Appendix G

NHDES Shoreland Permit Application, July 9, 2015

Merrimack Valley Reliability Project

Pelham, Windham, Hudson & Londonderry, New Hampshire

PREPARED FOR

New England Power Company d/b/a National Grid
40 Sylvan Road
Waltham, Massachusetts, 02451
781.907.3648

&

Public Service Company of New Hampshire d/b/a
Eversource Energy
13 Legends Drive
Hooksett, New Hampshire 03106
603.634.2906

PREPARED BY

2 Bedford Farms Drive Suite 200
Bedford, NH 03110
603.391.3900

July 9, 2015

www.vhb.com

July 9, 2015

Ref: 12650.00

Ms. Darlene Forst
NHDES Shoreland Program
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Re: NHDES Shoreland Permit Application
Merrimack Valley Reliability Project
Windham & Hudson, New Hampshire

To Ms. Forst:

On behalf of New England Power Company d/b/a National Grid (NEP), Vanasse Hangen Brustlin, Inc. (VHB) is submitting the enclosed New Hampshire Department of Environmental Services (NHDES) Shoreland Permit Application for the Merrimack Valley Reliability Project (MVRP). The MVRP involves the construction of a new overhead 345 kV electric transmission line within an existing right-of-way (ROW) between the NEP-owned Tewksbury 22A Substation in Tewksbury, Massachusetts and the Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH)-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The portion of the MVRP located within New Hampshire that is the subject of this permit application is referred to herein as the "Project". The Project extends from the Massachusetts border in Pelham to the PSNH-owned Scobie Pond 345 kV Substation in Londonderry. The Project proposes approximately 17.9 miles of new transmission line (referred to herein as the "3124 Line") within the Towns of Pelham, Windham, Hudson, and Londonderry. To accommodate the new 3124 Line, the Project also involves relocating 7.6 miles of NEP's existing Y-151 line (existing overhead 115 kV transmission line) within the western edge of the existing NEP ROW in the Towns of Pelham, Windham and Hudson. The Project is being permitted through the New Hampshire Site Evaluation Committee process in accordance with RSA 162-H.

The purpose of the Project is to significantly enhance the reliability of electrical transmission services to the Merrimack Valley region. The MVRP will eliminate potential overloads on several components of the current transmission system that could be experienced under certain contingency conditions. The Project will provide resiliency and increased system flexibility to the region's transmission infrastructure in order to deliver reliable electric service to customers in the area. In doing so, the Project will ensure continued compliance with applicable federal and regional transmission system reliability standards.

The majority of the Project is located outside of the protected shoreland of waterways jurisdictional under *RSA 483-B* apart from two locations in Windham and Hudson where four new electric transmission utility structures are proposed within the protected shoreland of Beaver Brook. ***Proposed structure installation***

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P 603.391.3900
F 603.518.7495

work will result in approximately 105 square feet of permanent shoreland impact. Permanent impacts have been calculated based on the type of utility structure and method of installation proposed at each location and include:

- 15 square feet of permanent impact within the Natural Woodland (150') Buffer, and 75 square feet of permanent impact within the Protected Shoreland (250') Zone in the Town of Windham resulting from installation of Structures 72, 82, and 135; and
- 15 square feet of permanent impact within the Protected Shoreland (250') Zone in the Town of Hudson resulting from installation of Structure 83.

In addition to permanent impacts, ***a total of approximately 35,107 square feet of temporary shoreland impact will result from the use of construction work pads and pull pads centered on each structure during installation.*** Temporary impacts include:

- 317 square feet of temporary impact within the Waterfront (50') Buffer, 9,470 square feet of temporary impact within the Natural Woodland (150') Buffer, and 19,648 square feet of temporary impact within the Protected Shoreland (250') Zone associated with installation of Structures 72, 135, and 82 in the Town of Windham; and
- 5,672 square feet of temporary impact within the Protected Shoreland (250') Zone associated with installation of Structure 83 in the Town of Hudson.

Proposed structure installation work will be confined to previously cleared/maintained upland areas of an existing electric utility ROW. Some selective removal of trees and saplings will occur along the western edge of the ROW adjacent to proposed Structures 72, 82, and 83 in order to protect the relocated Y-151 line, poles and anchors and to achieve required vertical and horizontal line clearance standards. No ground disturbance is anticipated to occur where vegetative clearing is proposed since stumps will remain in the ground. No vegetative maintenance is required at proposed Structure 135. ***A total of approximately 12,891 square feet of vegetative clearing will result from the proposed Project.*** Clearing impacts include:

- 848 square feet of vegetative clearing within the Waterfront (50') Buffer, 3,595 square feet of vegetative clearing within the Natural Woodland (150') Buffer, and 2,267 square feet of vegetative clearing within the Protected Shoreland (250') Zone associated with installation of Structure 72 in the Town of Windham;
- 81 square feet of vegetative clearing within the Natural Woodland (150') Buffer associated with installation of Structure 82 in the Town of Windham; and
- 840 square feet of vegetative clearing within the Waterfront (50') Buffer, 1,120 square feet of vegetative clearing within the Natural Woodland (150') Buffer, and 4,140 square feet of vegetative clearing within the Protected Shoreland (250') Zone associated with installation of Structure 83 in the Town of Hudson.

As indicated in *RSA Chapter 483 Section B:9, Subsection IV-b*, the Commissioner can permit public utility lines and associated structures and facilities as necessary and consistent with the purposes of the Shoreland Water Quality Protection Act and other state law. Given the nature of utility projects, compliance with the minimum shoreland protection standards is not practicable. In most cases the utility holds an easement and is not the underlying landowner. Therefore, the utility has no mechanism to control development of the land outside of the ROW. In addition, line clearance requirements prevent the utility from adhering to waterfront buffer standards for public safety and reliability reasons.

Proposed structure installations will not result in any substantial increase of impervious area. Required equipment and utility trucks will be staged within the existing limits of the cleared project ROW while the work is performed. Appropriate Best Management Practices will be implemented during vegetative clearing and structure installation to prevent the migration of sediment from the Project ROW to Beaver Brook. Sediment and erosion controls are depicted on the Shoreland Permitting Maps.

Initial consultations with the New Hampshire Natural Heritage Bureau (NHNHB) regarding the occurrence of rare plant, animal and natural communities near the Project revealed historical records of ten rare plants, one invertebrate species, two exemplary natural communities, and five vertebrate species within and adjacent to the Project ROW. The NHNHB response memo is attached. VHB, in consultation with NHNHB and the New Hampshire Fish and Game Department (NHF&G), is conducting flora and fauna surveys in 2015 and, as necessary, in 2016 to determine presence of rare plant, animal or natural communities in Project impact areas. Survey protocols have been reviewed and approved by NHNHB and NHF&G. See Natural Resource Agency Correspondence. Avoidance, minimization, and mitigation measures will be developed in coordination with NHNHB and NHF&G, as may be necessary, to protect rare species identified within Project impact areas. Results of surveys and additional agency consultations will be provided to NHDES during the New Hampshire Site Evaluation Committee proceedings.

Note that the Project requires work within wetlands. VHB is submitting a NHDES Wetlands Permit Application to address these impacts. Consistent with the Shoreland Water Quality Protection Act (*RSA 483-B*), this Shoreland Permit Application has been prepared for land disturbances within the 250-foot protected shoreland and outside jurisdictional wetland areas regulated under *RSA 482-A*. In accordance with Section 9 of the Permit Application Form, a check in the amount of $3,621.20 is enclosed to cover the application fee. In accordance with Section 11 of the Permit Application Form, evidence that the Towns of Windham and Hudson have been provided with a copy of the application and supporting materials via certified mail is attached. Lastly, required supporting documentation including a USGS Project Map, Shoreland Permitting Maps and Impact Tables, Representative Shoreland Photographs, Owner/Abutter Information, and Town Tax Maps, Natural Resource Agency Correspondence and Evidence of Town Notification for the Project is enclosed.

Please do not hesitate to call me at (603) 391-3951 or email strefry@vhb.com if you have any questions.

Sincerely,

Sherrie Trefry

Sherrie Trefry
Director of Energy Services

Enclosure

cc: Joshua Holden, NEP
VHB File

NHDES-W-06-037

SHORELAND PERMIT APPLICATION

Water Division/ Shoreland Program
Land Resources Management

Check the status of your application: http://des.nh.gov/onestop

RSA/Rule: RSA 483-B, Env-Wq 1400

Administrative Use Only	Administrative Use Only	Administrative Use Only	File Number:
			Check No.
			Amount:
			Initials:

This is an application for a permit to excavate, fill or construct new structures within the protected shoreland as regulated under RSA 483-B. For a complete list of activities that do not require a shoreland permit, view the shoreland program frequently asked questions (FAQ's)

Please type or print clearly. **Please note:** Application packages missing required elements will be returned to the applicant in their entirety, including the fee. Land Resources Management will include a letter identifying the missing elements and describing how to resubmit the application package to DES. Application packages that are accepted will proceed to technical review to ensure the applicant has fulfilled all requirements as specified by statute or rules. For more information visit the New Land Resources Management Application Return Process site located on the Shoreland Program Page.

