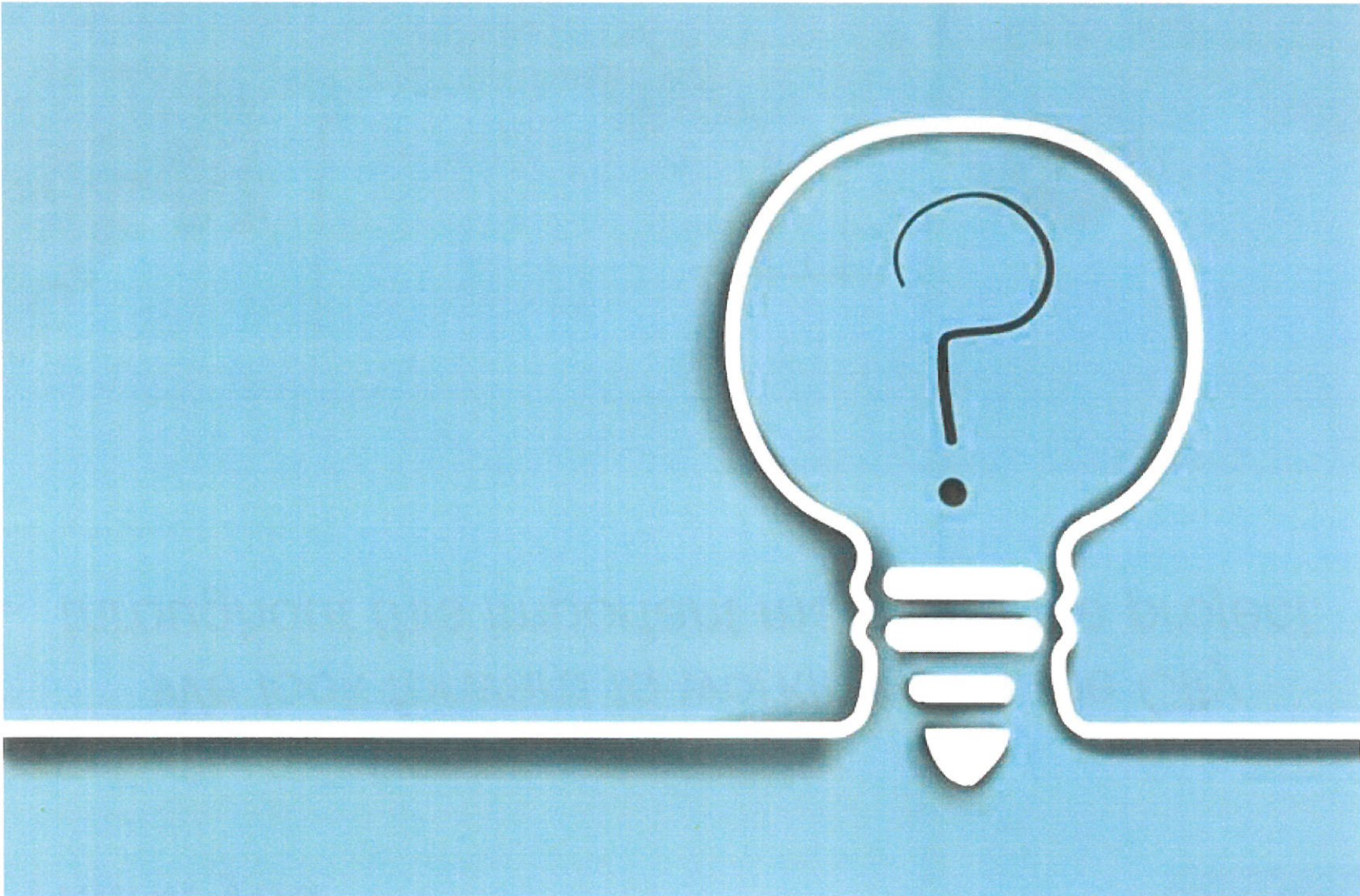
Eversource Project Hotline: [1-888-926-5334](tel:1-888-926-5334)

Project Website: www.Eversource.com

Project E-mail: NHProjectsInfo@eversource.com



Questions & Feedback



Thank you

We look forward to working with the City throughout this important maintenance project.

