



***Via Certified Mail***

October 14, 2015

Town of Woodstock  
165 Lost River Rd.  
Woodstock, NH 03262

**Re: Shoreland Permit Application – The Northern Pass Project**

Dear Sir or Madam:

Enclosed please find a copy of the Shoreland Permit Application package that will be filed with the NH Department of Environmental Services (DES) and New Hampshire Site Evaluation Committee for the Northern Pass Project. The project includes work in or around rivers, lakes, streams ponds, etc. Under state law, it is a requirement to provide the municipalities and Local River Advisory Committees having jurisdiction over these waterbodies with a copy of the shoreland application by Certified mail, for review and comment. Please find attached a copy of the application, which proposes work within the protected shoreland of a public water or Designated River in your regulatory area.

Sincerely,

A handwritten signature in blue ink that reads "Lee E. Carbonneau".

Lee Carbonneau

Normandeau Associates, Inc.

As agent for Northern Pass Transmission, LLC.

**Shoreland Permit Application  
Northern Pass  
Moosilauke Brook, Woodstock, NH**

**Prepared for**  
Northern Pass Transmission, LLC and  
Public Service Company of New Hampshire  
d/b/a Eversource Energy  
Energy Park  
780 Commercial Street  
Manchester, NH 03101

October 2015

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## DISCLOSURE STATEMENT

*The data contained in all pages of this document have been submitted in confidence and contain trade secrets and/or privileged or confidential information, and such data shall be used or disclosed only for evaluation purposes, provided that if a contract is awarded to this proposer as a result of or in connection with the submission of this proposal, the client shall have the right to use or disclose the data herein to the extent provided in the contract. This document includes data that shall not be disclosed outside of the purposes of this submittal and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than for evaluation purposes.*

## 1.0 Shoreland Permit Application

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## Moosilauke Brook



# 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.

<b>1. PROPERTY OWNER</b>			
LAST NAME, FIRST NAME, M.I.: Public Service Co. of NH d/b/a Eversource Energy (PSNH), c/o Kevin McCune, Supervisor, Environmental Affairs Licensing and Permitting			
ADDRESS: 780 Commercial Street	TOWN/CITY: Manchester	STATE: NH	ZIPCODE: 03101
PHONE: 603-669-4000	EMAIL: Kevin.mccune@eversource.com		
<b>2. PROJECT LOCATION</b>			
ADDRESS: Route 112	TOWN/CITY: Woodstock	STATE: NH	ZIPCODE: 03293
WATERBODY NAME: Moosilauke Brook	TAX MAP: Multiple	LOT NUMBER: Multiple	
<b>3. CONTRACTOR OR AGENT</b>			
LAST NAME, FIRST NAME, M.I.: Carbonneau, Lee E.			
ADDRESS: 25 Nashua Rd	TOWN/CITY: Bedford	STATE: NH	ZIPCODE: 03110
PHONE: 603-637-1150	EMAIL: lcarbonneau@normandeau.com		
<b>4. CRITERIA</b>			
<b>Please check at least one of the following below:</b>			
<input checked="" type="checkbox"/> 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.			
<input type="checkbox"/> 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			
<input type="checkbox"/> This shoreland permit application includes a request for a waiver of the following minimum standard(s) V _____.			
<b>5. PROJECT DESCRIPTION</b>			

