

# Appendix J

## **NEP 345 kV 3124 Merrimack Valley Reliability Project, Pelham, Windham, Hudson, and Londonderry, New Hampshire, Cultural Resources Due Diligence Report, February 2, 2015**





**NEP 345 kV 3124  
Merrimack Valley Reliability Project**  
Pelham, Windham, Hudson,  
and Londonderry, New Hampshire

*Cultural Resources Due Diligence Report*

*February 2, 2015*

Submitted to:  
**New England Power Company**  
40 Sylvan Road  
Waltham, MA 02451  
and  
**PSNH- Transmission**  
780 North Commercial Street  
Manchester NH 03101

---

**Project Description**

New England Power Company d/b/a National Grid (NEP) is proposing to construct a new 345 kV electric transmission line (“Line 3124”) within an existing right-of-way (“ROW”) between the Tewksbury 22A Substation in Tewksbury, Massachusetts and the Public Service of New Hampshire-owned Scobie Pond Substation in Londonderry, New Hampshire (approximately 24.5 miles), called the Merrimack Valley Reliability Project (MVRP). The portion of the MVRP located in New Hampshire is on existing ROW within the Towns of Pelham, Windham, Hudson, and Londonderry (Figures 1-1 to 1-4). There are five existing transmission lines located within this ROW (one 345 kV line, two 230 kV lines and two 115 kV lines), and several of the lines will be reconfigured to accommodate the new 3124 line. The proposed configuration of the new 3124 Line and the existing lines within the ROW varies over the approximately 18.5 mile length of the ROW within New Hampshire. In some sections Line 3124 will be built on newly constructed structures; in other sections one or more of the existing lines will be relocated on a new series of structures and one of the existing lines will be reassigned as Line 3124. New or relocated structures will include wooden H-frame, steel lattice tower and single pole structures (Figures 1-5 and 1-6).

**Authority**

The Project requires permits under Sections 404 and 10 of the Clean Water Act by the U.S. Army Corps of Engineers (USACE) and is, therefore, subject to review under Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR 800. The Project also requires approvals or permits from several New Hampshire State agencies, including the Public Utilities Commission, and as is subject to New Hampshire Revised Statute 227-C:9, which directs State agencies to cooperate with the New Hampshire Division of Historical Resources (NHDHR) in the location, identification, evaluation and management of historic resources.

## **PAL Scope and Objectives**

This cultural resources due diligence report was prepared by PAL to assist NEP in preparing a NHDHR Request for Project Review (RPR) form. The purpose of the due diligence review is to provide information about known and expected historic properties, which are defined as archaeological sites and architectural resources that are eligible, within or adjacent to the Project area. The RPR is used to initiate consultation with the NHDHR regarding the potential of the project to affect historic properties.

## **Methodology**

Information about previously identified properties was developed through a search of the NHDHR archaeological site and historic architectural inventory files (NHDHR Inventory) in March 2014. The study areas established for the due diligence effort were broadly defined to provide information about the types of resources located within the vicinity of the Project. For archaeological resources, the study area encompassed one-half mile on either side of the Project centerline. For historic architectural properties the study area was established at one-quarter mile on either side of the Project centerline.

A site visit to the study area was conducted by a team consisting of a PAL architectural historian and archaeologist on January 22, 2015. The purpose of the site visit was to determine the types of resources that are present within the study area and collect information required to produce the RPR. During the site visit the team inspected places where the existing transmission line intersects with public roads where the potential effects of the Project on historic architectural resources was likely to be most prevalent. At those locations, the team searched for properties that are at least 50 years of age and have not previously been surveyed and recorded in the NHDHR inventory. The site visit was conducted during an overcast day when the trees were devoid of leaves. There was some snow cover, but otherwise the conditions were ideal to assess potential views of the Project from the resources identified. Properties that met the basic criteria of being at least 50 years old and would have views of the project were photographed and recorded on a base map. Photos showing the views from the recorded properties to the Project were also taken.

## **Study Area Description**

The Project area intersects with public-right-of-ways roughly 20-30 times from the New Hampshire/Massachusetts state boundary in Pelham to Scobie Pond in Londonderry. The areas of intersections are largely characterized by rural and wooded areas or else sparse residential development with Ranch- or Cape-style buildings dating to the mid- and late-twentieth century. The Project Area crosses near a very recent housing development, Whispering Winds, at the intersection of Glance and Mammoth roads in Windham. The Project Area crosses major transportation routes at Route 111A in Pelham, Route 111 in Hudson, Route 128 in Windham, and routes 102 and 28 in Londonderry. Photographs 1-30 provide a sample of the types of development that exist within the Project area in relation to the existing transmission line ROW. The locations of the photographs are depicted on Figures 2-1 to 2-4.

## Historic Architectural Resources

### Previously Documented Historic Architectural Properties

The Project study area does not include any properties listed in the National Register of Historic Places (National Register). There are four previously surveyed properties within the Project Area (Table 1; Figures 3-1 to 3-3). Three properties (10 Rockingham Road, LON097; 18 Rockingham Road, LON098; 22 Rockingham Road, LON099), located northwest from the end of the Project line on the east side of busy Route 28 in Londonderry, were evaluated in 2002 as not eligible for listing on the National Register due to either a lack of significance or architectural integrity (see Figure 3-3). One historic resource located in a residential area in Pelham was evaluated in 2008 as eligible for individual listing on the State/National Register, however, the bridge has since been replaced and is, therefore, no longer eligible (Castle Hill Road Bridge; PEL0012; see Figure 3-1).

**Table 1. Architectural Properties Recorded within One-Quarter Mile of the New Hampshire Portion of the MVRP.**

Name/Address	NHDHR #	Date Built	Architectural Style
House, 10 Rockingham Rd, Londonderry	LON0097	1940	Colonial Revival
L.A. McGregor House, 18 Rockingham Rd, Londonderry	LON0098	1855	Greek Revival
House, 22 Rockingham Rd, Londonderry	LON0099	1920	Bungalow
Castle Hill Road Bridge, Castle Hill Rd, Pelham/Windham	PEL0012	1905-1914	Timber Stringer

### Unrecorded Historic Architectural Properties

One potentially significant historic property was identified during the field survey (see Figure 3-3). It consists of a historic farmstead located on a hill at the north side of a curve on Elwood Road in Londonderry. The main house faces northeast and is a two-and-a-half-story, two-by-five-bay, gable-front Italianate-style residence with field stone and concrete foundation, wood siding, and a standing seam metal roof with end returns that was likely constructed about 1870 (see Photo 27). A two-story, cross-gable ell with asphalt roof is located on the east side of the north elevation. The property includes about eight associated outbuildings, most of which appear to date to the mid- to late- twentieth century with the exception of a west-facing, two-story, gable-front slight-bank barn with manure basement that is likely contemporary to the main house. The farmstead is surrounded on all sides by fields with a corn maze situated on the west and an orchard on the south and east. The Project Area passes southeast to northwest through the associated orchard and fields to the east of the property (see Photo 28).

### Archaeological Resources

There are seven pre-contact and four post-contact archaeological sites within the study area in New Hampshire. The location of each archaeological site is depicted on Figures 3-1 to 3-3 by their NHDHR inventory numbers.



### Pre-Contact Cultural Resources

Results of research indicate that several find spots and three larger pre-contact Native American archaeological sites (27-HB-209, 27-RK-301 and 27-HB-225) are within a one-mile radius of the project area, the majority of which have little information on file (Table 2; see Figures 3-1 to 3-3). The Pelham Incinerator Site is the best documented, located within the ROW along Golden Brook in Pelham. The site yielded several Late Archaic Squibnocket Triangle projectile points, caches of artifacts, along with an adz, a plummet, a gouge, and hundreds of pieces of chipping debris. A charcoal samples collected from beneath the gouge yielded uncalibrated radiocarbon dates of 4655±50 B.P. (AA 34180) and 4595±60 B.P. (AA 33233). The Beaver Brook Site (27-HB-225) is located on Beaver Brook approximately 0.25 miles south of the Project in Pelham. This site is interpreted as a pre-Contact open habitation site (NHDHR site files). Cultural material identified at the site included chipping debris, stemmed bifaces, and one secondary biface. Diagnostic artifacts suggest the Beaver Brook Site was occupied in the Late Archaic Period. Site 27-RK-301, also along Beaver Brook, is approximately one mile north in Londonderry (TRC 1999). This site contained chipping debris, core fragments, a Meadowood point fragment, fire-cracked rock, and several grit-tempered ceramic sherds. Site 27-RK-301 likely represents an open habitation site occupied during the Early Woodland Period. Several isolated finds are also within one mile of the project area; of particular interest is a single non-diagnostic lanceolate biface identified on the north side of Beaver Brook, just north of the project area (TRC 1999). The Parmenter Farm Site (27-RK-0022) in Londonderry yielded Late Archaic small Stemmed projectile points and large blades. The site is located approximately one-half mile northeast of the Line along Nessenkeag Brook.