1. PROPERTY OWNER			
LAST NAME, FIRST NAME, M.I.: **New England Power Company (NEP)**			
ADDRESS: **40 Sylvan Road, 3rd Floor, East Wing**	TOWN/CITY: **Waltham**	STATE: **MA**	ZIPCODE: **02451-1120**
PHONE: **781-907-3648**	EMAIL: **Joshua.holden@nationalgrid.com**		
2. PROJECT LOCATION			
ADDRESS: **NEP ROW between Winter Street and Mammoth Road, Windham; NEP ROW south of Haverhill Road, Windham; NEP ROW south of Bockes Road, Hudson**	TOWN/CITY: **Windham and Hudson**	STATE: **NH**	ZIPCODE: **03087, 03051**
WATERBODY NAME: **Beaver Brook**	**Existing Electric Utility Right-of-Way**		
	TAX MAP: **19-B; 14-A (Windham); 136 (Hudson)**	LOT NUMBER: **914, 922, 300 (Windham); 033 (Hudson)**	
3. CONTRACTOR OR AGENT			
LAST NAME, FIRST NAME, M.I: **Trefry, Sherrie**			
ADDRESS: **2 Bedford Farms Drive, Suite 200**	TOWN/CITY: **Bedford**	STATE: **NH**	ZIPCODE: **03110**
PHONE: **603-391-3951**	EMAIL: **strefry@vhb.com**		

4. CRITERIA

Please check at least one of the following below:

☒ This shoreland permit application requires neither a proposal to make the property more nearly conforming nor a request for a waiver of a minimum standards.

☐ This shoreland permit application includes a proposal to make the structures and/ or the property more nearly conforming in accordance with RSA 483-B:11

☐ This shoreland permit application includes a request for a waiver of the following minimum standard(s) under RSA 483-B:9, V_____.

5. PROJECT DESCRIPTION

Total Square feet of Impact: **105 square feet of permanent impact**; **35,107 square feet of temporary impact**
Total square feet of new impervious area: **0 square feet**

New England Power Company (NEP) proposes to install four new electric transmission utility structures within the protected shoreland of Beaver Brook along an existing NEP-owned utility right-of-way (ROW) located in Windham and Hudson, New Hampshire. The proposed work is in support of the Merrimack Valley Reliability Project (MVRP). The New Hampshire portion of the MVRP (herein referred to as "the Project") involves construction of a new overhead 345 kV electric transmission line within an existing ROW between the NEP-owned Tewksbury 22A Substation in Tewksbury, Massachusetts and the Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH)-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The Project in New Hampshire will extend from the Massachusetts border in Pelham to the Scobie Pond 345 kV Substation in Londonderry. The Project proposes approximately 17.9 miles of new transmission line (herein referred to as the "3124 Line") within the Towns of Pelham, Windham, Hudson, and Londonderry. To accommodate the new 3124 Line, the Project also involves relocating 7.6 miles of NEP's existing Y-151 line (existing overhead 115 kV transmission line) within the western edge of the existing NEP ROW in the Towns of Pelham, Windham and Hudson.

The majority of the Project is located outside of the protected shoreland of waterways jurisdictional under *RSA 483-B* apart from two locations in Windham and Hudson where four new electric transmission utility structures are proposed within the protected shoreland of Beaver Brook. Proposed structure installation work will result in a total of approximately 105 square feet of permanent impact. Permanent impacts have been calculated based on the type of utility structure and proposed method of installation at each location and include:

- 15 square feet of permanent impact within the Natural Woodland (150') Buffer, and 75 square feet of permanent impact within the Protected Shoreland (250') Zone in the Town of Windham resulting from installation of Structures 72, 135 and 82; and
- 15 square feet of permanent impact within the Protected Shoreland (250') Zone in the Town of Hudson resulting from installation of Structure 83.

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As indicated in *RSA Chapter 483 Section B:9, Subsection IV-b*, the Commissioner can permit public utility lines and associated structures and facilities as necessary and consistent with the purposes of the Shoreland Water Quality Protection Act and other state law. Given the nature of utility projects, compliance with the minimum shoreland protection standards is not practicable. In most cases the utility holds an easement and is not the underlying landowner. Therefore, the utility has no mechanism to control development of the land outside of the ROW. In addition, line clearance requirements prevent the utility from adhering to waterfront buffer standards for public safety and reliability reasons.

Proposed structure installations will not result in any increase of impervious area. Required equipment and utility trucks will be staged within the existing limits of the cleared project ROW while the work is performed. Appropriate Best Management Practices will be implemented during vegetative clearing and structure installation to prevent the migration of sediment from the Project ROW to Beaver Brook.

Refer to the attached **USGS Project Location Map, Shoreland Permitting Plans and Impact Tables, Representative Shoreland Photographs, Owner/Abutter Information and Town Tax Maps, and Natural Resource Agency Correspondence for additional information**.

6. PERMIT APPLICATIONS SUBMITTED

Please indicate if applications for any of the permits listed below have been submitted or will need to be submitted:

☒ Wetlands Permit per RSA 482-A

☐ Individual Sewage Disposal System per RSA 485-A:29

☐ Alteration of Terrain Permit Per RSA 485-A:17

☐ Subdivision Permit Per RSA 485-A:29

7. REFERENCE LINE ELEVATION (REQUIRED FOR LAKES, PONDS, AND ARTIFICIAL IMPOUNDMENTS)

Reference line elevations for most lakes, ponds and artificial impoundments greater than 10 acres in size are listed in the Consolidated List of Waterbodies Subject to the Shoreland Water Quality Protection Act. Please see RSA 483-B:4, xvii for the definition of reference line.

The reference line for this waterbody is: N/A Feet

8. SHORELAND FRONTAGE Shoreland frontage is the actual frontage along the waterfront measured at the reference line.

The shoreland frontage on this lot is : _____ Linear Feet

☒ N/A – No Direct frontage on this lot – project is located within an existing ROW.

9. APPLICATION FEE

A non-refundable permit application fee of $100 plus $0.10 per total square foot of is required at the time the application is submitted. Fees are capped at $750 for projects impacting less than 10,000 sq ft, $1,875 for projects impacting between 10,000 and less than 25,000 sq ft, and $3,750 for projects impacting 25,000 sq ft and greater. Please note that your application will not be considered complete if it does not include the appropriate fee. **Please make checks payable to the Treasurer, State of NH.**

10. CALCULATING THE TOTAL IMPACT AREA AND PERMIT APPLICATION FEE

Total impact area is calculated by determining the sum of all areas disturbed by regrading, excavation, filling, construction, and structure removal. Impacts often include, but are not limited to: constructing new driveways, constructing new structures, areas disturbed when installing a new septic system or foundation, creating temporary access roads for the purpose of installing a well and regrading associated with landscaping activities.

Total Area Impacted within 250 Of the Reference Line. = 35,212 **(A) Square Feet**

Multiply the total Impact Area By 10¢ **and** add $100.00. **[(A) X .10 + $100.00] =** $ 3,621.20 **Permit Fee**

11. REQUIRED CERTIFICATIONS

By initialing within the blank before each of the following statements, and signing below, you are certifying that: to the best of my knowledge, the information provided is true, complete and not misleading.

JH I understand that any permit or waiver granted based on false, incomplete, or misleading information shall be subject to revocation.

JH I am aware that obtaining a shoreland permit will not exempt the work I am proposing from other state, local or federal approvals.

JH I have notified the municipality or municipalities in which the proposed impacts are located and provided them with a complete copy of the application and all supporting materials on 6 / 19 / 2015 via certified mail.

___ This project is within ¼ mi of a designated river **(river name: N/A)** and I have notified the Local River Management Advisory Committee by providing them with a copy of the complete application, including all supporting materials, via certified mail on **day:** __ **month: year:** ____ and I have included a copy of the certified mail receipt in the application submittal (RSA **482-A:3,I(d)(2)**)

☒ This project is **not** within ¼ mi of a designated river

____I have notified all abutters of the proposed impacts via certified mail as required by RSA 483-B:5-b, iv-a. (see definition of "abutter" on page (6). **N/A - All project work is located within an existing electric utility ROW.

12. SIGNATURES (Both must sign per Env-Wq 1406.08)

OWNER NAME	John Holden for NEP	PRINT NAME LEGIBLY: Joshua Holden	DATE: 6/23/15
APPLICANT NAME	John Holden for NEP	PRINT NAME LEGIBLY: Joshua Holden	DATE: 6/23/15

Please mail this application and all other attachments to the Department of Environmental Services Wetlands Bureau, PO Box 95, Concord NH 03302-0095. Missing information will delay processing of your application and may result in denial of a Shoreland Permit.