Total Square feet of impact 76,858 Total square feet of new impervious area 1,065
Provide a complete description of the proposed project. <b>A new high voltage transmission line will be constructed in an existing road ROW. The Woodstock Project area includes one Shoreland locations along Moosilauke Brook. Work in the Shoreland includes the underground installation of transmission cable, as shown in the project plans. To place the line, the shoulder of NH Route 112 will be trenched, the line will be placed and backfilled to restore these work areas after construction. In addition, no tree clearing is planned within the existing road ROW.</b>
<b>6. PERMIT APPLICATIONS SUBMITTED</b>
Please indicate if applications for any of the permits listed below have been submitted or will need to be submitted: <input checked="" type="checkbox"/> Wetlands Permit per RSA 482-A <input type="checkbox"/> Individual Sewage Disposal System per RSA 485-A:29 <input checked="" type="checkbox"/> Alteration of Terrain Permit Per RSA 485-A:17 <input type="checkbox"/> Subdivision Permit Per RSA 485-A:29
<b>7. REFERENCE LINE ELEVATION</b> (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 <a href="#">Consolidated List of Waterbodies Subject to the Shoreland Water Quality Protection Act</a> . Please see RSA 483-B:4, xvii for the definition of reference line.  <b>The reference line for this waterbody is:</b> <u>N/A</u> Feet
<b>8. SHORELAND FRONTAGE</b> Shoreland frontage is the actual frontage along the waterfront measured at the reference line.  <b>The shoreland frontage on this lot is :</b> <u>N/A</u> Linear Feet <input checked="" type="checkbox"/> N/A – No Direct frontage on this lot
<b>9. APPLICATION FEE</b>
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. <b>Please make checks payable to the Treasurer, State of NH.</b>
<b>10. CALCULATING THE TOTAL IMPACT AREA AND PERMIT APPLICATION FEE</b>
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. = <u>76,858</u> <b>(A) Square Feet</b> Multiply the total Impact Area By 10¢ and add \$100.00. <b>[ (A) X .10 + \$100.00 ] = \$ Exempt per 483-B:5-b III Permit Fee</b>
<b>11. REQUIRED CERTIFICATIONS</b>
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.
<input checked="" type="checkbox"/> I understand that any permit or waiver granted based on false, incomplete, or misleading information shall be subject to revocation.
<input checked="" type="checkbox"/> I am aware that obtaining a shoreland permit will not exempt the work I am proposing from other state, local or federal approvals.
<input checked="" type="checkbox"/> 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 <u>  /  /  </u> via certified mail.
<input type="checkbox"/> This project is within ¼ mi of a <u>designated river</u> (river name: <u>                    </u> ) and I have notified the <a href="#">Local River Management Advisory Committee</a> by providing them with a copy of the complete application, including all supporting materials, via certified mail on <b>day: <u>16</u> month: <u>10</u> year: <u>2015</u></b> and I have included a copy of the certified mail receipt in the application submittal (RSA 482-A:3,i(d)(2))

<input checked="" type="checkbox"/> This project is <b>not</b> within ¼ mi of a designated river			
N/A 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)). <b>Exempt per RSA-483-B:5-b, IV (A)</b>			
<b>12. SIGNATURES (Both must sign per Env-Wq 1406.08)</b>			
OWNER NAME	See attached signature page	PRINT NAME LEGIBLY: Kevin McCune, PSNH d/b/a Eversource Energy	DATE: <input type="text"/>
APPLICANT NAME	See attached signature page	PRINT NAME LEGIBLY: Kevin McCune, PSNH d/b/a Eversource Energy Northern Pass LLC, c/o Robert P. Clarke, Project Director	DATE: <input type="text"/>

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.

# SHORELAND APPLICATION WORKSHEET

This form must be submitted to the Department of Environmental Services Wetlands Bureau accompanied with a Shoreland Permit Application. [Instructions for completing this form](#) are available on the shoreland program web page.

For the purposes of this worksheet, “**Pre-Construction**” impervious surface areas<sup>1</sup> means all human made impervious surfaces<sup>2</sup> currently in existence on the property, whether to be removed or to remain after the project is completed. “**Post-Construction**” impervious area means all impervious surfaces that will exist on the property upon completion of the project, including both new and any remaining pre-existing impervious surfaces. All answers shall be given in square feet.

CALCULATING THE IMPERVIOUS AREA WITHIN 250 FEET OF THE REFERENCE LINE			
	STRUCTURE DESCRIPTION	PRE-CONSTRUCTION IMPERVIOUS AREA	POST-CONSTRUCTION IMPERVIOUS AREA
<b>PRIMARY STRUCTURE</b> Include all <u>attached</u> decks and porches.	_____	<u>0</u> FT <sup>2</sup>	<u>0</u> FT <sup>2</sup>
<b>ACCESSORY STRUCTURES</b> All other impervious surfaces excluding lawn furniture, well heads, and fences.  Common accessory structures include, but are not limited to: driveways, walkways, patios and sheds.	<u>Roadway Trenching</u>	<u>216,722</u> FT <sup>2</sup>	<u>216,722</u> FT <sup>2</sup>
	_____	_____ FT <sup>2</sup>	_____ FT <sup>2</sup>
	_____	_____ FT <sup>2</sup>	_____ FT <sup>2</sup>
	_____	_____ FT <sup>2</sup>	_____ FT <sup>2</sup>
	_____	_____ FT <sup>2</sup>	_____ FT <sup>2</sup>
	_____	_____ FT <sup>2</sup>	_____ FT <sup>2</sup>
<b>TOTAL:</b>		<b>(A) <u>216,722</u> FT<sup>2</sup></b>	<b>(B) <u>216,722</u> FT<sup>2</sup></b>
Area of the lot located within 250 ft of reference line:			<b>(C) <u>1,092,848</u> FT<sup>2</sup></b>
Percentage of lot covered by pre-construction impervious area within 250 ft of the reference line: <i>[divide (a) by (c) x 100]</i>			<b>(D) <u>19.83</u> %</b>
Percentage of lot to be covered by post-construction impervious area within 250 ft of the reference line upon completion of the project: <i>[divide (b) by (c) x 100]</i>			<b>(E) <u>19.83</u> %</b>