**Table 2. Unevaluated Pre-Contact Archaeological Sites Recorded within One-Half Mile of the New Hampshire Portion of the MVRP.**

Name	NHDHR #	Town	Site Type and Period
Parmenter Farm	27-RK-0022	Londonderry	Unknown/Late Archaic
Viner Site	27-RK-106	Londonderry	Unknown/Indeterminate Woodland
Unknown	27-RK-107	Londonderry	Unknown/Unknown
Unknown	27-RK-301	Londonderry	Open habitation/Indeterminate Woodland
Access Road Site	27-RK-442	Londonderry	Unknown/Unknown
Pelham Incinerator Site	27-HB-209	Pelham	Habitation and workshop/Late Archaic
Beaver Brook	27-HB-0225	Pelham	Open habitation/Late Archaic

The geographical location of the project area, within the Merrimack Valley and adjacent to several feeder streams including Beaver Brook, Golden Brook, and Nessenkeag Brook situates it within a zone of resources that would have been exploited by groups of pre-contact Native Americans. The discovery of an “Indian dugout canoe” in Scobie Pond in 1936 (NH-45-109) also suggests passable waterways and travel routes would have been easily accessible from this area (NHDHR site files).

### Post-Contact Cultural Resources

In terms of the post-contact period, the majority of the project area falls outside of the cores of major post-contact period development. A review of historical sources indicates that the project area was sparsely settled and likely used for agricultural activities during most of the post-contact period (Hurd 1885, 1892; Sherburne 1900; USGS 1905). Four post-contact archaeological sites are recorded within a one-mile radius of the project area, three in Londonderry and one in Hudson (Table 3; see Figures 3-1 to 3-3). The Aiken Saw Mill Site (27-RK-21), located approximately one-half mile north of the Project, consists of a stone lined mill race, a stone wall, mill pond (Aiken Pond) and foundation dating to 1722 (NHDHR site files). The remaining three sites are residential in nature, containing foundations, and date to the late nineteenth and twentieth century.

**Table 3. Unevaluated Post-Contact Archaeological Sites Recorded within One-Half Mile of the New Hampshire Portion of the MVRP.**

Name	NHDHR #	Town	Site Type and Period
Lithia Springs	27-RK-0108	Londonderry	Residential and commercial/unknown
Stonehenge Road Farmstead	27-RK-372	Londonderry	Residential/20 <sup>th</sup> century
Aiken Saw Mill	27-RK-0021	Londonderry	Industrial/ca. 1722
Melvin Farm	27-HB-0186	Hudson	Residential and agricultural/1858-1900

### Summary of Archaeological Resources

The results of this review indicate that several previously recorded historic properties and archaeological sites are located within the MVRP study area. Archaeological surveys conducted within portions of the study area for various pipeline and powerline projects have identified pre- and post-contact sites in similar environmental settings (i.e., Gillis and Doucette 2012; Cassedy et al. 1999; Donohue et al. 2008; Gillis and Doucette 2006).

The favorable environmental setting and proximity of other known pre-contact archaeological sites indicates that the overall study area has areas of archaeological sensitivity. Archaeological evidence of pre-contact period Native American activity could include subsistence-related features such as hearths, food storage/disposal pits, living areas including post molds, lithic workshops, and diagnostic chipped and ground stone tool assemblages. The MVRP study area is sensitive for post-contact historic resources based on the number of previously identified post-contact sites. Post-contact sites could include cellar holes and foundations related to early settlement patterns and subsistence related activities.

## Recommendations

### Historic Architectural Resources

PAL recommends that the Project will have no effect on historic architectural resources and that no additional investigations are necessary to identify historic architectural resources. The proposed addition of Line 3124 into an existing ROW will not have any direct impact on any known historic resource within or adjacent to the line. While the fieldwork conducted for this due diligence review was not designed to identify every significant historic property along near the study area, it showed that the Project will not introduce any new views or other type of indirect effects that have not already resulted from the major transmission line infrastructure that exists in the ROW. The setting of the one potentially significant property that was identified during the site visit has already been altered and would not be further affected by the construction of Line 3124 or the proposed modifications to the existing lines.

### Archaeological Resources

Ten miles of the MVRP ROW in New Hampshire, from Scobie Pond Substation in Londonderry to the PSNH/NEP junction in Hudson, previously underwent a Phase IA archaeological survey and NHDHR project review for the PSNH 326 Line Thermal Uprate Project (Bunker and Charles 2011). On the basis of field observations and research results, no further archaeological survey was recommended and the project received a determination of no effect from NHDHR (R&C #4356). Therefore, PAL recommends that no archaeological resources will be affected along the previously surveyed portion of the Project and that no additional investigations are necessary.

PAL recommends that for the portions MVRP ROW that have not been surveyed, from the PSNH/NEP junction in Hudson to the New Hampshire/Massachusetts state line in Pelham, that NEP consult with the NHDHR. In New Hampshire this requires the filing of a Request for Project Review (RPR). The foregoing information regarding previously identified cultural resources is included as part of the RPR. Upon review of the RPR, the NHDHR will provide an opinion regarding the potential of the MVRP to impact historic and archaeological resources and a basis for the scope of any additional cultural resource investigations.

## References

Bunker, Victoria and Sheila Charles

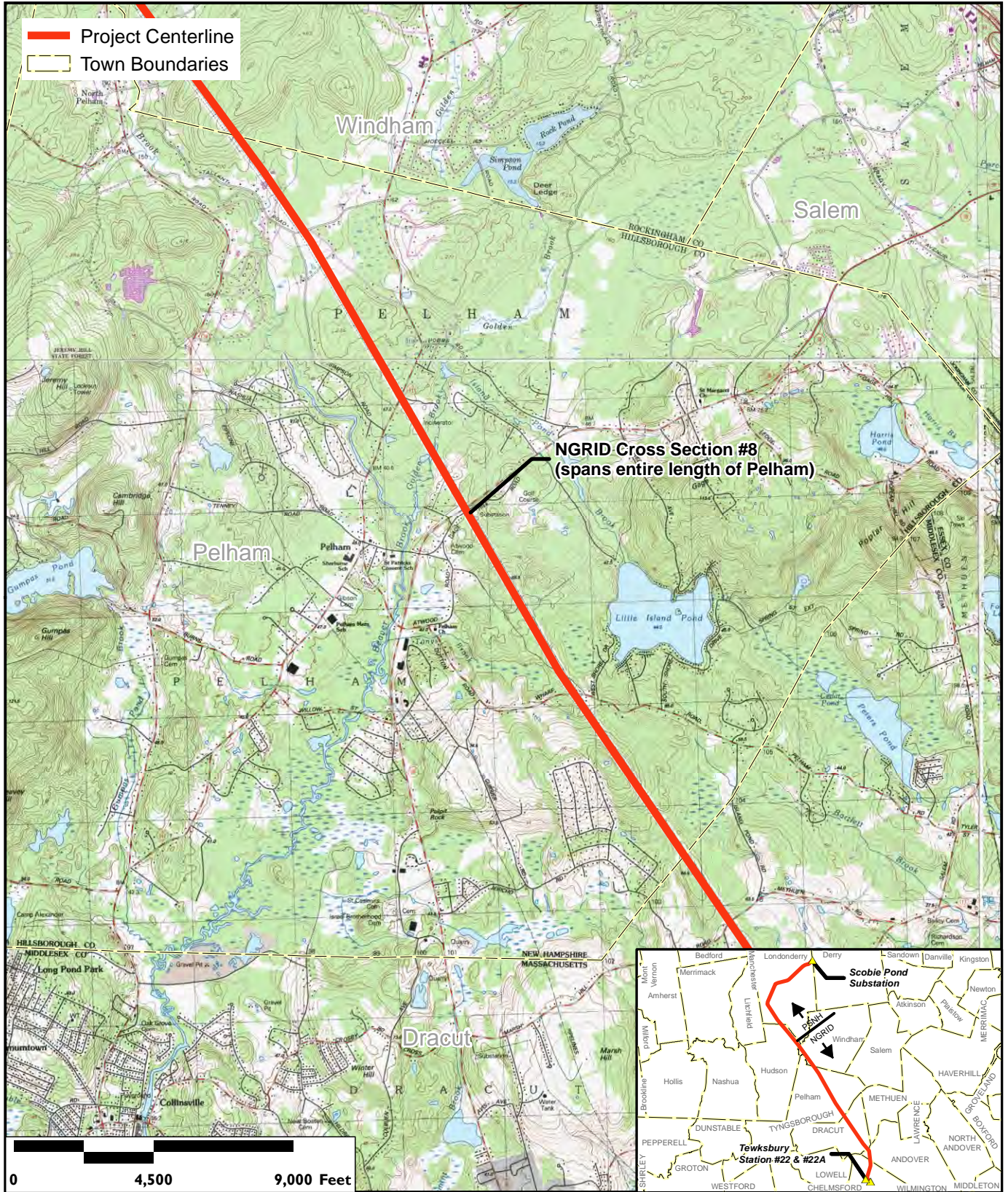
2011 *Preliminary Archaeological Review, PSNH 326 Line, Londonderry and Hudson, NH*. Bibliography Form and Short Report submitted to NHDHR by Victoria Bunker, Inc.