IMPERVIOUS AREA THRESHOLDS

DETERMINING IF A STORMWATER MANAGEMENT PLAN IS REQUIRED
☒ This project does not require a stormwater management plan because the proposed post-construction impervious area (**Calculation E**) is less than or equal to 20%.
☐ This project requires a stormwater management plan because the proposed post-construction impervious area (**Calculation E**) is greater than 20%, but not greater than 30%. See details on the *Checklist of Required Items* on page 6
☐ This project requires a stormwater management plan designed and certified by a professional engineer because the post-construction impervious area **(Calculation E)** is greater than 30%; and All waterfront buffer grid segment must meet at least the minimum required tree and sapling point score. See details on the *Checklist of Required Items* on page 6

UNALTERED STATE REQUIREMENT

CALCULATING THE AREA TO REMAIN IN AN UNALTERED STATE	
Total area of the lot between 50 ft and 150 ft of the reference line within which the vegetation currently exists in an unaltered state[3] **(see definition below)**. If this area is completely altered, place a zero on line **(F)** and **(I)** and proceed to **(J)**.	**(F) N/A – Existing Electric Utility ROW**
Total area of the lot between 50 ft and 150 ft from the reference line	**(G) N/A – Existing Electric Utility ROW**
At least 25 percent of the vegetation within area **(G)** must remain in an unaltered state. [.25 x G]	**(H) N/A – Existing Electric Utility ROW**
Place the smaller of line **(F)** and calculation **(H)** on this line. In order to remain compliant with RSA 483-B:9, V(b), this is the minimum area that must remain in an unaltered state between 50 ft and 150 ft from the reference line. This area must be represented on all plans.	**(I) N/A – Existing Electric Utility ROW**
Name of person who prepared this worksheet:	**(J) Sherrie Trefry**
Name and date of the plan this worksheet is based upon:	**(K) N/A**
SIGNATURE: _____	DATE:

[3] **"Unaltered State"** means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health.

IMPERVIOUS AREA THRESHOLDS

DETERMINING IF A STORMWATER MANAGEMENT PLAN IS REQUIRED
☒ This project does not require a stormwater management plan because the proposed post-construction impervious area (**Calculation E**) is less than or equal to 20%.
☐ This project requires a stormwater management plan because the proposed post-construction impervious area (**Calculation E**) is greater than 20%, but not greater than 30%. See details on the *Checklist of Required Items* on page 6
☐ This project requires a stormwater management plan designed and certified by a professional engineer because the post-construction impervious area **(Calculation E)** is greater than 30%; and All waterfront buffer grid segment must meet at least the minimum required tree and sapling point score. See details on the *Checklist of Required Items* on page 6

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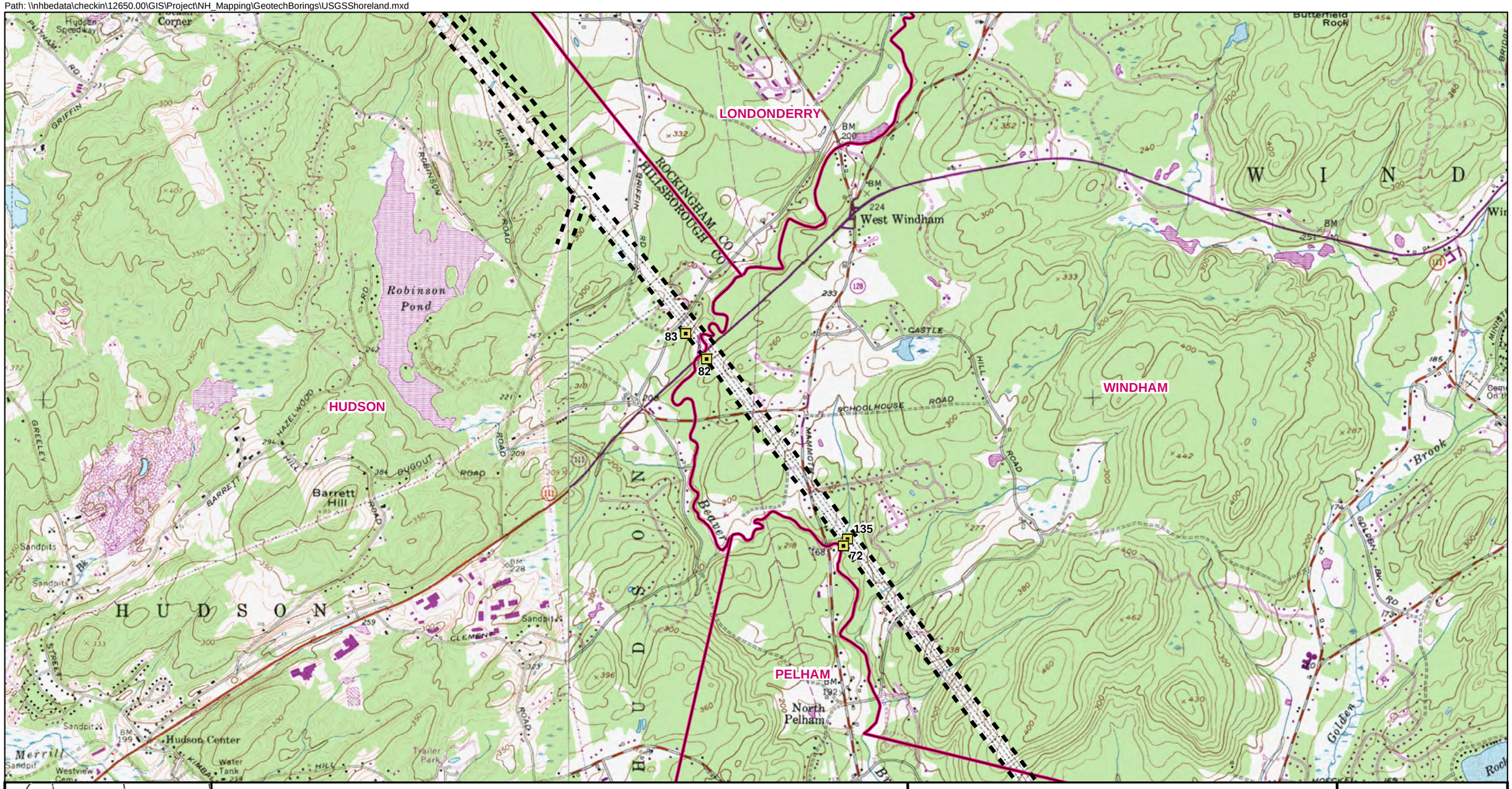
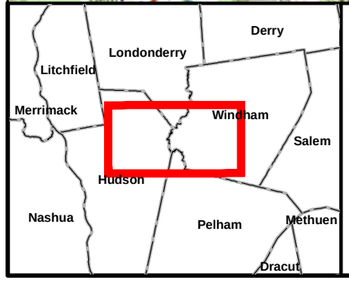
At least 25 percent of the vegetation within area **(G)** must remain in an unaltered state. [.25 x G]	**(H)** N/A – Existing Electric Utility ROW
Place the smaller of line **(F)** and calculation **(H)** on this line. In order to remain compliant with RSA 483-B:9, V(b), this is the minimum area that must remain in an unaltered state between 50 ft and 150 ft from the reference line. This area must be represented on all plans.	**(I)** N/A – Existing Electric Utility ROW
Name of person who prepared this worksheet:	**(J)** Sherrie Trefry
Name and date of the plan this worksheet is based upon:	**(K)** N/A
SIGNATURE: Sherrie Trefry	DATE: 7/9/15

[3] **"Unaltered State"** means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health.

USGS Project Location Map

Path: \\nhbedata\checkin\12650.00\GIS\Project\NH_Mapping\GeotechBorings\USGSShoreland.mxd





Proposed Structure

Surveyed ROW Boundary

Town Boundaries

1 Inch = 2,000 Feet

0 1,000 2,000 4,000

Feet

MERRIMACK VALLEY RELIABILITY PROJECT

Figure 1
USGS Locus Map
Shoreland Permitting
Windham and Hudson, NH

Source:
NGRID,Black & Veatch,VHB
WSP-SELLS,PSNH,Normandeau

Date: 5/29/2015

nationalgrid

EVERSOURCE ENERGY

Shoreland Permitting Maps & Impact Tables

Path: \\nhbedata\checkin\12650.00\GIS\Project\NH_Mapping\GeotechBorings\ShorelandStr73and135_PBN.mxd

BEAVER BROOK

PELHAM

848 sq. ft. of tree clearing within Waterfront Buffer

2325 sq. ft. of tree clearing within Natural Woodland Buffer

2267 sq. ft. of tree clearing within Protected Shoreland Zone

317 sq. ft. of temporary impact from work pad within Waterfront Buffer

1270 sq. ft. of tree clearing within Natural Woodland Buffer

72

15 sq. ft. of permanent impact from new pole installation and 7,592 sq. ft. of temporary impact from work pad within Natural Woodland Buffer

11 sq. ft. of temporary impact from work pad within Protected Shoreland Zone

135

NEP

25 sq. ft. of permanent impact from new pole installation and 11,065 sq. ft. of temporary impact from work pad within Protected Shoreland Zone

WA 65

WA 66

WINDHAM

19-B-913

19-B-912

19-B-914

19-B-1000

19-B-906

19-B-903

19-B-905

19-B-904

19-B-922

19-B-921

19-B-919

19-B-920

WINTER ST

AUTUMN ST

- Proposed Structure
- Primary Access
- Surveyed ROW Boundary
- Protected Shoreland Zone (250')
- Natural Woodland Buffer (150')
- Waterfront Buffer (50')
- Delineated Wetland Edge
- Estimated Wetland Edge
- Wetland Resource Area
- Open Water
- Delineated Intermittent Stream
- Shoreland Reference Line
- USGS Stream
- FEMA 100-yr Floodplain
- Construction Work Pad
- Tree Clearing Area
- Erosion Control
- Property Lines
- Town Boundaries