<sup>1</sup> “**Impervious surface area**” as defined in Env-Wq 1402.15 means, for purposes of the impervious surface limitation specified in RSA 483-B:9, V(g), the sum total of the footprint of each impervious surface that is located within the protected shoreland.

<sup>2</sup> “**Impervious Surface**” as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples of impervious surfaces include, but are not limited to, roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas, and walkways.

## IMPERVIOUS AREA THRESHOLDS

### DETERMINING IF A STORMWATER MANAGEMENT PLAN IS REQUIRED

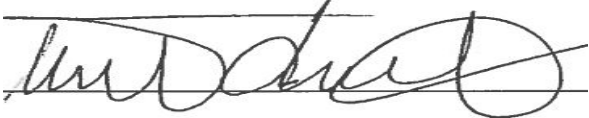
- ☒ This project does not require a stormwater management plan because the proposed post-construction impervious area (**Calculation E**) is less than or equal to 20%.
- ☐ This project requires a stormwater management plan because the proposed post-construction impervious area (**Calculation E**) is 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 <sup>3</sup> ( <b>see definition below</b> ). If this area is completely altered, place a zero on line (F) and (I) and proceed to (J).	(F) <u>0</u>
Total area of the lot between 50 ft and 150 ft from the reference line	(G) _____
At least 25 percent of the vegetation within area (G) must remain in an unaltered state. [.25 x G]	(H) _____
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) <u>0</u>
Name of person who prepared this worksheet:	(J) <u>Tracy Coolidge</u>

<sup>3</sup> “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.

Name and date of the plan this worksheet is based upon:	(K) <u>NHDES Shoreland Permit Application Plans Moosilauke Brooke Woodstock, NH 9/8/2015</u>
SIGNATURE: 	DATE: 10/13/2015

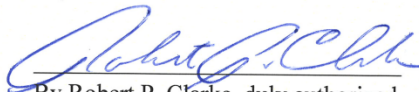
**\*Unaltered State-**

**Vegetation in a public utility right-of-way must be maintained/ mowed regularly for safety and operational purposes. There will always be little or no land in an unaltered state within a transmission ROW, and therefore no calculations for this metric were performed. Furthermore, RSA 483-B:9 IV-b. states “Public utility lines and associated structures and facilities, public roads, and public water access facilities including boat ramps shall be permitted by the commissioner as necessary and consistent with the purposes of this chapter and other state law.” In addition, RSA 483-B:2 XVI provides for economic development in proximity to water.**

**Block 12. Signatories for NH Department of Environmental Services Shoreland Permit Applications**


**Applicant**

1. Eversource Energy Service Corporation, as duly authorized agent for  
Northern Pass Transmission LLC  
Robert P. Clarke  
Director, Transmission Business Operations  
780 North Commercial Street  
Manchester, NH 03101  
Tel: 781-441-8057  
[Robert.Clarke@eversource.com](mailto:Robert.Clarke@eversource.com)

  
By Robert P. Clarke, duly authorized

**Owner and Applicant**

2. Eversource Energy Service Corporation, as duly authorized agent for  
Public Service Company of New Hampshire d/b/a Eversource Energy  
Kevin F. McCune  
Supervisor, Environmental Affairs Licensing and Permitting  
780 North Commercial Street  
Manchester, NH 03101  
Phone: 339-987-7020  
[Kevin.mccune@eversource.com](mailto:Kevin.mccune@eversource.com)