Cassedy, Daniel, Todd Cleveland, Mark Chancellor, and Jeffery Holland

1999 *Cultural Resources Survey of the NH Portion of the Londonderry Lateral Pipeline Replacement Project, Rockingham and Hillsborough Counties, NH*. Submitted by Garrow & Associates.

- Donohue, Barbara, Dawn R. Lassman, Thomas P. Mailhot, and Michael E. Roberts  
2008 *Phases IA and IB Archaeological Survey Z-119 Power Line Right of Way Londonderry, Rockingham County, and Hudson, Hillsborough County, New Hampshire*. Submitted by JMA.
- Gillis, Nichole A., and Dianna L. Doucette  
2006 *Phase I Archaeological Investigation, Tennessee Gas Pipeline, Concord Expansion Project, Pelham and Concord, New Hampshire*. PAL Report No. 2090. Submitted to ENSR Corporation, Sagamore, MA.
- Gillis, Nichole A., and Dianna L. Doucette  
2012 *Intensive (Locational) Archaeological Survey New England Power Company Y151 Transmission Line Reconductoring Project, Tewksbury, Andover, Dracut, and Methuen, Massachusetts*. PAL Report No. 2690. Submitted to New England Power Company, Waltham, MA.
- Hurd, D. Hamilton (editor)  
1892 *Town and City Atlas of the State of New Hampshire*. D.H. Hurd and Co., Boston, MA.
- Hurd, D. Hamilton  
1885 *History of Hillsborough County, New Hampshire*. J.W. Lewis and Co., Philadelphia, PA.
- Sherburne, Mary Killman  
1900 Map of Pelham, New Hampshire. On file at the Pelham Historical Society, Pelham, NH.
- TRC Garrow Associates, Inc.  
1999 *Cultural Resources Survey of the New Hampshire Portion of the AES Londonderry Lateral Pipeline Replacement Project, Rockingham and Hillsborough Counties, New Hampshire*. On file, New Hampshire Historic Preservation Office, Concord, NH.
- United States Geological Survey (USGS)  
1905 *Manchester, New Hampshire*. U.S. Geological Survey, State of Massachusetts, State of New Hampshire.





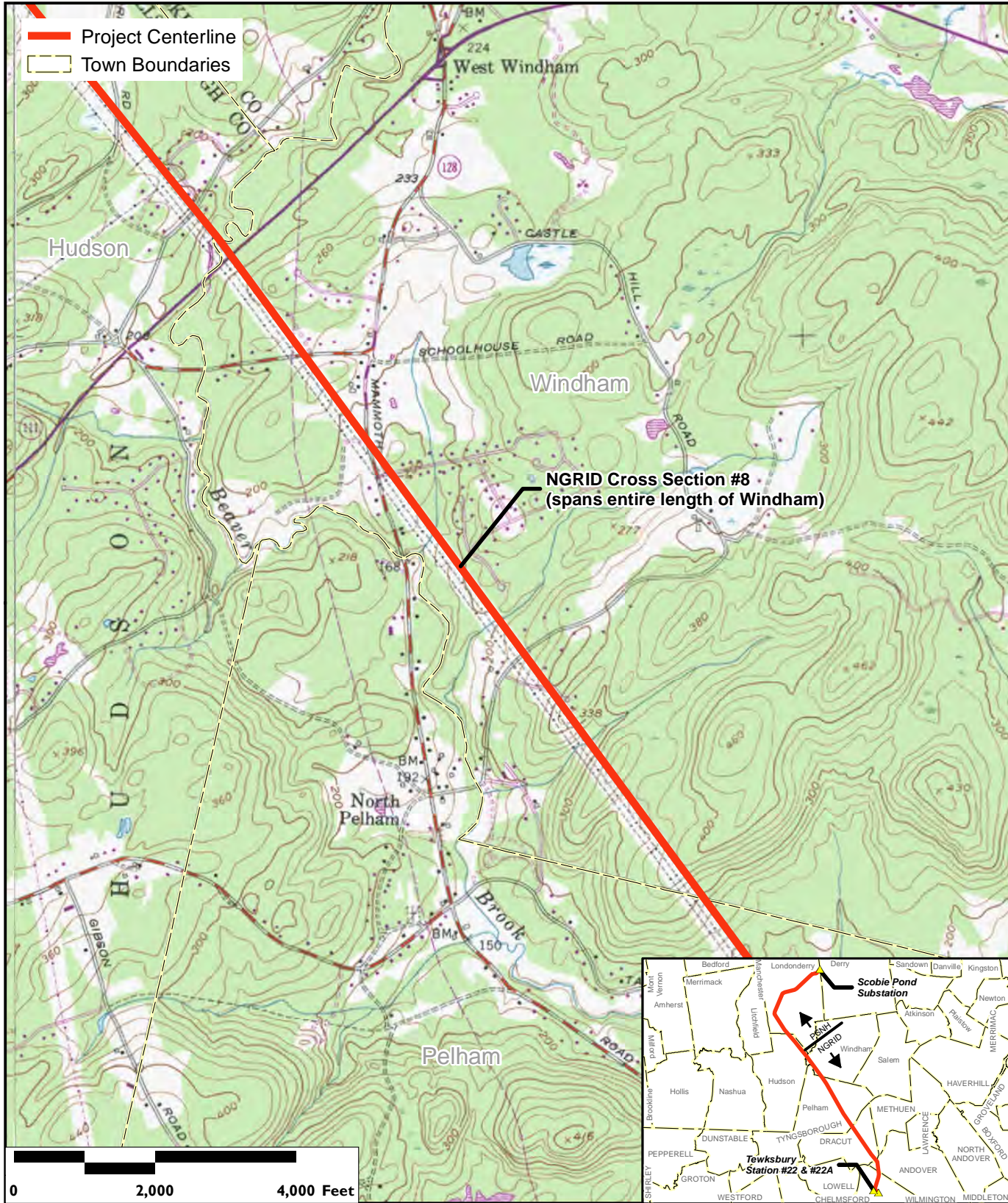
↑  
Scale:  
1 inch = 4,500 feet  
Source:  
ArcGIS Online

Figure 1-1

**Merrimack Valley Reliability Project**  
**Pelham, New Hampshire**  
**January 5, 2015**







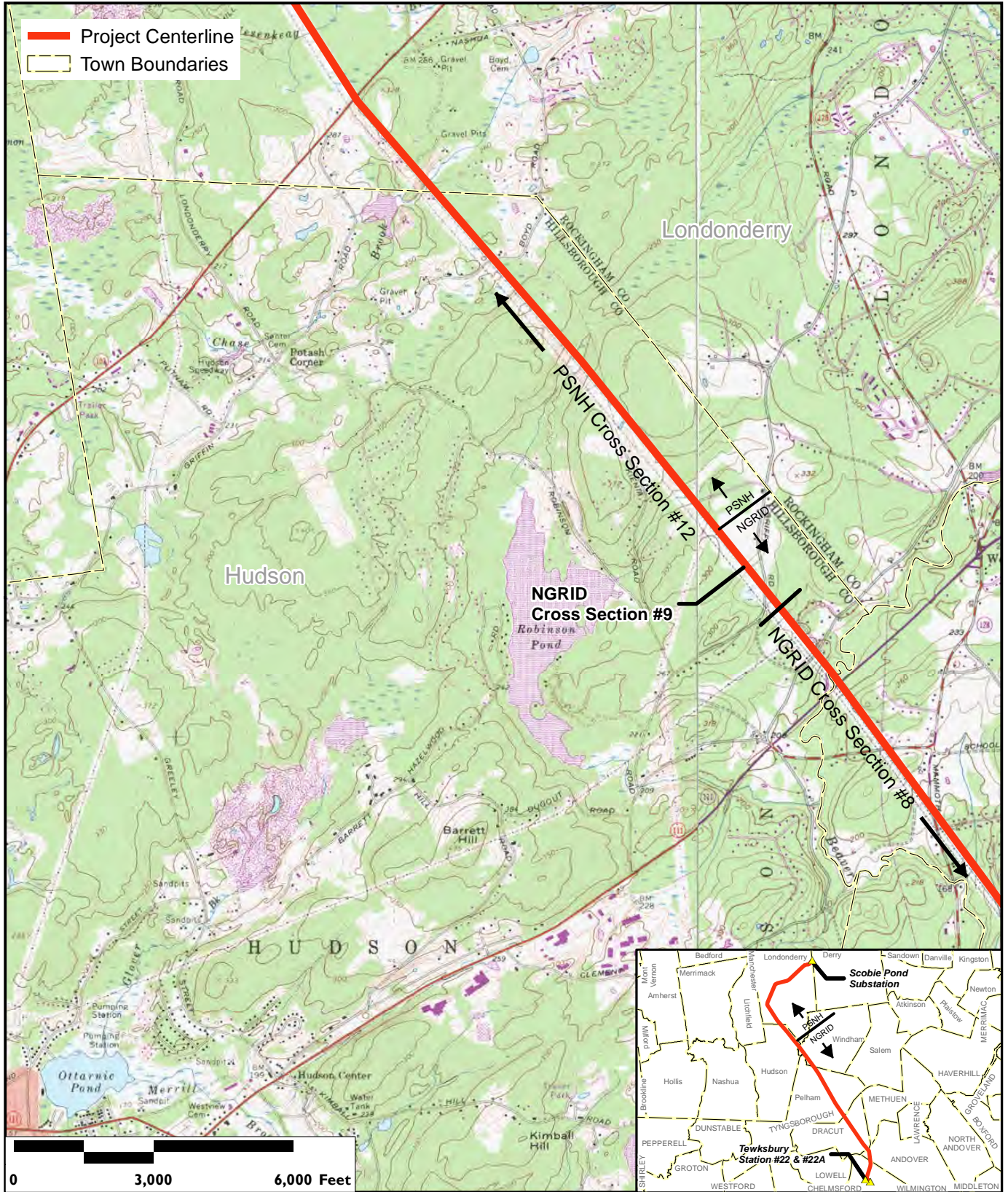
Scale: ↑  
1 inch = 2,000 feet  
Source:  
ArcGIS Online