1 Inch = 100 Feet

0 50 100 200

Feet

MERRIMACK VALLEY RELIABILITY PROJECT

Figure 2
Shoreland Permitting Map
Structures 72 and 135
Windham, NH

Source:
NGRID,Black & Veatch,VHB
Beals & Thomas,Eversource,Normandeau

Date: 5/29/2015

nationalgrid

EVERSOURCE ENERGY

Path: \\nhbedata\checkin\12650.00\GIS\Project\NH_Mapping\GeotechBorings\ShorelandStr83and84_PBN.mxd

81 sq. ft. of tree clearing within Natural Woodland Buffer

50 sq. ft. of permanent impact from new pole installation and 8,572 sq. ft. of temporary impact from pull pad within Protected Shoreland Zone

1,878 sq. ft. of temporary impact from pull pad within Natural Woodland Buffer

840 sq. ft. of tree clearing within Waterfront buffer

1120 sq. ft. of tree clearing within Natural Woodland Buffer

4140 sq. ft. of tree clearing within Protected Shoreland Zone

15 sq. ft. of permanent impact from new pole installation and 5,672 sq. ft. of temporary impact from work pad within Protected Shoreland Zone

82

83

WINDHAM

HUDSON

NEP

WA 72

WA 73

Beaver Brook

HAVERHILL RD (RTE 111)

BOCKES RD

MCCRADY

14-A-300

14-A-757

136-012-000

136-013-000

136-034-000

136-035-000

136-033-000

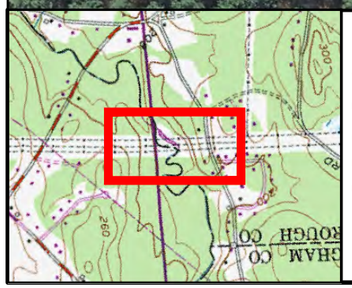
136-014-000

136-015-000

136-032-000

136-023-000

136-031-000



- Proposed Structure
- Primary Access
- Surveyed ROW Boundary
- Protected Shoreland Zone (250')
- Natural Woodland Buffer (150')
- Waterfront Buffer (50')
- Delineated Wetland Edge
- Estimated Wetland Edge
- Wetland Resource Area
- Open Water
- Shoreland Reference Line
- Delineated Intermittent Stream
- USGS Stream
- FEMA 100-yr Floodplain
- Construction Work Pad
- Pull Pad
- Erosion Control
- Property Lines
- Town Boundaries

1 Inch = 125 Feet

0 62.5 125 250

Feet

MERRIMACK VALLEY RELIABILITY PROJECT

Figure 3
Shoreland Permitting Map
Structures 82 and 83
Windham and Hudson, NH

Source:
NGRID,Black & Veatch,VHB
Beals & Thomas,Eversource,Normandeau

Date: 6/17/2015

nationalgrid

EVERSOURCE ENERGY

Table 1 : MVRP Permanent Shoreland Impacts (Square Feet) by Reference Zone

Structure ID	Line ID	Structure Type/ Installation Method	Town	Shoreland Reference Zones – Beaver Brook		
				Waterfront Buffer Zone (50 feet)	Natural Woodland Buffer Zone (150 feet)	Protected Shoreland (250 feet)
72	Y-151	Single Steel/ Direct Embed	Windham	0	15	0
135	3124	Two-Pole Steel H-Frame/Direct Embed	Windham	0	0	25
82	Y-151	Single Steel/Caisson	Windham	0	0	50
83	Y-151	Single Steel/Direct Embed	Hudson	0	0	15
Total Impacts (Square Feet):				**0**	**15**	**90**

Table 2 : MVRP Temporary Shoreland Impacts (Square Feet) by Reference Zone

Structure ID	Line ID	Impact Type	Town	Shoreland Reference Zones – Beaver Brook		
				Waterfront Buffer Zone (50 feet)	Natural Woodland Buffer Zone (150 feet)	Protected Shoreland (250 feet)
72	Y-151	Construction Work Pad	Windham	317	7,592	11
135	3124	Construction Work Pad	Windham	0	0	11,065
82	Y-151	Pull Pad	Windham	0	1,878	8,572
83	Y-151	Construction Work Pad	Hudson	0	0	5,672
Total Impacts (Square Feet):				**317**	**9,470**	**25,320**

Table 3 : MVRP Shoreland Clearing Impacts (Square Feet) by Reference Zone

Structure ID	Line ID	Impact Type	Town	Shoreland Reference Zones – Beaver Brook		
				Waterfront Buffer Zone (50 feet)	Natural Woodland Buffer Zone (150 feet)	Protected Shoreland (250 feet)
72	Y-151	Clearing	Windham	848	3,595	2,267
82	Y-151	Clearing	Windham	0	81	0
83	Y-151	Clearing	Hudson	840	1,120	4,140
Total Impacts (Square Feet):				**1,688**	**4,796**	**6,407**

Representative Shoreland Photographs

Representative Shoreland Photographs – October 8, 2014
MVRP Proposed Structure Installations in Windham and Hudson, NH

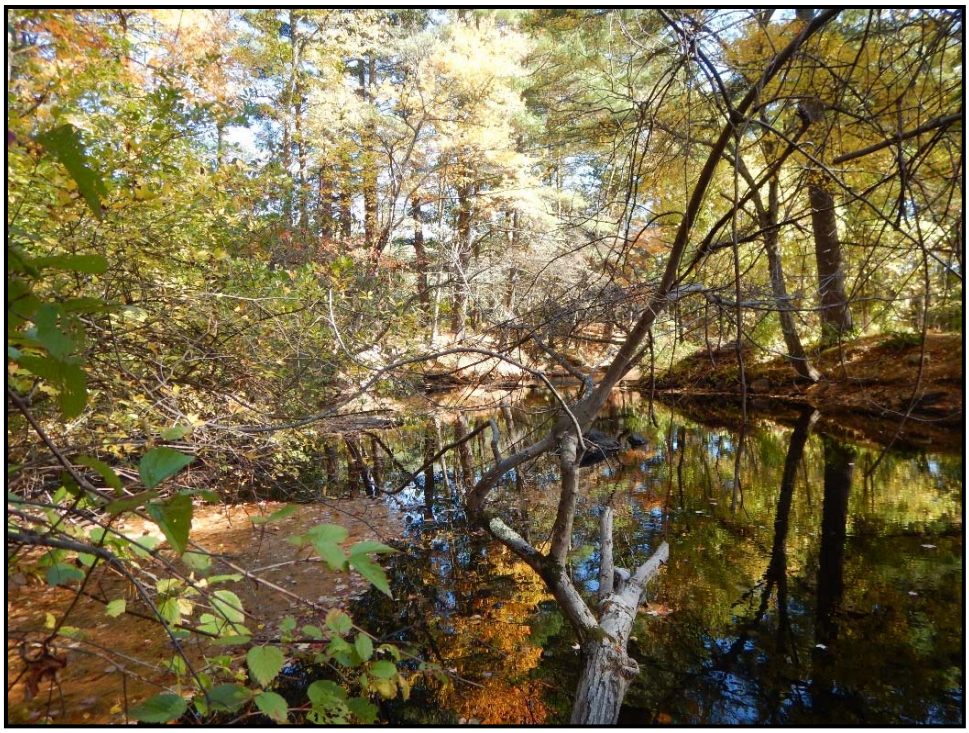


Photo 1: View of Beaver Brook from the northern bank to the west of the existing NEP ROW and proposed Structures 72 and 135 in Windham, NH.

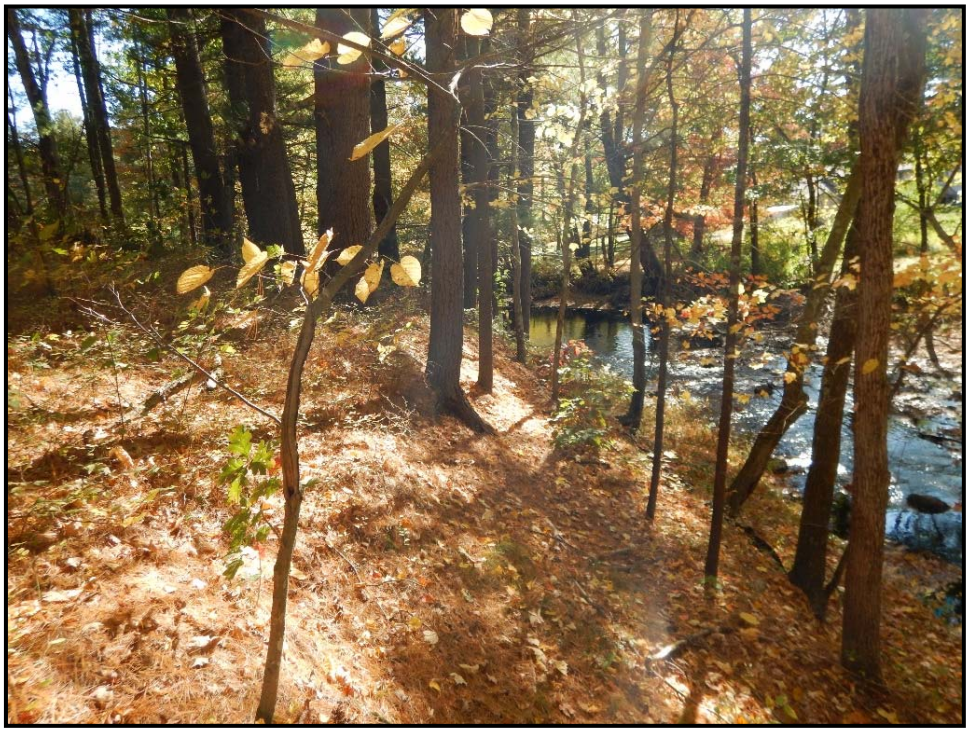


Photo 2: Another view of the northern bank of Beaver Brook to the west of the existing NEP ROW and proposed Structures 72 and 135 in Windham, NH.