  
By Kevin F. McCune, duly authorized

## **2.0 Copy of Check for Application Fee**

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**N/A, per RSA 483-B:5-b-III. Construction of public roads, public utility lines and associated structures and facilities, and public water access facilities shall be exempt from the permitting fees of paragraph I and the abutter notification requirements of paragraph IV-a.**



## 3.0 Project Specific Work within the Protected Shoreland

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The Northern Pass project area extends from the international border of Canada and the United States in Pittsburg, New Hampshire to Londonderry, New Hampshire. The Project will require work within the 250 foot protected shoreland of multiple waterbodies. This application includes information related to the work within an existing road ROW that intersects the protected shoreland of Moosilauke Brook in Woodstock, NH at one location.

The Project seeks to take advantage of existing transmission and road ROW in order to minimize environmental and other impacts of the Project. The underground transmission line will be located on the shoulder of NH Route 112 and should not require limbing or trimming of vegetation for installation as this area is already a maintained ROW.

Underground cables will be installed using a combination of construction techniques including direct bury of the cable, installation of the cable in a duct bank, or the use of trenchless technology (directional boring and jack and bore). These techniques result in cables being buried at different depths. Direct-buried cable is installed approximately four feet below grade. The depth of duct banks varies, but these will have at least 2.5 feet of cover. Cables installed via jack and bore will be approximately 10 to 15 feet below grade. Directional boring sections will be installed at a maximum depth of approximately 65 feet below grade, and will be used primarily for crossing under large perennial streams and rivers. Exact depths may be adjusted during final design. Jack and bore and directional bore require installation pits for construction. Direct bury and duct bank installations require permanent splice boxes or vaults spaced approximately every 1,800 feet to allow for maintenance. Two splice boxes will be installed along segments of the underground line to allow for repair and replacement as necessary over time to maintain integrity of the line. Erosion control will be installed along of the shore of Moosilauke Brook to prevent impacts.

### 3.1 Moosilauke Brook

Moosilauke Brook in Woodstock is part of the UG1 Underground Line portion of the Project. At this Shoreland crossing Moosilauke Brook is classified as a fourth order Brook (R3RB2) with a rubble bottom and at the Project crossing, the river is approximately 20 feet.