Figure 1-2

Merrimack Valley Reliability Project  
Windham, New Hampshire  
January 5, 2015





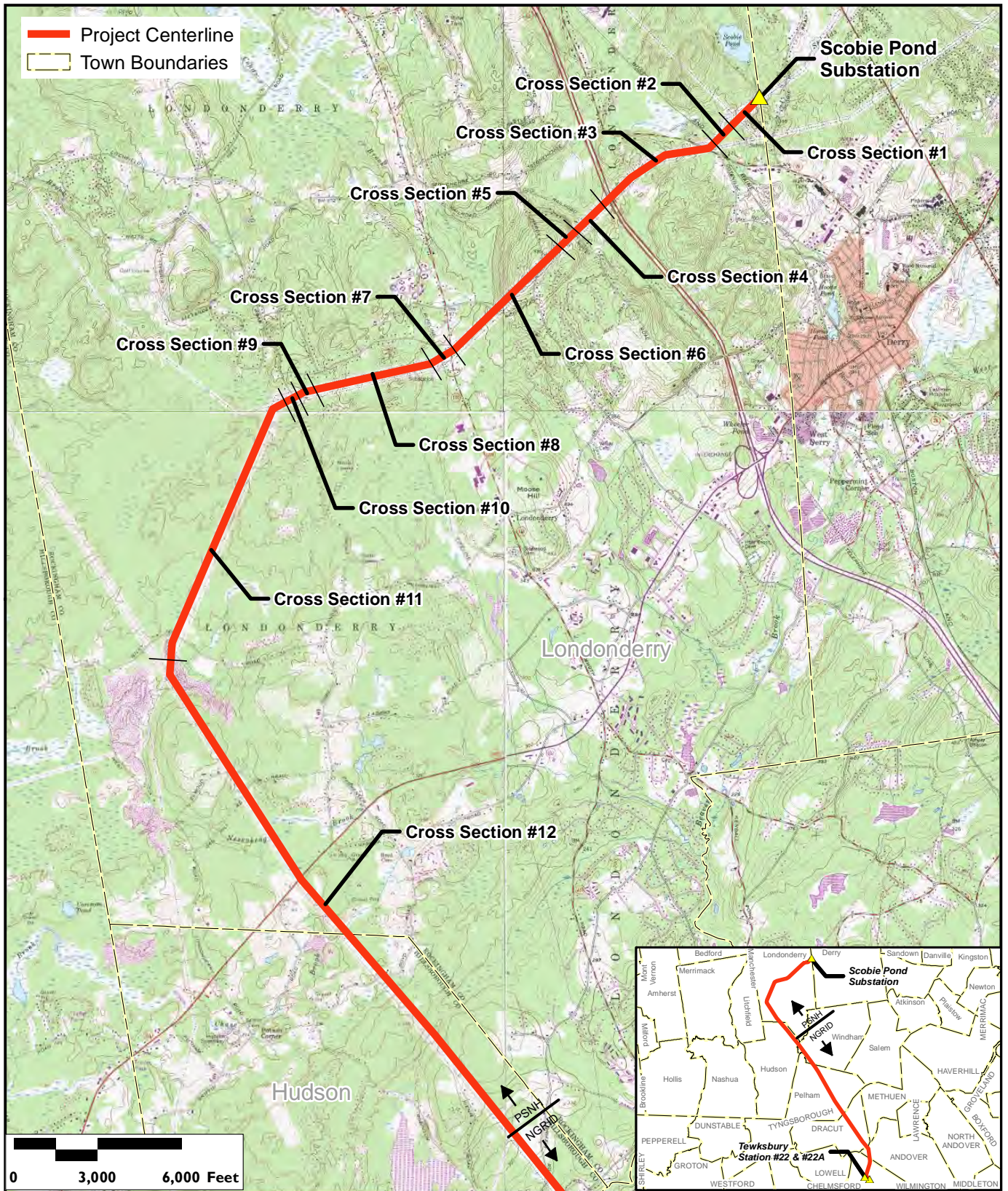


↑  
 Scale:  
 1 inch = 3,000 feet  
 Source:  
 ArcGIS Online

**Figure 1-3**  
**Merrimack Valley Reliability Project**  
**Hudson, New Hampshire**  
**January 5, 2015**







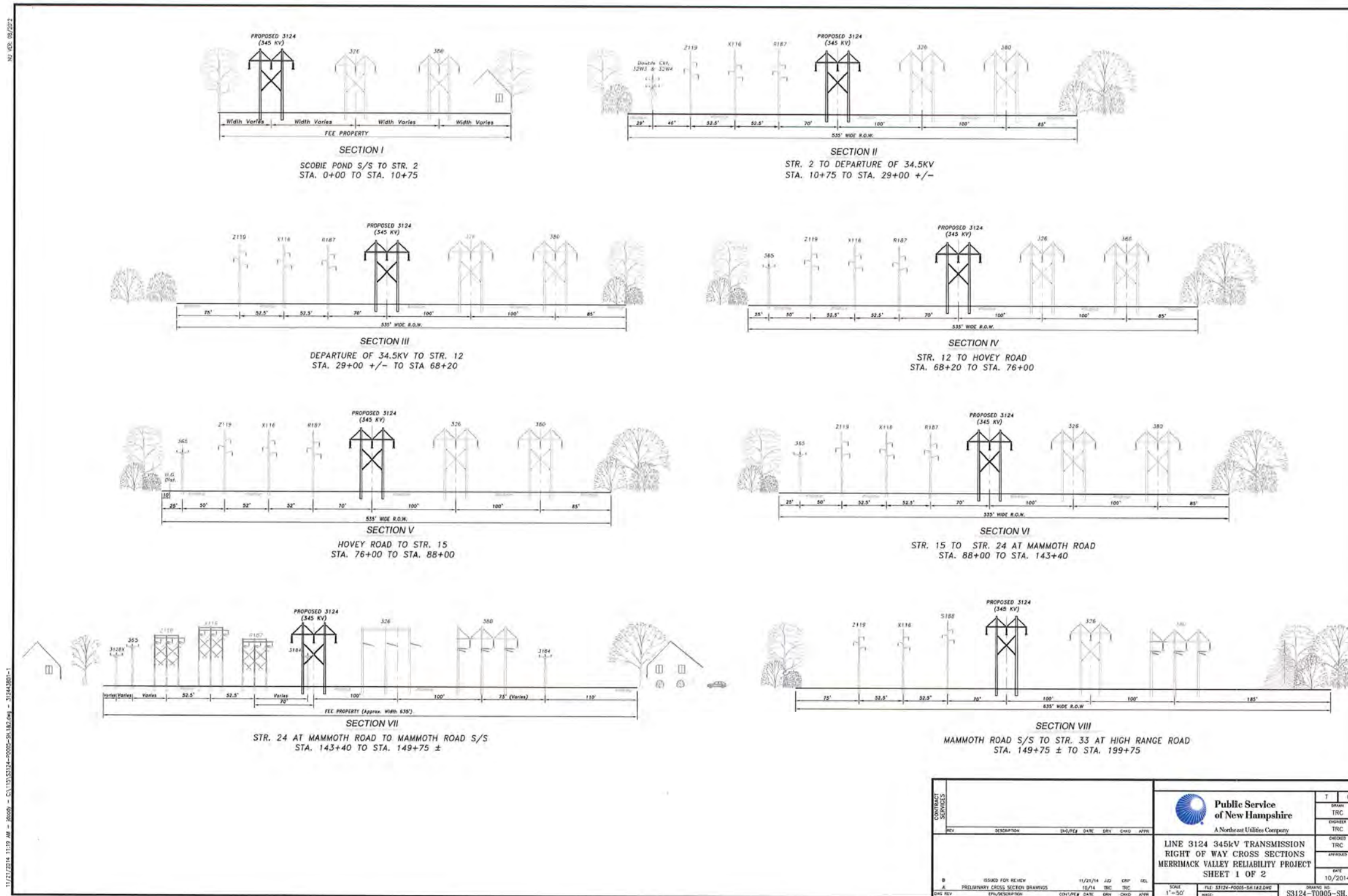
Scale: ↑  
1 inch = 5,000 feet  
Source: ArcGIS Online