Photo 3: View of Beaver Brook from the northern bank within the existing NEP ROW downslope of the location of proposed Structure 83 in the Town of Hudson. Photo is looking towards Haverhill Road and proposed location of Structure 82 in Windham, NH.

Owner/Abutter Information and Town Tax Maps

Owner/Abutter List (Windham, New Hampshire)

All of the project work will occur within an existing utility right-of-way, thus abutters do not need to be notified. Although notification was not sent, abutters are identified below.

Owner/Abutter	Tax Map Number (map-block-lot)	Mailing Address
Andrew W. Fuller	19-B-903	11 Autumn Street Windham, NH 03087
Gail S. Gumbel Revocable Trust	19-B-904	13 Autumn Street Windham, NH 03087
Homer Shannon	19-B-905	15 Autumn Street Windham, NH 03087
Gail L. Bennett	19-B-913	1 Winter Street Windham, NH 03087
Jason Wing and Jennifer Sugerman	19-B-914[1]	3 Winter Street Windham, NH 03087
William Whittemore	19-B-921	7 Autumn Street Windham, NH 03087
The Salter Family	19-B-922[1]	9 Autumn Street Windham, NH 03087
Dawn M. Wentworth & Edward C. Gay	19-B-1000	91 Mammoth Road Windham, NH 03087
Dana & Joan Latour	19-B-1000A	1412 Mammoth Road Pelham, NH 03076
James Gendron	14-A-300[1]	16 Bridle Bridge Road Windham, NH 03087
Cheryl Gendron	14-A-301	24 Bridle Bridge Road Windham, NH 03087
James Gendron	14-A-325	16 Bridle Bridge Road Windham, NH 03087
Dorothy, William, & Carolyn E. Quigley	14-A-350	14 Bridle Bridge Road Windham, NH 03087
Michael A. Bisson	14-A-400	10 Bridle Bridge Road Windham, NH 03087
The Gass Family	14-A-757	8 Romans Road Windham, NH 03087-1743

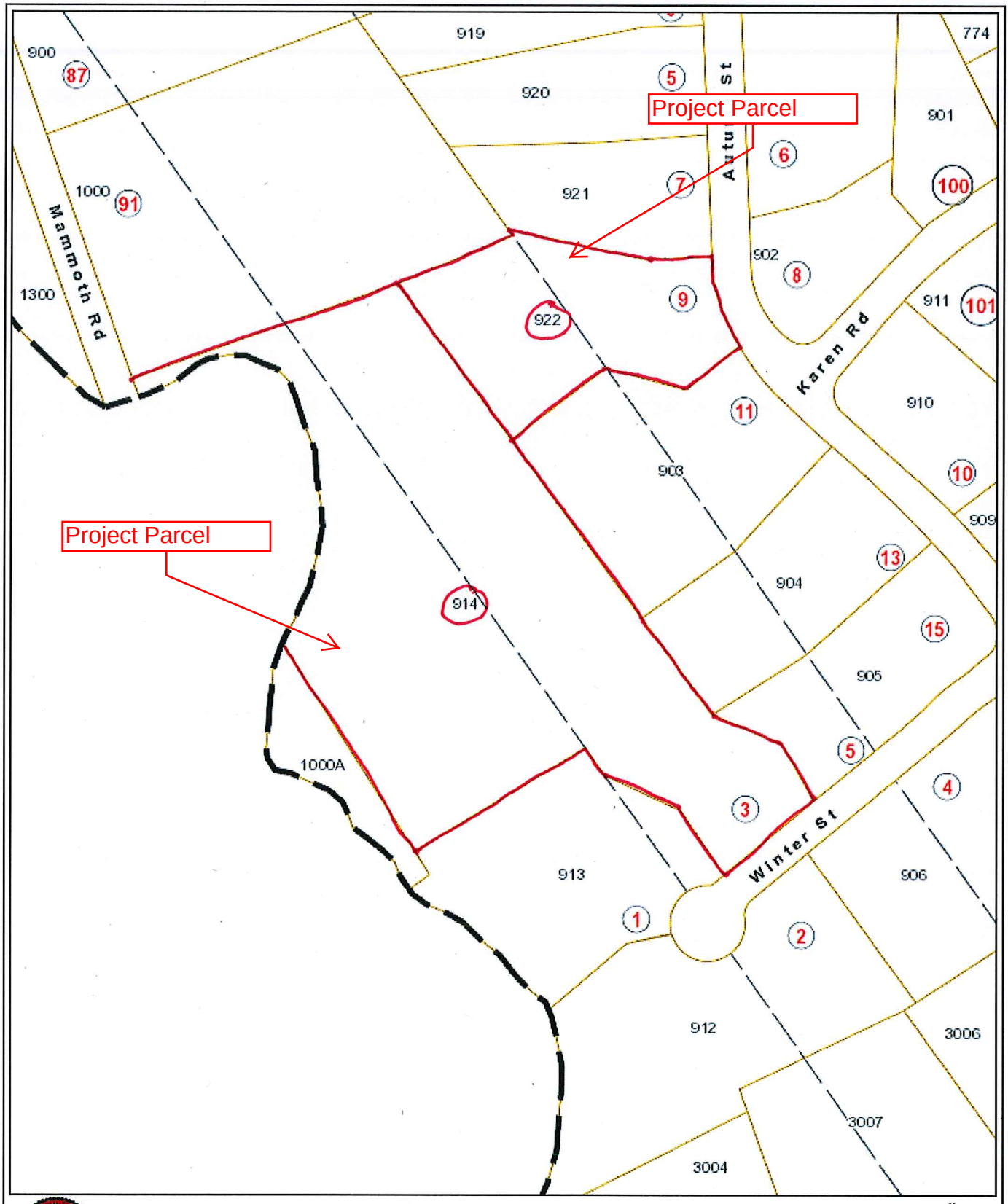
1 – Structure installation is proposed within an existing NEP electric utility ROW easement on these parcels.

Owner/Abutter List (Hudson, New Hampshire)

All of the project work will occur within an existing utility right-of-way, thus abutters do not need to be notified. Although notification was not sent, abutters are identified below.