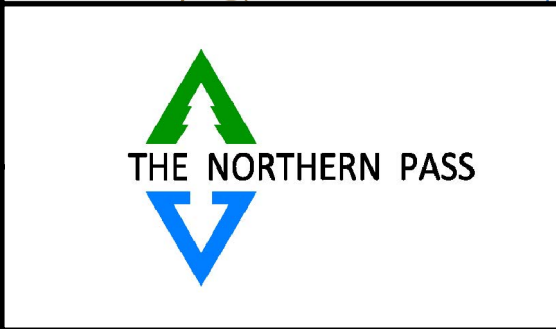
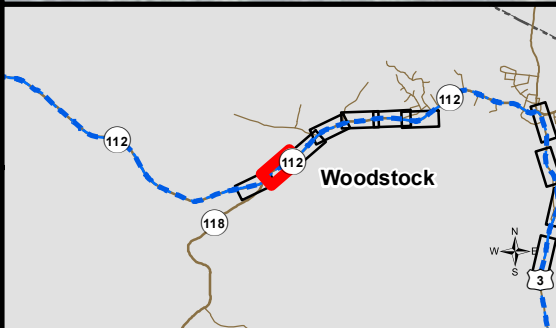
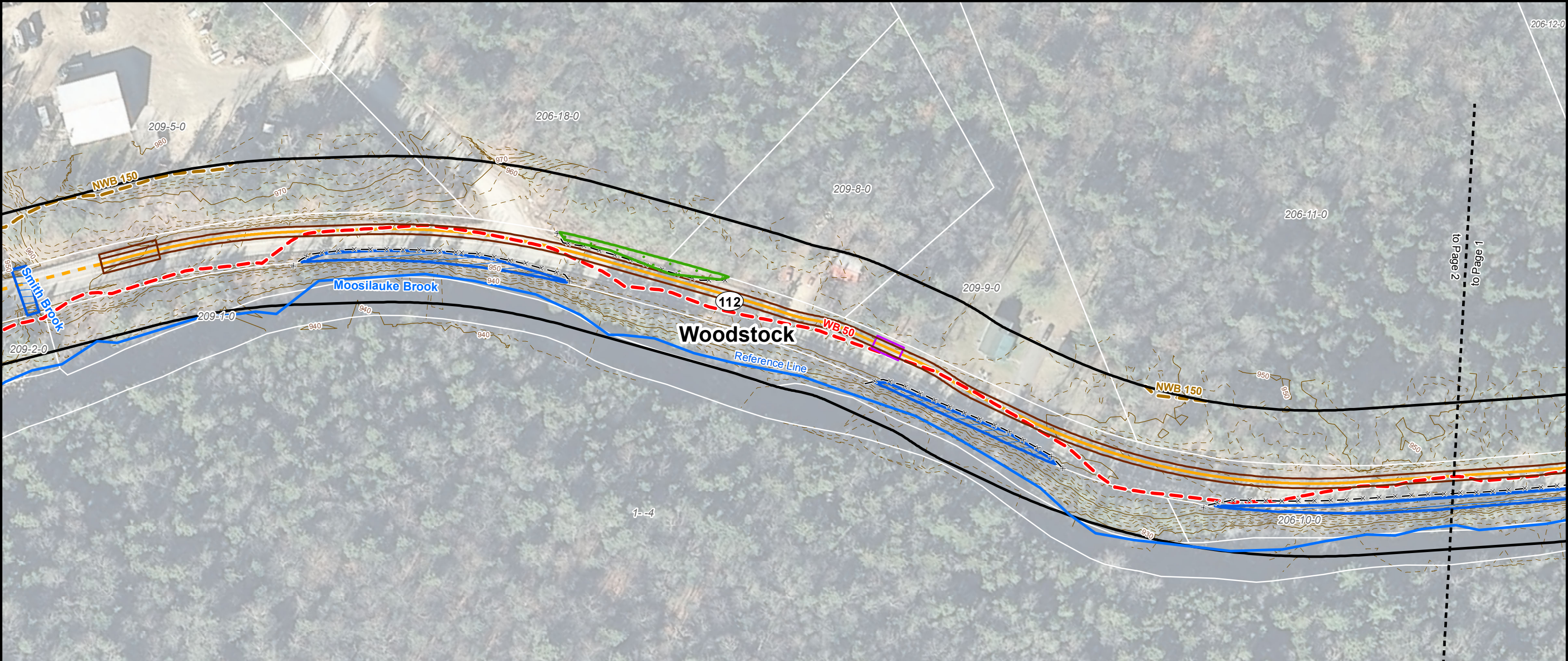
The land in the vicinity of the project is Route 112, which is owned by the State of New Hampshire and is surrounded by residential and commercial lots. The Project comes within 250 feet of the river but does not cross it. All work within the 250 foot shoreland buffer along 112 in Woodstock will be trenching and associated work for placing the underground transmission line as detailed on the associated plan set (Appendix A). Erosion control will be installed along the shoreline to prevent impacts. For all work within the shoreland buffer, tree stumps will be left in place except where structure excavation is needed, and shrub and herbaceous vegetation will be left undisturbed wherever possible. The NH Natural Heritage Bureau also identified two element occurrences within a half mile of the Protected Shoreland including the S3 state ranked high-gradient rocky riverbank natural community and the S1S3 *Cicindela ancocisconensis* (a Tiger Beetle).

Moosilauke Brook Shoreland Site 1	0'-50' Waterfront Buffer	50'-150' Natural Woodland Buffer	150'- 250' Shoreland Buffer	Total Impacts at Shoreland Crossing
<b>Temporary Impacts</b>	12,531 sq. ft. trenching	48,842 sq. ft. trenching	14,423 sq. ft. trenching	75,793 sq. ft. trenching
<b>Permanent Impacts</b>	0 sq. ft.	598 sq. ft.	467 sq. ft.	1,065 sq. ft. 3 splice vaults
<b>Pre-Construction Impervious Surface Area</b>	55,915 sq. ft.	121,698 sq. ft.	39,109 sq. ft.	216,722 sq. ft.
<b>Post-Construction Impervious Surface Area</b>	55,915 sq. ft.	121,698 sq. ft.	39,109 sq. ft.	216,722 sq. ft.