Figure 1-4

**Merrimack Valley Reliability Project  
Londonderry, New Hampshire  
January 5, 2015**







Images are not to scale

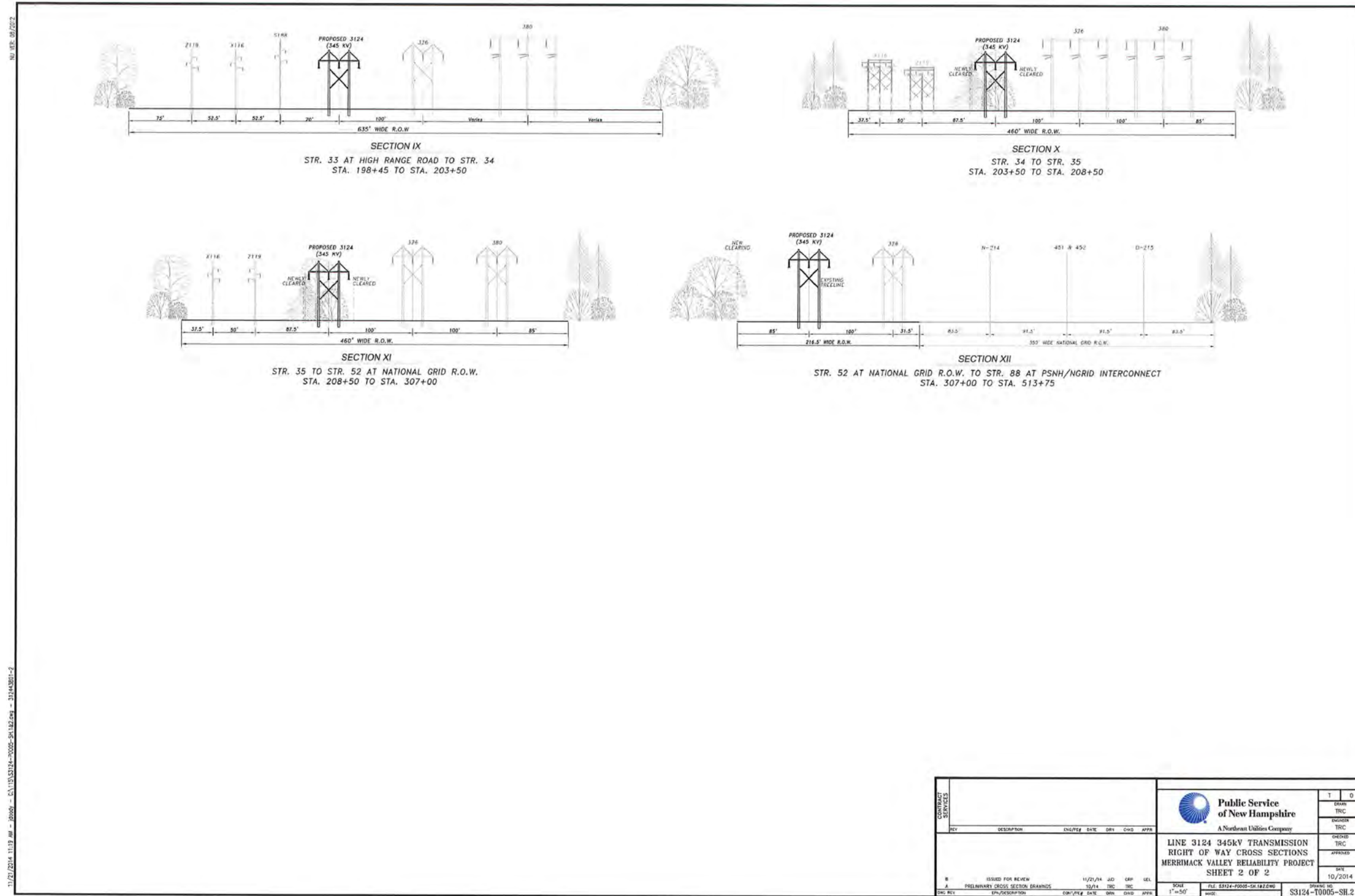
Figure 1-5

Public Service of New Hampshire Cross Sections  
Merrimack Valley Reliability Project



Source:  
PSNH

Date: 1/6/2015



11/27/2014 11:19 AM - 2014 - C:\1\3\3124-3005-SH.12.dwg - 3124-T005-2

T 0	DRAWN TRC
	CHECKED TRC
DATE 10/2014	DESIGNED TRC
	APPROVED
PUBLIC SERVICE OF NEW HAMPSHIRE A Northeast Utilities Company	
LINE 3124 345KV TRANSMISSION RIGHT OF WAY CROSS SECTIONS MERRIMACK VALLEY RELIABILITY PROJECT SHEET 2 OF 2	
ISSUED FOR REVIEW 11/27/14 JCD GJP SEL PRELIMINARY CROSS SECTION DRAWINGS 10/11 TRC TRC SOAR FILE: S3124-T005-SH.12.DWG DRAWING NO: S3124-T005-SH.2 1"=50'	

**Images are not to scale**

**Figure 1-6**

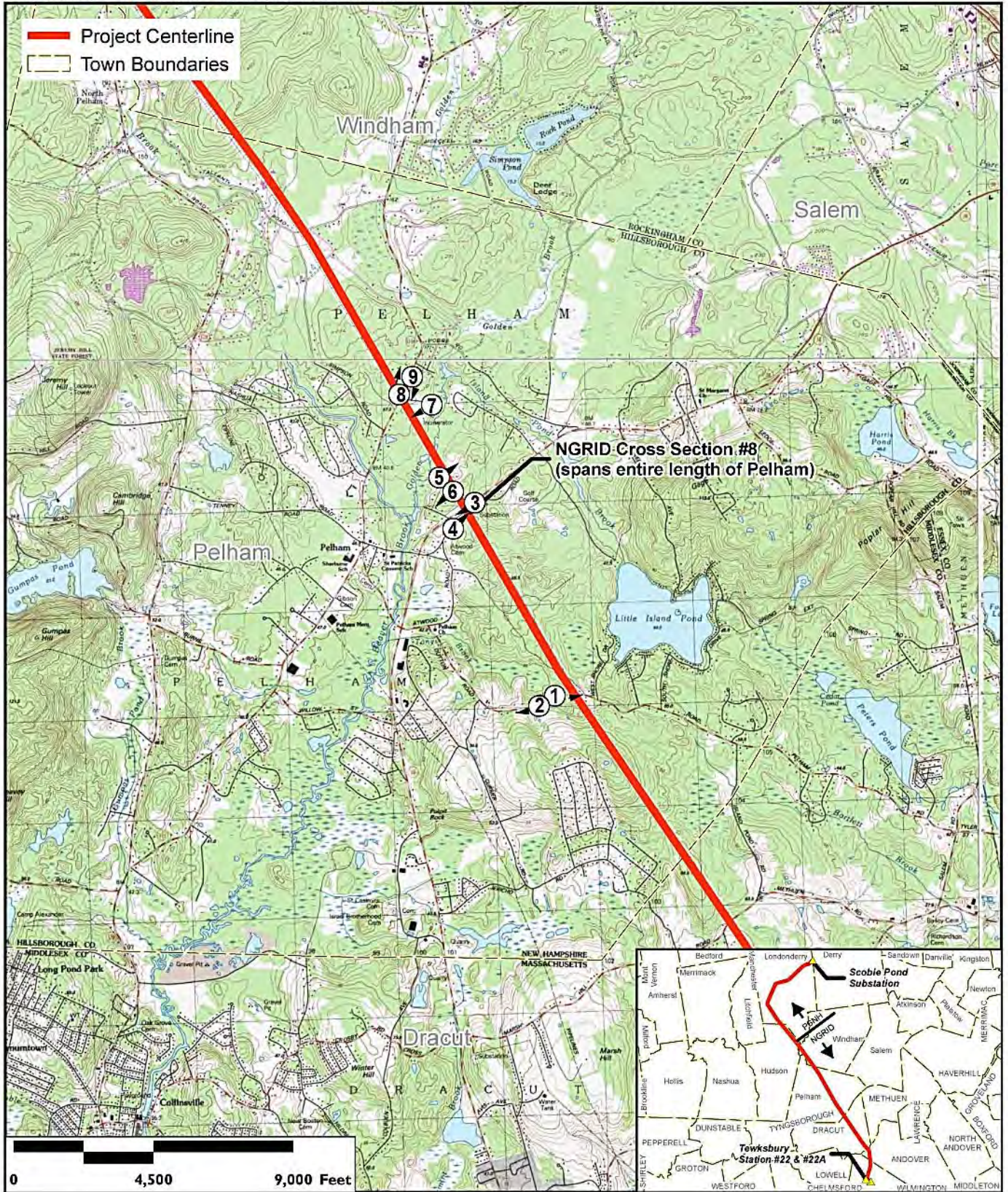
Public Service of New Hampshire Cross Sections  
Merrimack Valley Reliability Project