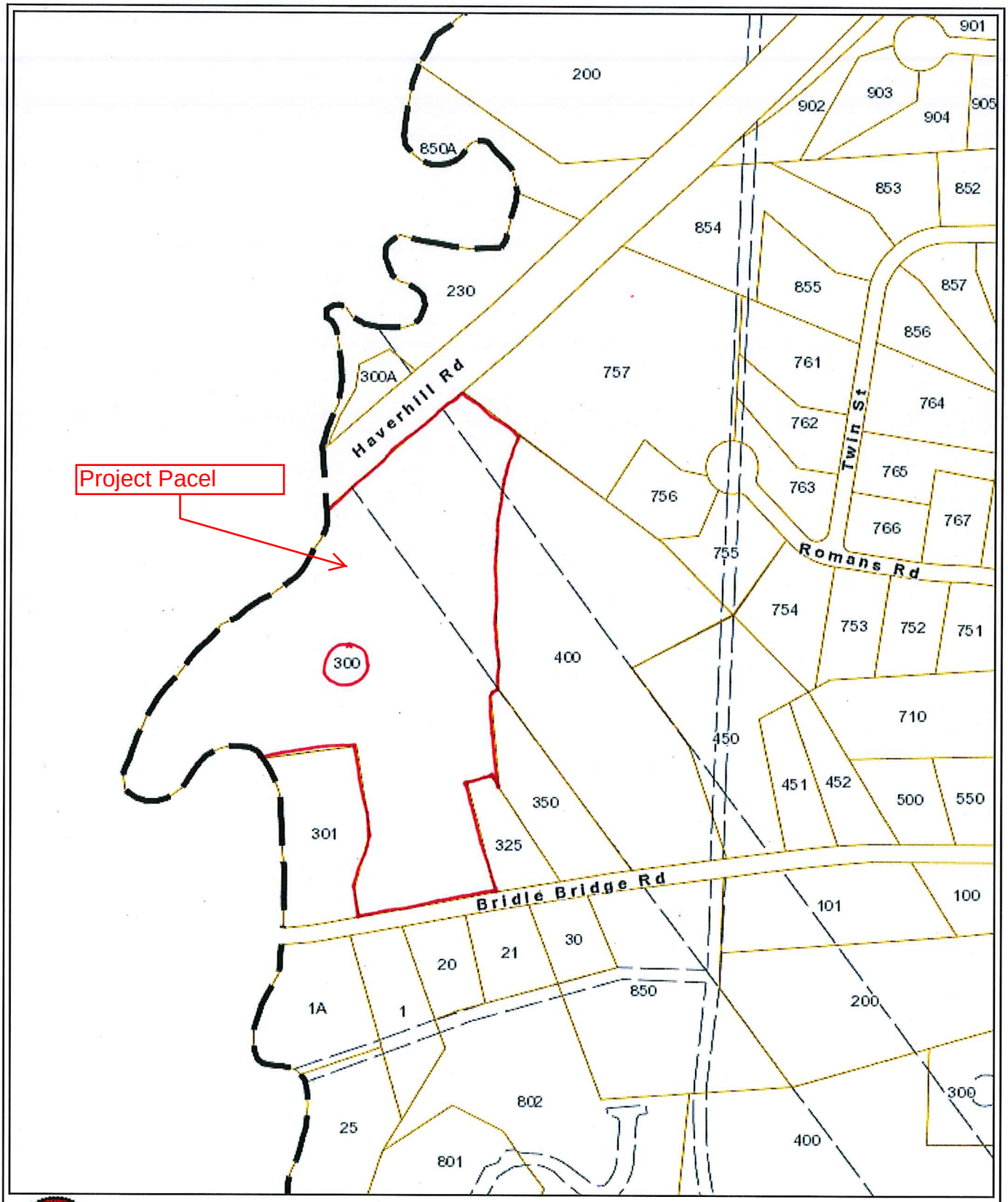
Owner/Abutter	Tax Map Number (map-block-lot)	Mailing Address
Richard & Eleanor Stephens	136-032-000	31 Bockes Road Hudson, NH 03051
Richard & Eleanor Stephens	136-033-000[1]	31 Bockes Road Hudson, NH 03051
Kenneth & Kim Cushman	136-034-000	23 Bockes Road Hudson, NH 03051
Robert Roystand	136-035-000	PO Box 119 Hudson, NH 03051

1 – Structure installation is proposed within an existing NEP electric utility ROW easement on this parcel.



Windham Town Tax Maps
Windham, NH
1 Inch = 200 Feet
March 03, 2015

www.cai-tech.com



Windham Town Tax Maps
Windham, NH
1 Inch = 400 Feet
March 03, 2015

www.cai-tech.com

Town of Hudson, NH
12 School Street
Hudson, NH 03051

Town of Hudson, NH
April, 2011 Property Map

Data presented on this map is derived from numerous sources of varying scale. Information is presented for assessment purposes only and is not intended for property conveyance or legal description.

Parcel maps were digitized by East Coast Mapping from April, 1998 aerial photography. Annual updates are performed by Aerial Photo and Survey, Inc.

Map Legend

- Public Rights of Way
- Private Rights of Way
- Paper Roads
- Side and Rear Lot Lines
- Easements
- Town Boundary
- Rivers or Streams
- Edge of Wetlands

123 — Adjoining Sheet Number

123 / 0.123 AC / S / 123
- Parcel Number
- Parcel Acreage
- Parcel Information Source: P = Recorded Plan, D = Recorded Deed, S = Map Scale Only
- Buildings
- Decks
- Pools
- Parcel Dimensions

Zoning Districts

- Business (B)
- General (G)
- General One (G-1)
- Industrial (I)
- Single Family Residential (R-1)
- Residential (R-2)
- Town Residence (TR)

0 50 100 200 300 400 Feet
1 inch = 100 feet

Sheet 136

Natural Resource Agency Correspondence

Memo

NH Natural Heritage Bureau
NHB Datacheck Results Letter

To: Kristopher Wilkes, Vanasse Hangen Brustlin, Inc.
2 Bedford Farms Dr., Suite 200
Bedford, NH 03110

From: Melissa Coppola, NH Natural Heritage Bureau
Date: 12/17/2014 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau
NHB File ID: NHB14-4809 Town: Pelham, Windham, Hudson, Derry Location: Tax Maps: Existing Electric Transmission Line Right-of-Way

Description: On behalf of New England Power Company d/b/a National Grid ("NEP") and Public Service Company of New Hampshire ("PSNH") (the "Proponents"), Vanasse Hangen Brustlin, Inc. is submitting the enclosed request for project review for the Merrimack Valley Reliability Project ("MVRP"), a new 345kV electric transmission line ("Line 3124") within an existing right-of-way ("ROW") between NEP's Tewksbury 22A Substation in Tewksbury, Massachusetts and PSNH's Scobie Pond Substation in Londonderry, New Hampshire. The installation of this new line would relieve potential overloads under various conditions on several elements of the area transmission system. In doing so, the MVRP ensures continued compliance with all applicable federal and regional transmission system reliability standards and criteria, and maintains reliable electric service to customers in the area.

The portion of the MVRP located within New Hampshire that is the subject of this project review request is referred to herein as "the Project". The Project proposes approximately 18 miles of new 345-kV transmission line on existing ROW within the Towns of Pelham, Windham, Hudson, and Derry. NEP will own approximately 8.1 miles of the new line in Pelham, Windham, and Hudson. PSNH will own approximately 9.7 miles of the new line in Londonderry and Hudson. No new ROW is anticipated, however, portions of existing ROW that have not been cleared previously will require removal of trees to accommodate portions of the new transmission line and relocated existing lines. The Project requires approval from the NH Site Evaluation Committee (SEC).

There are several existing transmission lines located within the Project ROW. Line 3124 has been designed within the ROW to minimize, to the greatest extent practicable, disruption to existing transmission line alignments. Line 3124 will be constructed within previously uncleared portions of the 10-mile PSNH ROW. Line 3124 will be constructed in the current location of the Y151 transmission line (115kV) within the 8.1-mile NEP ROW. The existing Y151 line will be relocated to the western side of the NEP ROW. New or relocated structures will include wooden H-frame, steel lattice tower and single pole structures. Depending on the structure type, structures will be direct embedded or constructed on a caisson foundation.

Environmental impacts associated with the Project will be limited in nature because the Project will be contained within the existing ROW. Swamp mats will be used to minimize disturbance within wetland resource areas where vehicle access is necessary. To the extent possible, the structures will be accessed directly from existing roads within the ROW corridor. Crews will use public roads intersecting the ROW and other established access points to enter the transmission corridor.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: This site is within an area flagged for possible impacts on the state-listed *Alasmidonta varicosa* (brook floater) in the Golden Brook. There will need to be a pre-application meeting to discuss impacts to plants, natural communities, and wildlife.

Invertebrate Species	State[1]	Federal	Notes
Brook Floater (*Alasmidonta varicosa*)	E	--	Contact the NH Fish & Game Dept (see below).

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

Memo

NH Natural Heritage Bureau
NHB Datacheck Results Letter

Natural Community	State[1]	Federal	Notes
Medium level fen system*	--	--	Level fens are stagnant, and as such are characterized by low nutrient levels, relatively high acidity levels, and accumulations of peat. The primary threats to this community are changes to its hydrology (especially that which causes pooling), increased nutrient input from stormwater runoff, and sedimentation from nearby disturbance.
Swamp white oak floodplain forest	--	--	Threats are primarily changes to the hydrology of the river, land conversion and fragmentation, introduction of invasive species, and increased input of nutrients and pollutants.

Plant species	State[1]	Federal	Notes
bird-foot violet (*Viola pedata*)	T	--	This species occurs in sandplains, disturbed openings, dry forests, and thin woods. Threats would include direct destruction of the plants or major alterations in their habitat.
bulbous bitter-cress (*Cardamine bulbosa*)*	E	--	This species occurs in forested swamps, low floodplain forest, and moist thickets.. Threats to the plants include canopy removal and destruction (draining) of its habitat.
common star-grass (*Hypoxis hirsuta*)	T	--	This species occurs in sandplains, disturbed openings, dry forests, and thin woods. Threats would include direct destruction of the plants or major alterations in their habitat.
Eight-flowered Six-weeks Grass (*Vulpia octoflora var. tenella*)*	E	--	This species occurs in sandplains, disturbed openings, dry forests, and thin woods. Threats would include direct destruction of the plants or major alterations in their habitat.
meadow garlic (*Allium canadense*)	E	--	Threats are primarily those that would affect this plant's habitat (river or streambanks, forested swamps, low floodplain forest/moist thickets, wet meadows), including changes to local hydrology.
Palmate Violet (*Viola palmata*)	E	--	**Recommended for delisting due to taxonomic issues (hybrid)
Perfoliate Bellwort (*Uvularia perfoliata*)	E	--	The habitat of this species is mesic forests, which would be threatened by fragmentation or canopy reduction that led to drying out of the soils.
River Birch (*Betula nigra*)	T	--	The population could be deleteriously affected by any project activities that alter the hydrology of its habitat, by increased sedimentation, and by increased nutrients/pollutants in stormwater runoff.
round-leaved trailing tick-trefoil (*Desmodium rotundifolium*)	T	--	This species occurs in sandplains, disturbed openings, dry forests, and thin woods. Threats would include direct destruction of the plants or major alterations in their

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

			habitat.
smooth forked whitlow-wort (*Paronychia canadensis*)*	E	--	Threats include any major changes to its habitat, which includes dry forests and thin woods.

