

STATE OF NEW HAMPSHIRE

Intra-Department Communication

DATE: September 21, 2021

AT (OFFICE): NH Dept. of Energy

FROM: Kenneth Walsh *KGW*
Utility Analyst IV – Division of Enforcement

SUBJECT: CR2021-03 Eversource Energy
Petition for License to Construct and Maintain Electric Lines Over and Across
State Owned Land in Londonderry and Hudson, New Hampshire
Division of Enforcement, **Safety Bureau Recommendation**

TO: Jared Chicoine, Interim Commissioner, Department of Energy
Christopher Ellms, Jr., Deputy Commissioner, Department of Energy

CC: Thomas Frantz, Director of Regulatory Division
Richard Chagnon, Regulatory Division
Lynn Fabrizio, Division of Enforcement
Randall Knepper, Division of Enforcement
Paul Kasper, Division of Enforcement

The Division of Enforcement's review of the above petition consisted of the following elements:

- Petition contents and history;
- Applicable State statute;
- Review of the existing crossing(s) previously licensed by the PUC;
- Review of land ownership of existing pole structures;
- Review of NESC code requirements as described in Puc 300;
- Review of public need and public impact, including applicability of other State regulations; and
- Conclusions and Recommendations.

1. Petition contents and history

On August 2, 2021, Public Service New Hampshire d/b/a Eversource Energy (Eversource, or the Company) filed a petition for a license pursuant to RSA 371:17 to construct and maintain the Eversource X116 Line, which is an existing three phase 115kV transmission line that crosses State land in Londonderry and Hudson owned by the New Hampshire Department of Transportation and the New Hampshire Department of Public Works.

The existing crossings over State land was not previously licensed for unknown reasons, according to the petition.

This proposed project is to replace (11) existing laminated wood structures with weathered steel structures. The (3) existing transmission conductors and (1) existing shield wire will remain unchanged and will be transferred to the new structures.

Common to all these noted structures, existing conductors consist of (3) ACSR 1590 45/7 kcmil conductors, (2) existing 7 No. 8 Alumoweld shield wires (between Structure # 5 to #19), and (1) OPGW communications wire (between Structure #117 and #120), will be transferred with the shield wires and OPGW wire being vertically attached above the conductors.

The conductor cable clearance requirements were met using the National Electrical Safety Code (NESC) based on the design conditions at 285 deg F. for all crossings within this petition. This scenario was the governing condition, which yielded the greatest sag and lowest clearance. Only 28.1 feet clearance is required by the NESC Table 232-1 for tracks of railroads. Only 20.1 feet clearance is required by the NESC Table 232-1 for other areas traversed by vehicles, such as cultivated, grazing, forest, and orchard lands, industrial sites, and commercial sites. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

The scope of this project begins at Structure #5 east of where the X116 Line crosses over Route 28 (Rockingham Road) in Londonderry then heading west to Structure #6 then crossing the rail trail. The X116 Line then heads southwest to Structure #16 approximately 3,300 feet southwest from Route 28 where it crosses State Route 93.

The scope of this project in Hudson begins at Structure #117 approximately 2,000 feet south from where the X116 Line crosses Old Derry Road.

The land crossing spans 771.2 feet between Structures #5 and #7 with 107.5 feet spanning State owned land in Londonderry. See Safety Map #1.

The land crossing spans 1,403.8 feet between Structures #16 and #19 with 535.2 feet spanning State owned land in Londonderry. See Safety Map #2.

The land crossing spans 1,008.6 feet between Structures #117 and #120 with 831.8 feet spanning State owned land in Hudson. See Safety Map #3.

The following table provides the summary of this petition with all crossings to include structure numbers, types, spans, ES design criteria, and NESC compliance:

Dept. of Energy Safety Bureau Summary Table

Eversource X116 Line - State Land Crossings						
Structure	Type	Span (Pole to Pole)	Distance (feet)	Minimum NESC Table 232-1 Clearance (ft.)	ES Vertical Design Clearance (ft.)	Complies with NESC Table 232-1 (Y/N)
5	79.0' steel single pole, ST-1, CLH9	5-6	501.0	28.1	65	Y
6	93.5' steel single pole, ST-1, CLH9					
7	84.0' steel single pole, ST-1, CLH9	6-7	270.2	28.1	59	Y
16	84.0' steel single pole, ST-1, CLH9	16-17	488.1	20.1	37.3	Y
17	70.0' steel 3-pole, ADS-1, CLH3					
18	83.5' steel 3-pole, ADS-1, CLH3	17-18	601	20.1	44.6*	Y
19	79.0' steel 2-pole, T, CLH1	18-19	314.7	20.1	69.9	Y
117	84.0' steel single pole, ST-1, CLH9	117-118	306.9	20.1	26.5	Y
118	84.0' steel single pole, ST-1, CLH9					
119	66.0' steel single pole, SA-2, CLH9	118-119	466.5	20.1	33.1	Y
120	61.0' steel single pole, ST-1, CLH9	119-120	235.2	20.1	35.2	Y

* - lowest clearance within the two separate state owned lands

2. New Hampshire statute referenced in petition (as modified by N.H. House Bill 2 on June 3, 2021)

371:17 Licenses for New Poles (2021, 91:260, eff. July 1, 2021)

3. Review of existing license(s) and permissions previously granted by the PUC for these locations of the State owned land in Londonderry and Hudson.

The State owned land crossing span in Londonderry and Hudson was not previously licensed.

Eversource asserts that environmental impacts from this project will require permits from the NH Department of Environmental Services and that the Company will obtain these before commencing work.

4. Review of land ownership of proposed pole structures

In its petition, Eversource specifies that the structures and wires pursuant to this petition cross State owned land in Londonderry and Hudson, New Hampshire.

5. Review of NESC code requirements as described in Puc 300

The Safety Bureau reviewed the specifications related to the design and re-construction of this crossing project as described in the petition, attachments, and all supplemental support documents and corrections filed by the Company, and found them to be in conformance with N.H. Admin. Rule Puc 306 and applicable sections of NESC C2-2012.

6. Review of public need and public impact

The X116 transmission line is an integral part of Eversource's existing electric transmission system in New Hampshire. The crossing locations identified in the petition are in Londonderry and Hudson. The Company asserts in its petition that the existing crossings will be exercised without substantially affecting public rights in the identified State land located in Londonderry and Hudson.

The Safety Bureau verified that minimum safe line clearances above the land will be maintained at all times, and determined that public use and enjoyment of the State owned land will not be diminished in any material respect as a result of the proposed overhead line crossings.

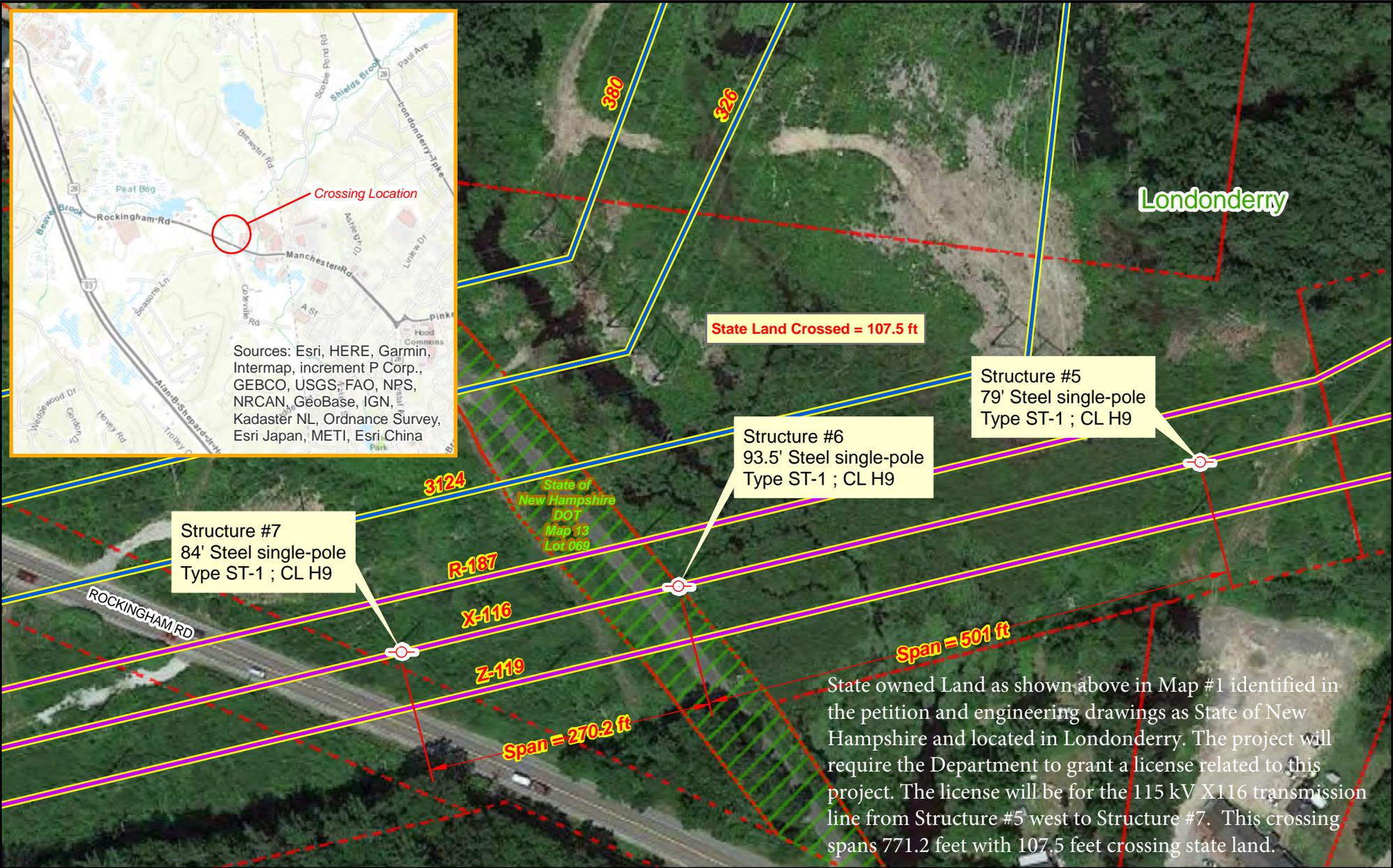
Safety Bureau Recommendation:

Based on the results of its review of the petition, attachments, and all other supporting documents filed, the Safety Bureau recommends that the Department:

- 1) Find that the license Eversource requests in this petition may be exercised without substantially affecting the public rights in State owned land; and
- 2) Grant Eversource a license to construct, install, operate, and maintain electric lines and communication cables pursuant to RSA 371:17 and Puc 306.01, over and across State owned land in Londonderry and Hudson, New Hampshire, as specified in the petition.

Attachments

NH State Land (NHDOT) - ENG CR 2021-03 Eversource Crossing - Map 1

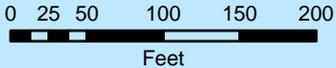


State owned Land as shown above in Map #1 identified in the petition and engineering drawings as State of New Hampshire and located in Londonderry. The project will require the Department to grant a license related to this project. The license will be for the 115 kV X116 transmission line from Structure #5 west to Structure #7. This crossing spans 771.2 feet with 107.5 feet crossing state land.

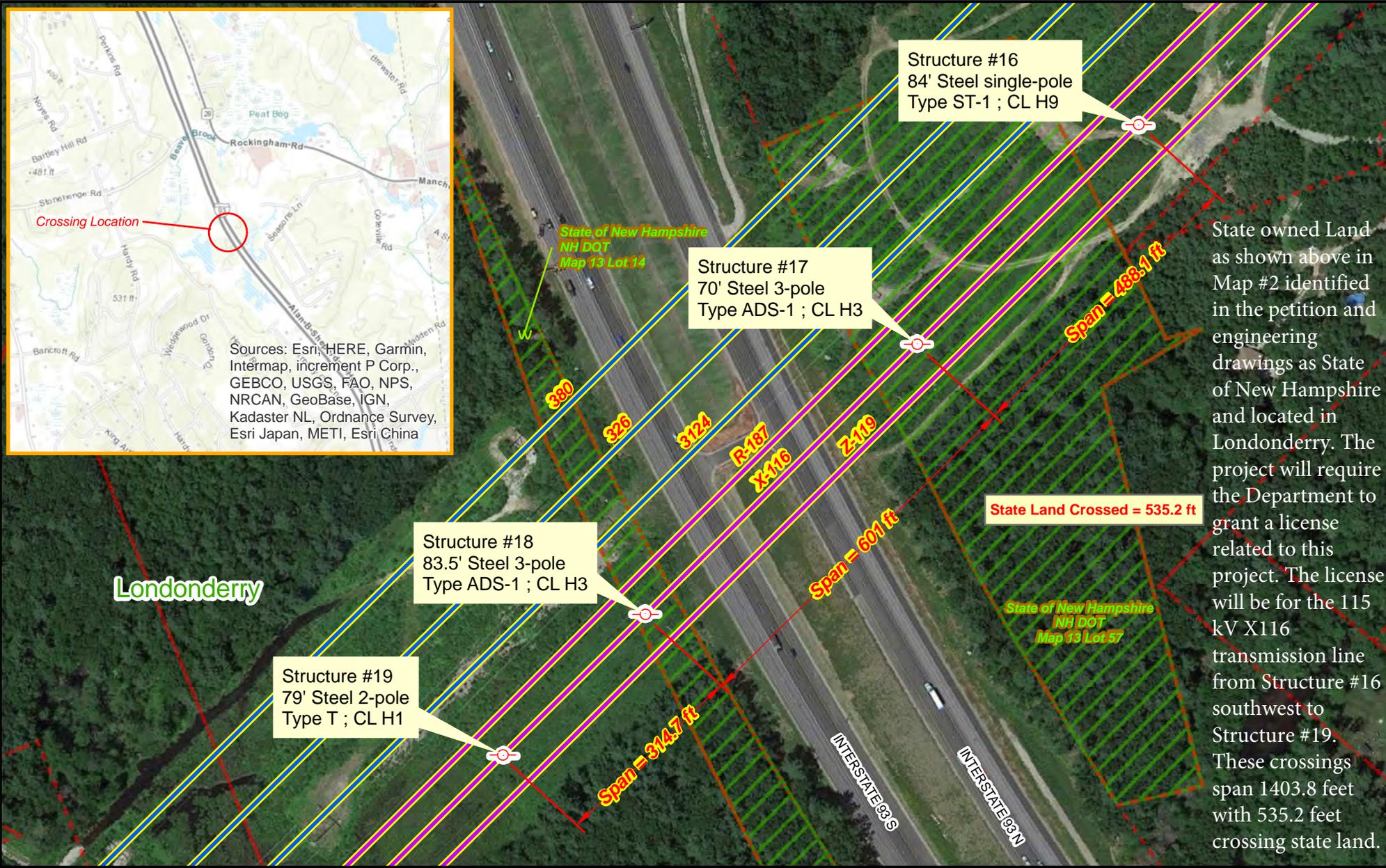
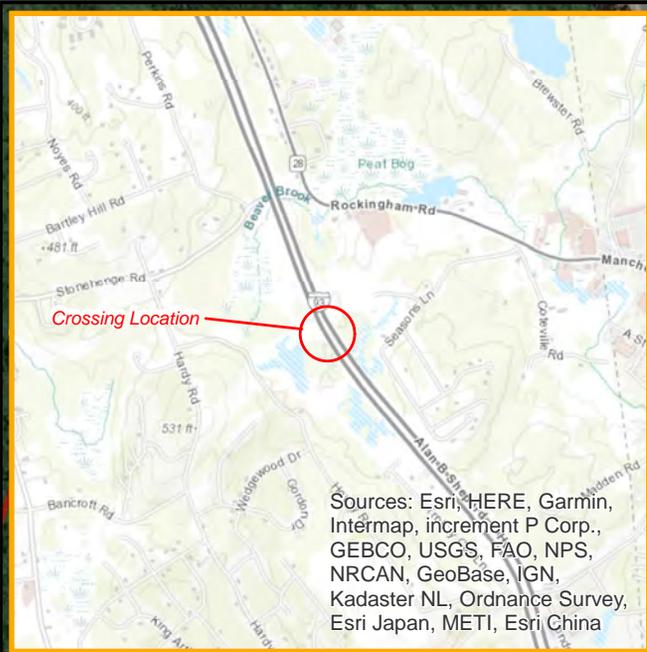
	Utility Structure		Parcel
	345 kV Lines		State Land Parcel
	115 kV Lines		



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NH State Land (NHDOT) - ENG CR 2021-03 Eversource Crossing - Map 2



State owned Land as shown above in Map #2 identified in the petition and engineering drawings as State of New Hampshire and located in Londonderry. The project will require the Department to grant a license related to this project. The license will be for the 115 kV X116 transmission line from Structure #16 southwest to Structure #19. These crossings span 1403.8 feet with 535.2 feet crossing state land.