Source:  
PSNH

Date: 1/6/2015

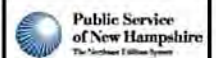




Scale: ↑  
 1 inch = 4,500 feet  
 Source:  
 ArcGIS Online

Figure 2-1

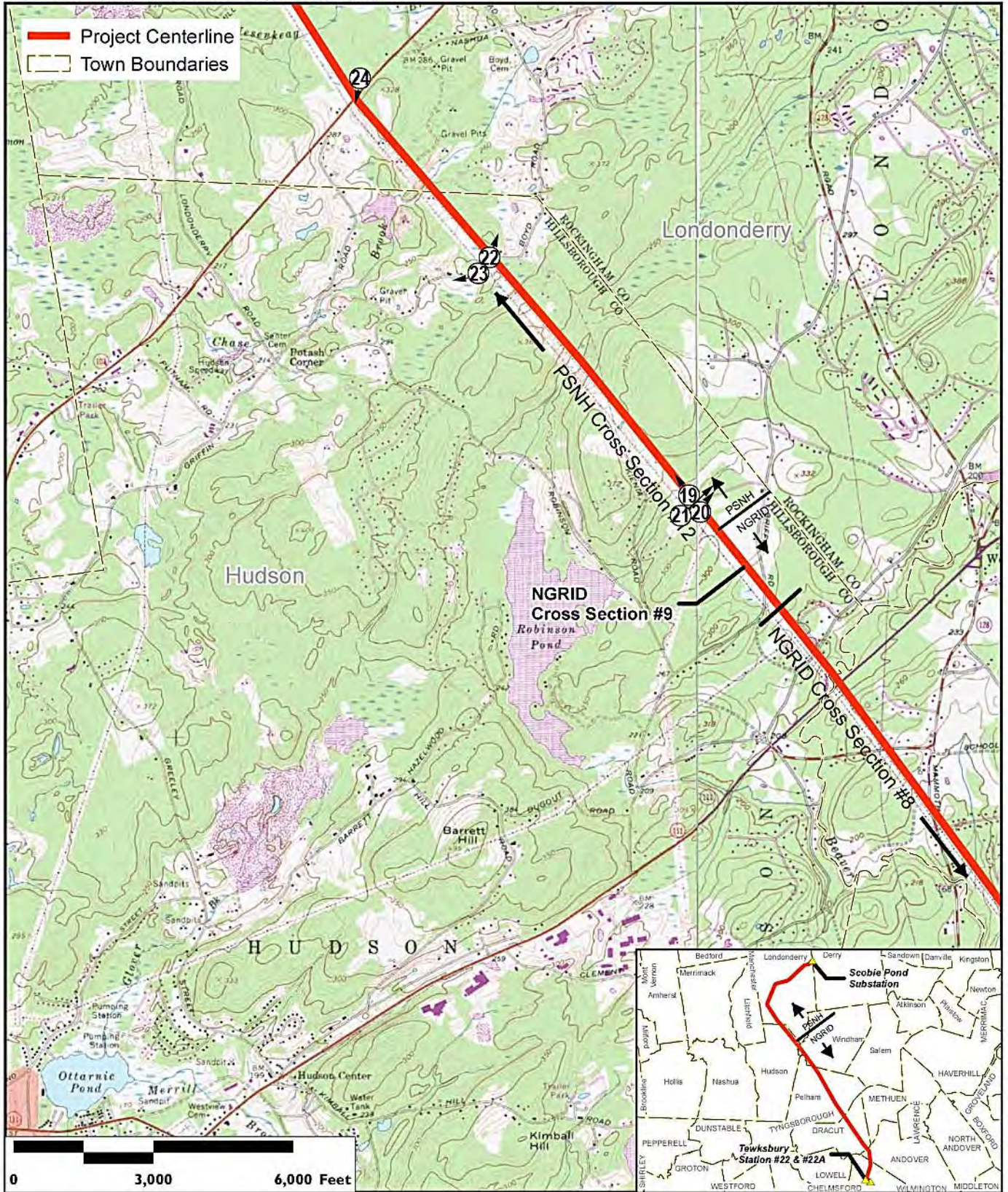
**Merrimack Valley Reliability Project**  
**Pelham, New Hampshire**  
 January 5, 2015











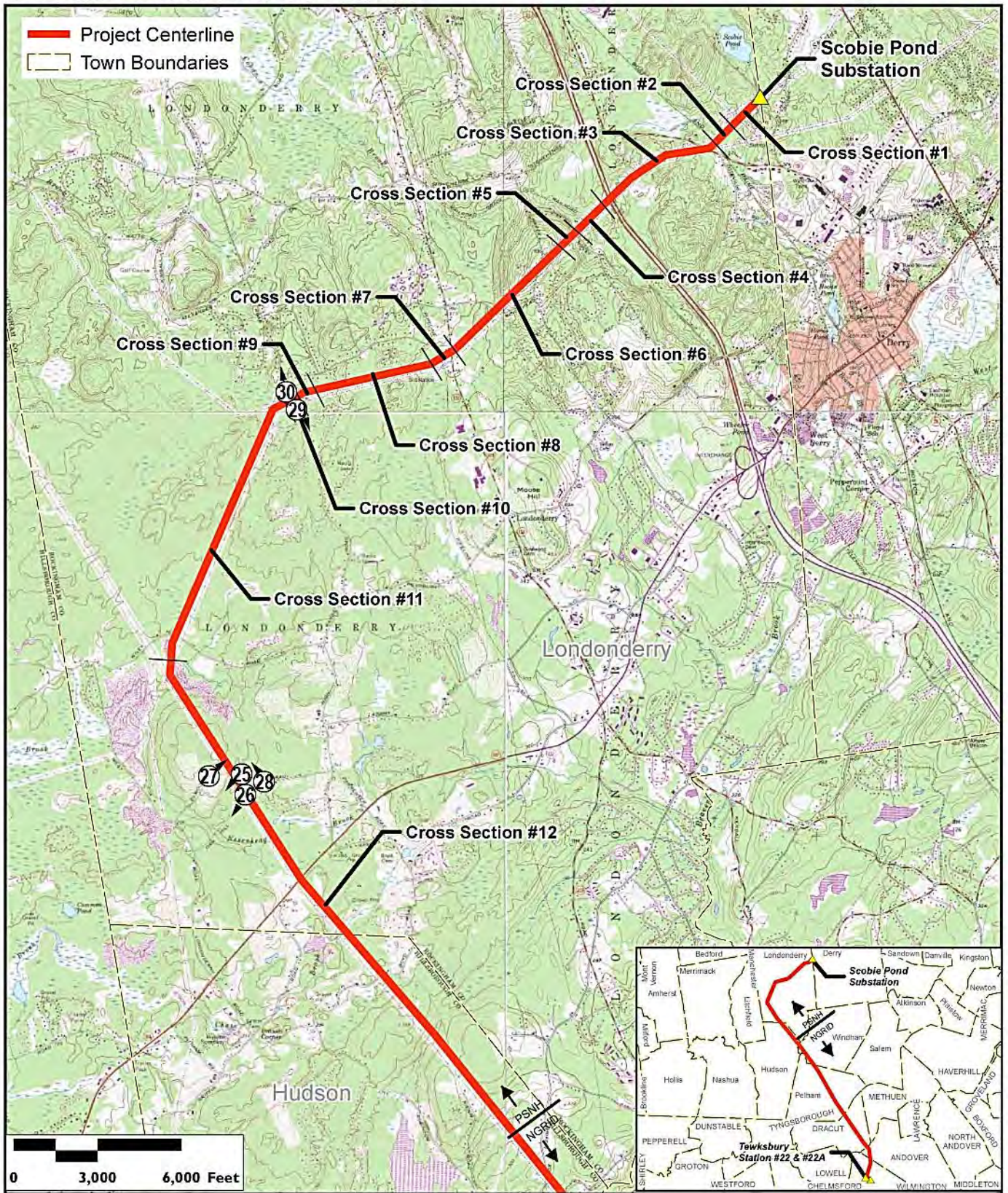
Scale: ↑  
 1 inch = 3,000 feet  
 Source: ArcGIS Online

Figure 2-3

**Merrimack Valley Reliability Project  
 Hudson, New Hampshire  
 January 5, 2015**







Scale: ↑  
1 inch = 5,000 feet  
Source:  
ArcGIS Online

Figure 2-4

**Merrimack Valley Reliability Project**  
**Londonderry, New Hampshire**  
January 5, 2015





**Intersection with Dutton Road, Pelham, NH**



Photograph 1. Looking east towards 65 Dutton Road.



Photograph 2. Looking west up Dutton Road.



**Intersection with Main Street and Bridge Street, Pelham, NH**



Photograph 3. Looking southwest up Bridge Street.