Vertebrate species	**State[1]**	**Federal**	**Notes**
Blanding's Turtle (*Emydoidea blandingii*)	E	--	Contact the NH Fish & Game Dept (see below).
Grasshopper Sparrow (*Ammodramus savannarum*)*	T	--	Contact the NH Fish & Game Dept (see below).
Northern Black Racer (*Coluber constrictor constrictor*)	T	--	Contact the NH Fish & Game Dept (see below).
Spotted Turtle (*Clemmys guttata*)	T	--	Contact the NH Fish & Game Dept (see below).
Wood Turtle (*Glyptemys insculpta*)	SC	--	Contact the NH Fish & Game Dept (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

Trefry, Sherrie

From: Marchand, Michael <Michael.Marchand@wildlife.nh.gov>
Sent: Monday, June 08, 2015 11:51 AM
To: Oakley, Darrell
Cc: Laura V. Games/NUS; Holden, Joshua B.; Trefry, Sherrie; Bergeron, Marc
Subject: RE: MVRP Field Protocols

Follow Up Flag: Follow up
Flag Status: Flagged

Thanks Darrell,

The protocols are consistent with our discussions to date.

Mike

Michael Marchand
Certified Wildlife Biologist
Nongame & Endangered Wildlife Program
NH Fish & Game Department
11 Hazen Drive
Concord NH 03301
Phone: 603-271-3016

Check out reptiles and amphibians of NH!!:
http://www.wildlife.state.nh.us/nongame/reptiles-amphibians.html

Report your sightings of reptiles and amphibians in 3 ways:
1) Email details of observation or completed form to RAARP@wildlife.nh.gov *or*
2) Enter your observation online at http://nhwildlifesightings.unh.edu.
3) Mail your reporting slip
http://www.wildlife.state.nh.us/nongame/documents/raarp-report-form.pdf

Northeast Partners of Amphibian and Reptile Conservation: http://www.northeastparc.org/

From: Oakley, Darrell [mailto:DOakley@VHB.com]
Sent: Tuesday, June 02, 2015 9:40 AM
To: Marchand, Michael
Cc: Laura V. Games/NUS; Holden, Joshua B.; Trefry, Sherrie; Bergeron, Marc
Subject: MVRP Field Protocols

Mike,

Attached please find the MVRP field protocols for your review. We would like to get your concurrence by email and put it into the SEC filing. Can you review it by the end of this week?

Thanks,
Darrell

Darrell Oakley
Senior Ecologist

Trefry, Sherrie

From: Oakley, Darrell
Sent: Wednesday, May 27, 2015 2:51 PM
To: Trefry, Sherrie
Cc: Bergeron, Marc
Subject: Fwd: MVRP Plant Survey Protocol
Attachments: image001.png

Follow Up Flag: Follow up
Flag Status: Flagged

Here's the NHB survey approval.

Sent from my iPhone

Begin forwarded message:

> **From:** "Lamb, Amy" <Amy.Lamb@dred.nh.gov>
> **Date:** May 27, 2015 at 12:31:44 PM EDT
> **To:** "Oakley, Darrell" <DOakley@VHB.com>
> **Cc:** "Coppola, Melissa" <Melissa.Coppola@dred.nh.gov>
> **Subject: RE: MVRP Plant Survey Protocol**
>
> Hi Darrell,
>
> Thanks for your reply. To address your comments:
>
> NHB is not suggesting that surveys be conducted over the entire 20 miles of right of way. We only recommend that additional areas of suitable habitat (as described in the table of the plant survey protocol document).
>
> Thank you for addressing my questions. I have no further questions about the approach and survey protocol. I look forward to seeing the results of the plant survey.
>
> Amy
>
> Amy Lamb
> Ecological Information Specialist
> (603) 271-2215 ext. 323
>
> NH Natural Heritage Bureau
> DRED - Forests & Lands
> 172 Pembroke Rd
> Concord, NH 03301
>
> ---
>
> **From:** Oakley, Darrell [mailto:DOakley@VHB.com]
> **Sent:** Tuesday, May 26, 2015 10:36 AM
> **To:** Lamb, Amy

Cc: Coppola, Melissa; Laura V. Games/NUS; Holden, Joshua B.; Bergeron, Marc; Trefry, Sherrie
Subject: RE: MVRP Plant Survey Protocol

Amy,

Thank you for your comments. Please see the responses in orange below. If you are ok with the approach and survey protocol, please respond. We are trying to finalize MVRP's SEC application this week and need to include correspondence and approvals from Natural Heritage Bureau and Fish and Game Department.

Regards,
Darrell

From: Lamb, Amy [mailto:Amy.Lamb@dred.nh.gov]
Sent: Thursday, May 21, 2015 10:33 AM
To: Oakley, Darrell
Cc: Coppola, Melissa
Subject: RE: MVRP Plant Survey Protocol

Hello Darrell,

I apologize for taking so long to get back to you. I wanted to ask a few questions about the rare plant survey plan and the boring plan.

In the survey plan, I was wondering why the survey stakes would be removed after flagging the locations of rare plants. It seems that leaving the flags would assist in protecting the populations. Also, your current plan only includes looking for known occurrences of rare plants, but we suggest that you also survey in areas with suitable habitat, if possible.

Permanent stakes would cause unwanted attraction to rare plant areas. State agencies typically do not want us to advertise where rare plants occur since unscrupulous collectors have been known to damage remaining plant locations. During construction and if needed geotech borings, rare plants areas would be protected with a barrier and suitable buffer. In regards to extending the survey area beyond the general vicinity of known rare plant locations, National Grid and Eversource will not offer rare plant surveys over 20 miles of right of way unless required by Natural Heritage Bureau.

In the boring plan, it states that boring locations (and the associated 25'x25' geoboring work pad) will be flexible and can be moved to avoid rare plants. If plants cannot be completely avoided, we request that the impacted areas be mitigated.

Because the boring locations can be flexible, we do not anticipate the need for mitigation at this time; however, if needed National Grid and Eversource would develop a mitigation plan with the Natural Heritage Bureau.

During the construction phase, 100'x100' construction work pad areas are included around the proposed structure. Can these areas also be resized/modified/relocated if they are in the vicinity of a rare plant? Again, if rare plants are found, please show that you have worked to minimize impacts to rare plants, including relocating construction work pads and, if possible, leaving buffers around the rare plants.

Once rare plants are mapped, project engineers will assess whether construction work pad areas can be modified to avoid or minimize impacts. National Grid and Eversource are committed to minimizing impacts to rare plants to the greatest extent practicable.

Thank you for the opportunity to comment.

Best,
Amy

Amy Lamb
Ecological Information Specialist
(603) 271-2215 ext. 323

NH Natural Heritage Bureau
DRED - Forests & Lands
172 Pembroke Rd
Concord, NH 03301

Darrell Oakley
Senior Ecologist

P 508.513.2723
www.vhb.com

From: Lamb, Amy [mailto:Amy.Lamb@dred.nh.gov]
Sent: Thursday, May 21, 2015 10:33 AM
To: Oakley, Darrell
Cc: Coppola, Melissa
Subject: RE: MVRP Plant Survey Protocol

Hello Darrell,

I apologize for taking so long to get back to you. I wanted to ask a few questions about the rare plant survey plan and the boring plan.

In the survey plan, I was wondering why the survey stakes would be removed after flagging the locations of rare plants. It seems that leaving the flags would assist in protecting the populations. Also, your current plan only includes looking for known occurrences of rare plants, but we suggest that you also survey in areas with suitable habitat, if possible.

In the boring plan, it states that boring locations (and the associated 25'x25' geoboring work pad) will be flexible and can be moved to avoid rare plants. If plants cannot be completely avoided, we request that the impacted areas be mitigated.

During the construction phase, 100'x100' construction work pad areas are included around the proposed structure. Can these areas also be resized/modified/relocated if they are in the vicinity of a rare plant? Again, if rare plants are found, please show that you have worked to minimize impacts to rare plants, including relocating construction work pads and, if possible, leaving buffers around the rare plants.

Thank you for the opportunity to comment.

Best,
Amy

Amy Lamb
Ecological Information Specialist
(603) 271-2215 ext. 323

NH Natural Heritage Bureau
DRED - Forests & Lands

172 Pembroke Rd
Concord, NH 03301

From: Oakley, Darrell [mailto:DOakley@VHB.com]
Sent: Friday, May 08, 2015 11:12 AM
To: Coppola, Melissa; Lamb, Amy
Cc: Bergeron, Marc; Trefry, Sherrie; Laura V. Games/NUS; Holden, Joshua B.
Subject: RE: MVRP Plant Survey Protocol

Melissa and Amy,

I've updated the protocol to include avoidance and minimization. Please review and approve the survey plan.