## ■ Appendix A Plan Set

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**Existing Conditions**

- Existing Structure
- Existing Structure to be Removed
- Existing Transmission Line
- Existing Transmission Line to be Removed
- Delineated Wetlands
- Tax Parcels
- Existing Right of Way
- 10' Index Contour
- 2' Interval Contour

**Stream Centerlines**

- Perennial
- Intermittent
- Ephemeral

**Delineated Waterbodies**

- Perennial
- Intermittent
- Ephemeral
- Local Setbacks

**Proposed Conditions**

- Proposed Structure - No Shoreland Impact
- Proposed Structure - Shoreland Impact
- Proposed Transmission Line
- Proposed New Right of Way
- Off ROW and UG Reporting Extents
- Temporary Construction Pad
- Station LODs
- Existing Access Route
- New Access Route

- Temporary Wetlands Matting (16'x 16')
- Erosion and Sedimentation Control BMPs
- Erosion and Sedimentation Control BMPs (Steep Slope)
- Temporary Limit of Disturbance - Construction Pad
- Limits of Permanent Vegetation Clearing
- UG Splice Vaults
- Trenched UG
- Trenchless UG

USGS 10' Contour

USGS 2' Contour

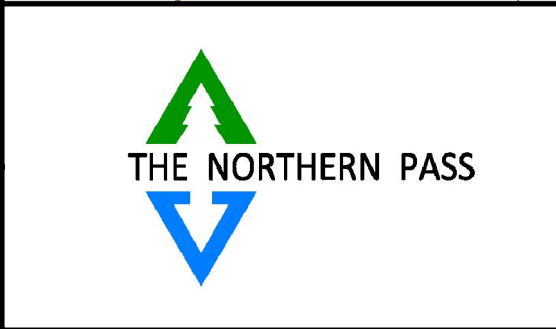
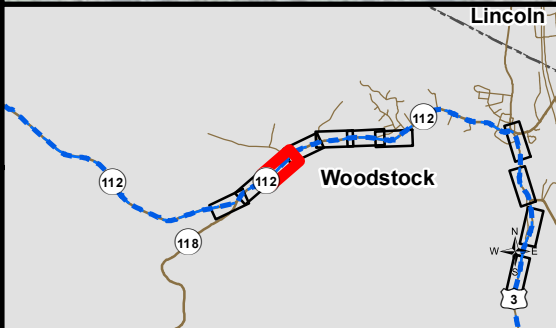
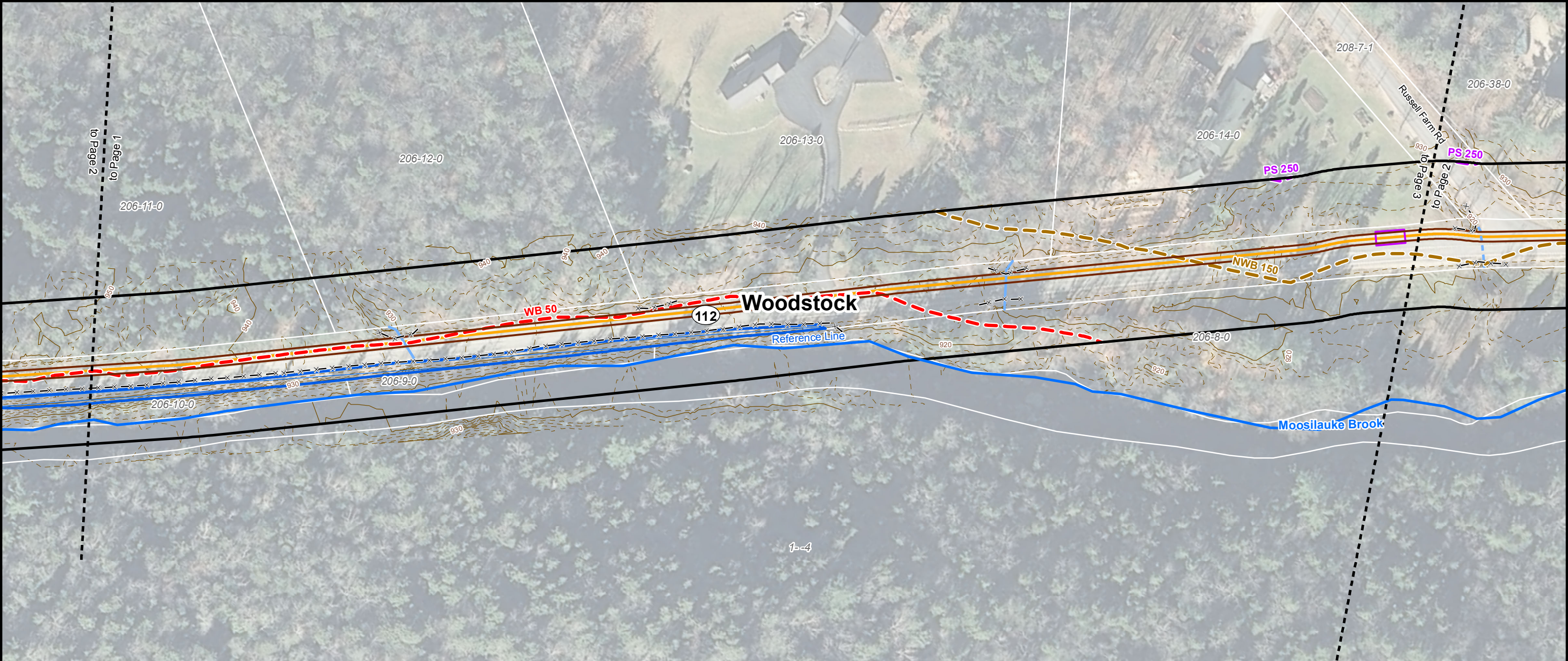
1 inch equals 100 feet when printed at 11" x 17"