Photograph 4. Looking northeast from Rita Ave towards row of mid-twentieth century Cape-style house on Main Street to the southwest of the Project Area.



**Intersection with Tina Avenue, Pelham, NH**



Photograph 5. Looking east at the Tina Avenue cul-de-sac.



Photograph 6. Looking west from the cul-de-sac down Tina Avenue.



**Intersection with Windham Road and Newcomb Field Park Avenue, Pelham, NH**



Photograph 7. Looking southwest from the Town of Pelham Transfer Station & Recycling Center.



Photograph 8. Looking northeast from the intersection of Windham Road and Newcomb Field Park Avenue.





Photograph 9. Looking southwest from 216 Route Windham Road.

**Intersection with Castle Hill Road, Pelham, NH**



Photograph 10. Looking northeast towards 138 Castle Hill Road.



**Intersection with Glance and Mammoth roads, Windham, NH**



Photograph 3. Looking west at the intersection of Glance and Mammoth roads towards Whispering Winds Housing Development.



Photograph 4. Looking east up Glance Road.





Photograph 5. Looking southwest at Mammoth Road.

**Intersection with Bockes Road, Hudson, NH**



Photograph 6. Looking northeast from 26 Bockes Road.





Photograph 7. Looking northeast across Bockes Road.



Photograph 16. Looking northwest from the intersection of Bockes Road and Hopkins Drive.





Photograph 17. Looking northeast from the intersection of Bockes Road and Hopkins Drive.

**Intersection with Griffin Road, Hudson, NH**



Photograph 18. Looking northeast up Griffin Road.



**Intersection with David Drive, Hudson, NH**



Photograph 19. Looking northwest at Project Area.



Photograph 20. Looking northeast up David Drive.





Photograph 21. Looking northeast from 19 David Drive.

**Intersection with Boyd Road, Londonderry, NH**



Photograph 22. Looking northeast at the Project Area.





Photograph 23. Looking southwest down Boyd Road.

**Intersection with Route 102, Londonderry, NH**



Photograph 24. Looking south across Route 102.



**Intersection with Dan Hill and Elwood roads, Londonderry, NH**



Photograph 25. Looking southwest towards the Project Area.



Photograph 26. Looking southwest at 9 Dan Hill Road.





Photograph 27. Looking northeast at farmstead on Elwood Road.



Photograph 28. Looking northwest from Dan Hill Road at orchard associated with farmstead on Elwood Road.



**Intersection with High Range Road, Londonderry, NH**

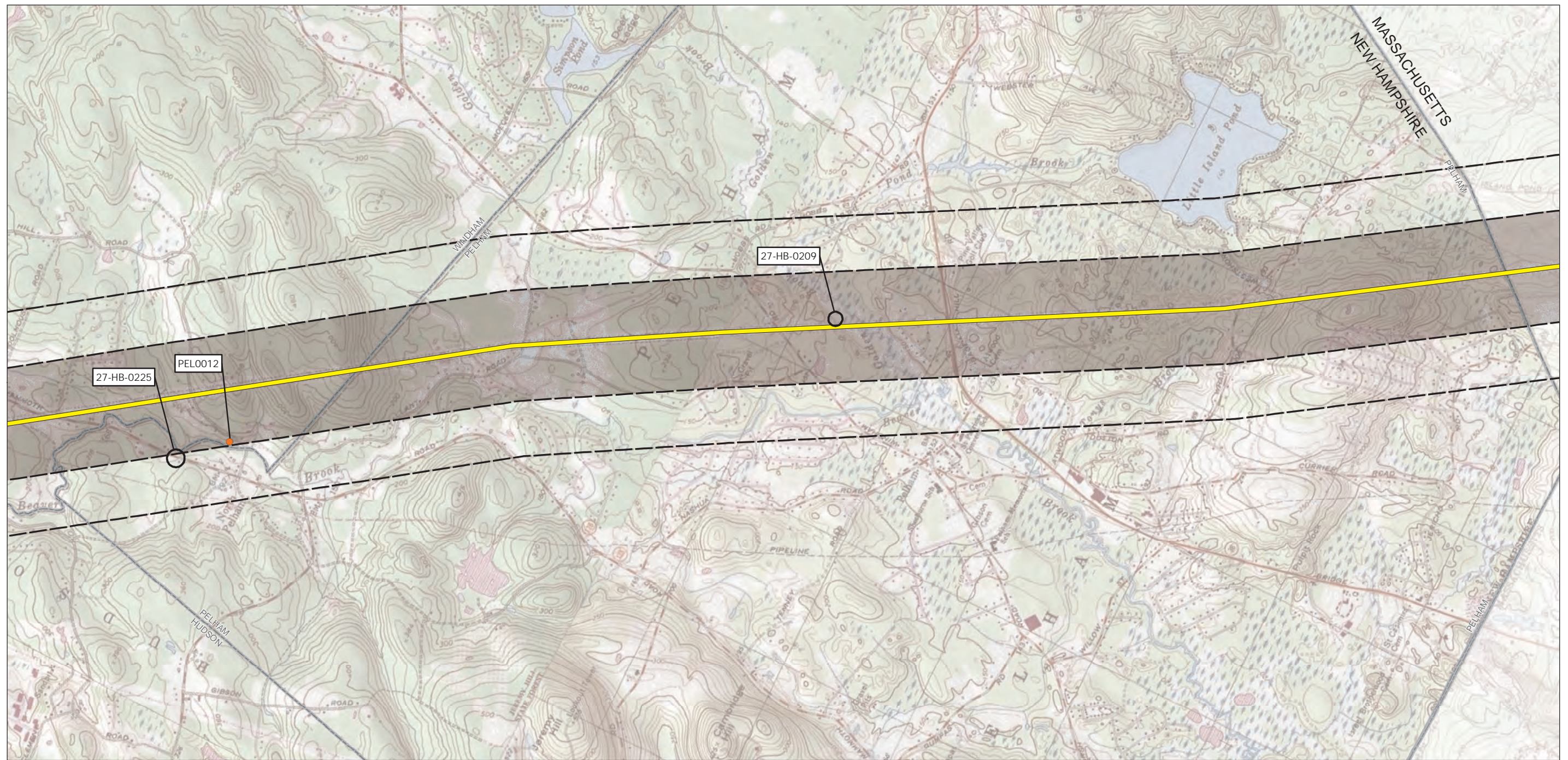


Photograph 29. Looking southeast down High Range Road from Project Area.



Photograph 30. Looking northwest up High Range Road.





Merrimack Valley Reliability Project (MVRP)

- Key:
- MVRP Centerline
  - Aboveground Study Area, 1/4 Mile
  - Archaeological Study Area, 1/2 Mile
  - Aboveground Historic Property
  - Aboveground Historic Area/District
  - Post-contact Archaeological Site
  - Pre-contact Archaeological Site

New Hampshire USGS quadrangles:  
Derry, Manchester South, Nashua North  
Windham, Lowell (NH/MA)