Regards,
Darrell

Darrell Oakley
Senior Ecologist

P 508.513.2723
www.vhb.com

From: Coppola, Melissa [mailto:Melissa.Coppola@dred.nh.gov]
Sent: Friday, May 01, 2015 2:09 PM
To: Oakley, Darrell
Cc: Bergeron, Marc; Trefry, Sherrie; Laura V. Games/NUS; Holden, Joshua B.; Lamb, Amy
Subject: RE: MVRP Plant Survey Protocol

This looks good, except it is missing one detail: how impacts will be avoided or minimized once the plants are located.

This detail should be included in the protocol and could be as simple as leaving the flags out, or putting them back out once the project is moving forward so that the sensitive areas can be avoided.

FYI. Amy Lamb started today in my old full-time positon. I'm cc-ing her on this email so that you have her contact information. I will still be working part-time for a bit longer to help with the transition.

Best,
Melissa

From: Oakley, Darrell [mailto:DOakley@VHB.com] i
Sent: Tuesday, April 21, 2015 2:44 AM
To: Coppola, Melissa
Cc: Bergeron, Marc; Trefry, Sherrie; Laura V. Games/NUS; Holden, Joshua B.
Subject: MVRP Plant Survey Protocol

Melissa,

Attached is a survey protocol and mapping for the Merrimack Valley Reliability Project. Please review and provide any comments.

Evidence of Town Notification

www.vhb.com

June 19, 2015
Ref: 12650.00

Nancy Charland, Deputy Town Clerk
Town of Windham
3 North Lowell Road
Windham, NH 03087

Re: NHDES Shoreland Permit Application
Merrimack Valley Reliability Project
Windham & Hudson, New Hampshire

Dear Ms. Charland:

On behalf of New England Power Company d/b/a National Grid (NEP), Vanasse Hangen Brustlin, Inc. (VHB) is submitting the enclosed NHDES Shoreland Permit Application for the proposed Merrimack Valley Reliability Project (MVRP). The MVRP involves the construction of a new overhead 345 kV electric transmission line within an existing right-of-way (ROW) between the NEP-owned Tewksbury 22A Substation in Tewksbury, Massachusetts and the Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH)-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The portion of the MVRP located within New Hampshire that is the subject of this permit application is referred to herein as the "Project". The Project extends from the Massachusetts border in Pelham to the PSNH-owned Scobie Pond 345 kV Substation in Londonderry. The Project proposes approximately 17.9 miles of new transmission line (referred to herein as the "3124 Line") within the Towns of Pelham, Windham, Hudson, and Londonderry. To accommodate the new 3124 Line, the Project also involves relocating 7.6 miles of NEP's existing Y-151 line (existing overhead 115 kV transmission line) within the western edge of the existing NEP ROW in the Towns of Pelham, Windham and Hudson. The Project is being permitted through the New Hampshire Site Evaluation Committee process in accordance with RSA 162-H.

The purpose of the Project is to significantly enhance the reliability of electrical transmission services to the Merrimack Valley region. The MVRP will eliminate potential overloads on several components of the current transmission system that could be experienced under certain contingency conditions. The Project will provide resiliency and increased system flexibility to the region's transmission infrastructure in order to deliver reliable electric service to customers in the area. In doing so, the Project will ensure continued compliance with applicable federal and regional transmission system reliability standards.

The majority of the Project is located outside of the protected shoreland of waterways jurisdictional under *RSA 483-B* apart from two locations in Windham and Hudson where four new electric transmission utility structures are proposed within the protected shoreland of Beaver Brook. ***Of the four new electric transmission utility structures proposed, three are located in the Town of Windham***. Proposed

2 Bedford Farms Drive
Suite 200
Bedford, New Hampshire 03110
P 603.391.3900
F 603.518.7495

structure installation work will result in a total of approximately 105 square feet permanent impact. ***Of this total permanent shoreland impact, 90 square feet will occur in the Town of Windham***. This includes 15 square feet of permanent impact within the Natural Woodland (150') Buffer, and 75 square feet of permanent impact within the Protected Shoreland (250') Zone resulting from installation of Structures 72, 135 and 82. Permanent impacts have been calculated based on the type of utility structure and method of installation proposed at each location. Additionally, the Project will result in a total of approximately 35,107 square feet of temporary impact during Project construction. ***Of this total temporary shoreland impact, 29,435 square feet will occur in the Town of Windham***. This includes 317 square feet of temporary impact within the Waterfront (50') Buffer, 9,470 square feet of temporary impact within the Natural Woodland (150') Buffer, and 19,648 square feet of temporary impact within the Protected Shoreland (250') Zone resulting from the use of construction work pads and pull pads centered on Structures 72, 135, and 82 during installation. Lastly, the Project will result in a total of 12,891 square feet of vegetative clearing within the Protected Shoreland of Beaver Brook in order to achieve required vertical and horizontal line clearance standards. ***Of this total clearing area, 6,791 square feet will occur in the Town of Windham.***

In accordance with Section 11 of the Permit Application Form, a copy of the Shoreland Permit Application and supporting materials (submitted to NHDES) is enclosed for your records. Please do not hesitate to contact me if you have any questions at (603) 391-3900 or strefry@vhb.com.

Sincerely,

Sherrie Trefry

Director of Energy Services

Enclosure

cc: VHB File
NHDES Shoreland Program

www.vhb.com

July 9, 2015
Ref: 12650.00

Patti Barry, Town Clerk
Town of Hudson
12 School Street
Hudson, NH 03051

Re: NHDES Shoreland Permit Application
Merrimack Valley Reliability Project
Windham & Hudson, New Hampshire

Dear Ms. Barry:

On behalf of New England Power Company d/b/a National Grid (NEP), Vanasse Hangen Brustlin, Inc. (VHB) is submitting the enclosed New Hampshire Department of Environmental Services (NHDES) Shoreland Permit Application for the proposed Merrimack Valley Reliability Project (MVRP). The MVRP involves the construction of a new overhead 345 kV electric transmission line within an existing right-of-way (ROW) between the NEP-owned Tewksbury 22A Substation in Tewksbury, Massachusetts and the Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH)-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The portion of the MVRP located within New Hampshire that is the subject of this permit application is referred to herein as the "Project". The Project extends from the Massachusetts border in Pelham to the PSNH-owned Scobie Pond 345 kV Substation in Londonderry. The Project proposes approximately 17.9 miles of new transmission line (referred to herein as the "3124 Line") within the Towns of Pelham, Windham, Hudson, and Londonderry. To accommodate the new 3124 Line, the Project also involves relocating 7.6 miles of NEP's existing Y-151 line (existing overhead 115 kV transmission line) within the western edge of the existing NEP ROW in the Towns of Pelham, Windham and Hudson. The Project is being permitted through the New Hampshire Site Evaluation Committee process in accordance with RSA 162-H.

The purpose of the Project is to significantly enhance the reliability of electrical transmission services to the Merrimack Valley region. The MVRP will eliminate potential overloads on several components of the current transmission system that could be experienced under certain contingency conditions. The Project will provide resiliency and increased system flexibility to the region's transmission infrastructure in order to deliver reliable electric service to customers in the area. In doing so, the Project will ensure continued compliance with applicable federal and regional transmission system reliability standards.

The majority of the Project is located outside of the protected shoreland of waterways jurisdictional under *RSA 483-B* apart from two locations in Windham and Hudson where four new electric transmission utility structures are proposed within the protected shoreland of Beaver Brook. ***Of the four new electric transmission utility structures proposed, one is located in the Town of Hudson***. Proposed structure

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installation work will result in a total of approximately 105 square feet permanent impact. ***Of this total permanent shoreland impact, 15 square feet will occur in the Town of Hudson***. This permanent impact will occur within the Protected Shoreland (250') Zone resulting from installation of Structure 83. Permanent impacts have been calculated based on the type of utility structure and method of installation proposed. Additionally, the Project will result in a total of approximately 35,107 square feet of temporary impact during Project construction. ***Of this total temporary shoreland impact, 5,672 square feet will occur in the Town of Hudson***. The temporary impact will occur within the Protected Shoreland (250') Zone from the use of a construction work pad centered on Structure 83 during installation. Lastly, the Project will result in a total of 12,891 square feet of vegetative clearing within the Protected Shoreland of Beaver Brook in order to achieve required vertical and horizontal line clearance standards. ***Of this total clearing area, 6,100 square feet will occur in the Town of Hudson.***

In accordance with Section 11 of the Permit Application Form, a copy of the Shoreland Permit Application and supporting materials (submitted to NHDES) is enclosed for your records. Please do not hesitate to contact me if you have any questions at (603) 391-3900 or strefry@vhb.com.

Sincerely,

Sherrie Trefry

Director of Energy Services

Enclosure

cc: VHB File
NHDES Shoreland Program

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PS Form 3800, April 2015

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Street and Apt. No: Deputy Town Clerk
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3 North Lowell Road
Windham, NH 03087

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