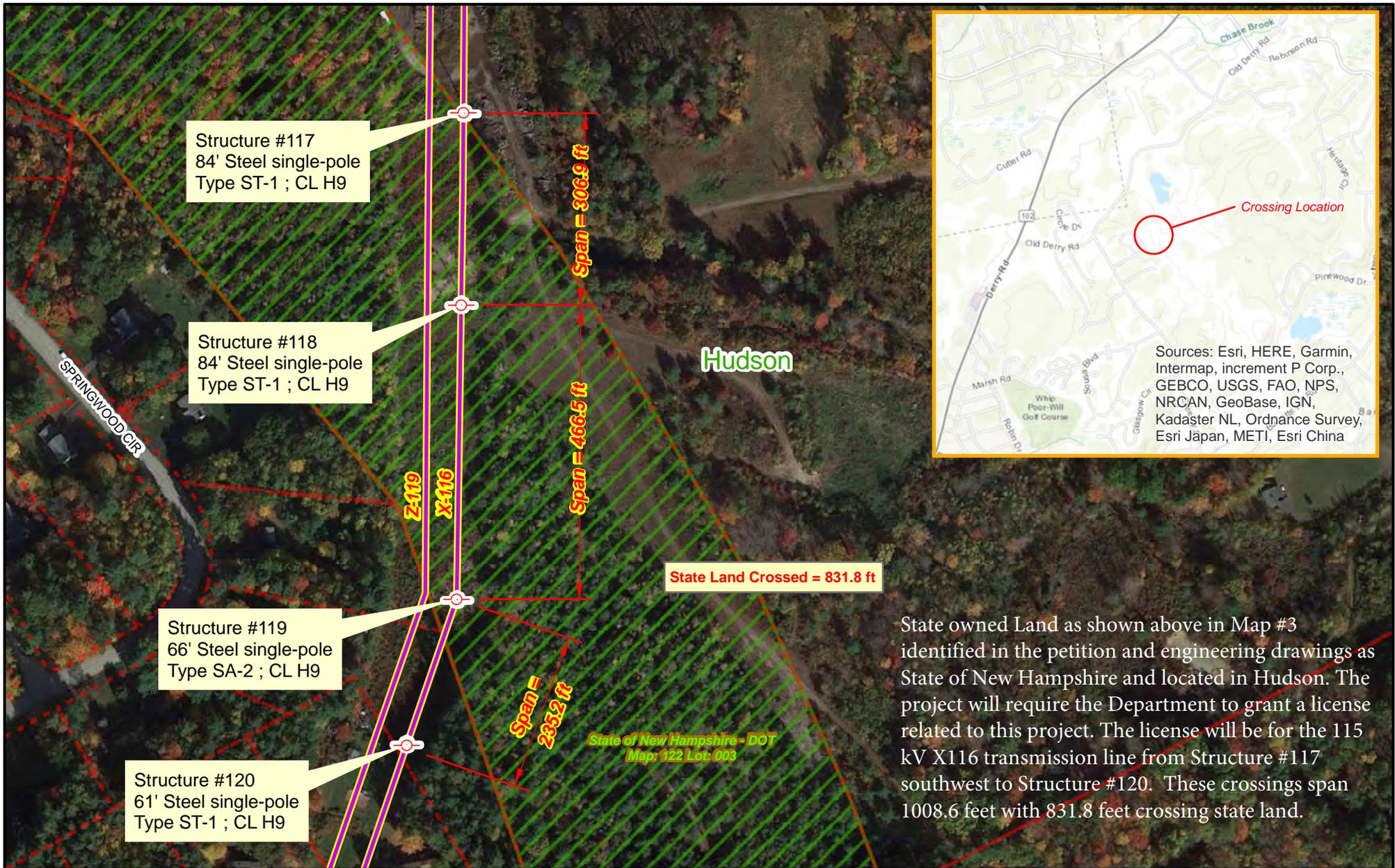
	Utility Structure		Parcel
	345 kV Lines		State Land Parcel
	115 kV Lines		



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NH State Land (NHDOT) - ENG CR 2021-03 Eversource Crossing - Map 3



	Utility Structure		Parcel
	115 kV Lines		State Land Parcel



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