PRIVILEGED INFORMATION - NOT FOR PUBLIC RELEASE

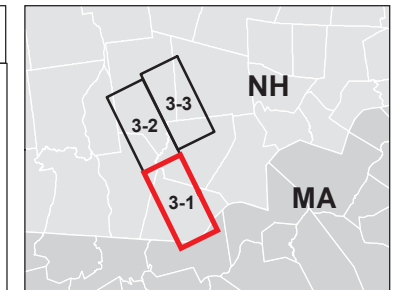
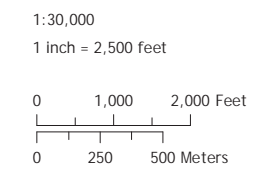
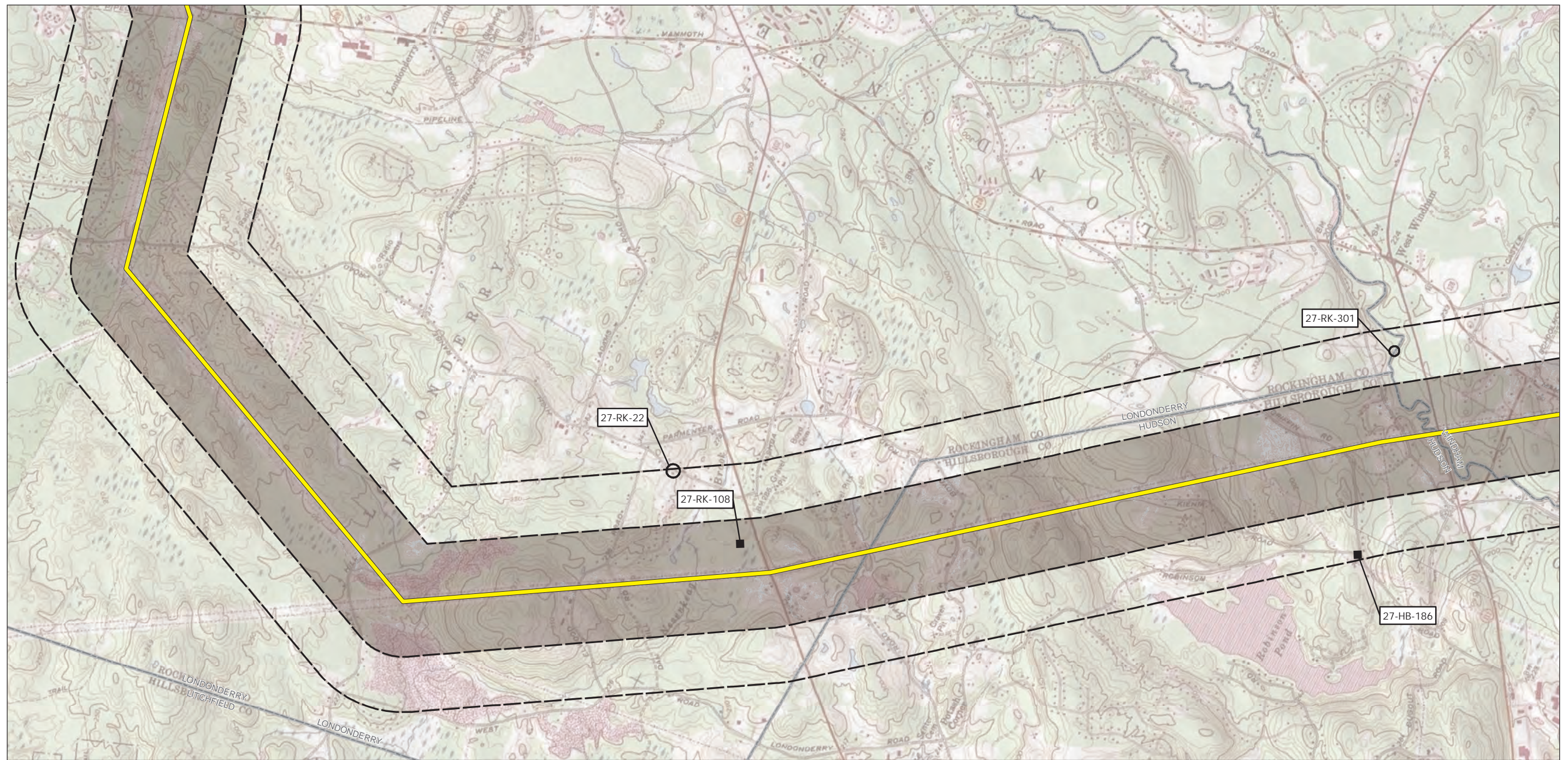


Figure 3-1. Location of aboveground resources within 1/4 mile and archaeological resources within 1/2 mile of the MVRP on USGS topographic quadrangles, 7.5 minute series.





Merrimack Valley Reliability Project (MVRP)

Key:

MVRP Centerline

Aboveground Study Area, 1/4 Mile

Aboveground Historic Property

Aboveground Historic Area/District

Archaeological Study Area, 1/2 Mile

Post-contact Archaeological Site

Pre-contact Archaeological Site

New Hampshire USGS quadrangles:  
Derry, Manchester South, Nashua North  
Windham, Lowell (NH/MA)

PRIVILEGED INFORMATION - NOT FOR PUBLIC RELEASE



1:30,000

1 inch = 2,500 feet

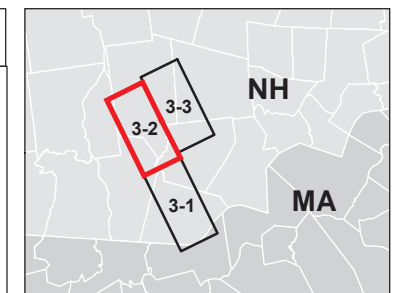
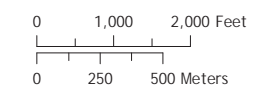
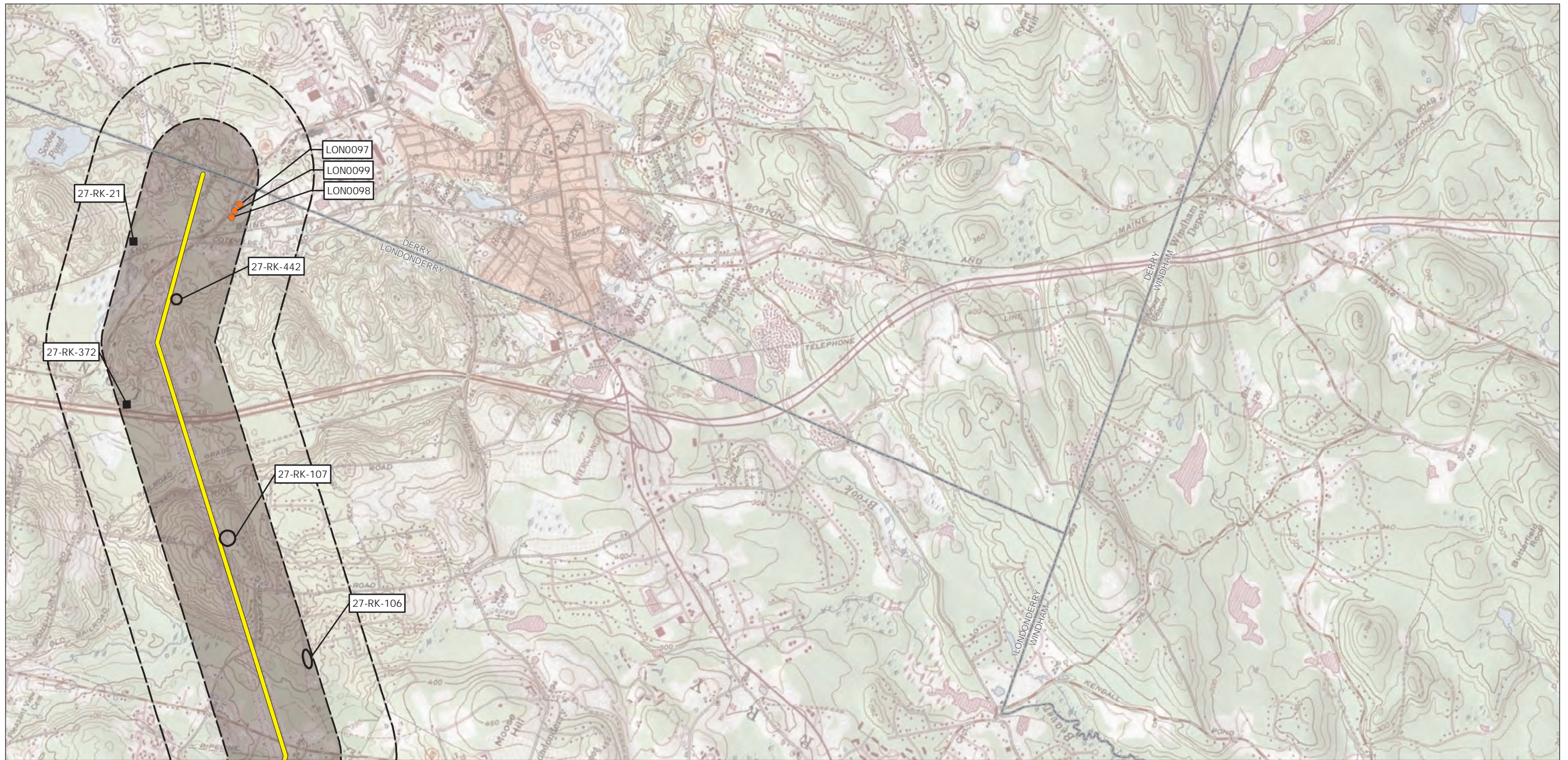


Figure 3-2. Location of aboveground resources within 1/4 mile and archaeological resources within 1/2 mile of the MVRP on USGS topographic quadrangles, 7.5 minute series.





Merrimack Valley Reliability Project (MVRP)

- Key:
- MVRP Centerline
  - Aboveground Study Area, 1/4 Mile
  - Archaeological Study Area, 1/2 Mile
  - Aboveground Historic Property
  - Post-contact Archaeological Site
  - Aboveground Historic Area/District
  - Pre-contact Archaeological Site
  - Pre-contact Archaeological Site

New Hampshire USGS quadrangles:  
Derry, Manchester South, Nashua North  
Windham, Lowell (NH/MA)

PRIVILEGED INFORMATION - NOT FOR PUBLIC RELEASE



1:30,000  
1 inch = 2,500 feet

0 1,000 2,000 Feet  
0 250 500 Meters

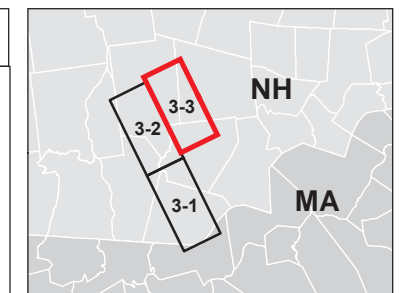


Figure 3-3. Location of aboveground resources within 1/4 mile and archaeological resources within 1/2 mile of the MVRP on USGS topographic quadrangles, 7.5 minute series.