0 25 50 100 Feet

NHDES Shoreland Permit Application Plans					
SWQPA Areas	Extent of Clearing (sq. ft.)	Construction Impacts (sq. ft.)		Impervious Surface (sq. ft.)	
	Clearing in Upland	Temporary	Permanent	Pre-Construction	Post - Construction
Waterfront Buffer (50')	0	2,383	0	17,463	17,463
Natural Woodland Buffer (150')	0	11,224	283	24,961	24,961
Protected Shoreland (250')	0	0	0	172	172
Total	0	13,608	283	42,596	42,596
May not sum to total due to rounding					
THE NORTHERN PASS PROPOSED ROUTE			Moosilauke Brook, Woodstock		
Date: 9/8/2015	DRAWN: LD				Page 01

Source: NHDOT 2010 and 2011 Aerials; New Hampshire GRANIT GIS Data; Coler & Colantonio; Normandeau; Burns & McDonnell.





Existing Conditions

Existing Structure

Existing Structure to be Removed

Existing Transmission Line

Existing Transmission Line to be Removed

Delineated Wetlands

Tax Parcels

Existing Right of Way

10' Index Contour

2' Interval Contour

USGS 10' Contour

USGS 2' Contour

Stream Centerlines

Perennial

Intermittent

Ephemeral

Delineated Waterbodies

Perennial

Intermittent

Ephemeral

Local Setbacks

Proposed Conditions

Proposed Structure - No Shoreland Impact

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Off ROW and UG Reporting Extents

Temporary Construction Pad

Station LODs

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New Access Route

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Erosion and Sedimentation Control BMPs (Steep Slope)

Temporary Limit of Disturbance - Construction Pad

Limits of Permanent Vegetation Clearing

UG Splice Vaults

Trenched UG

Trenchless UG

1 inch equals 100 feet when printed at 11" x 17"

0

25

50

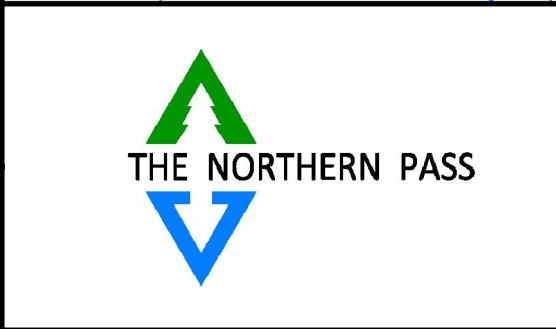
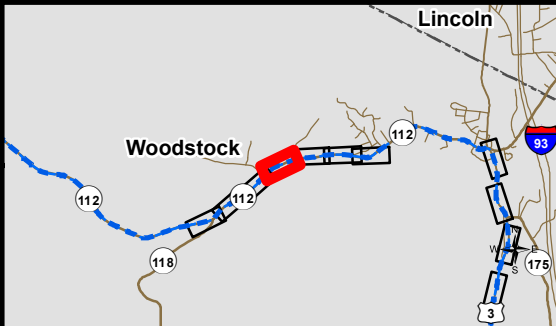
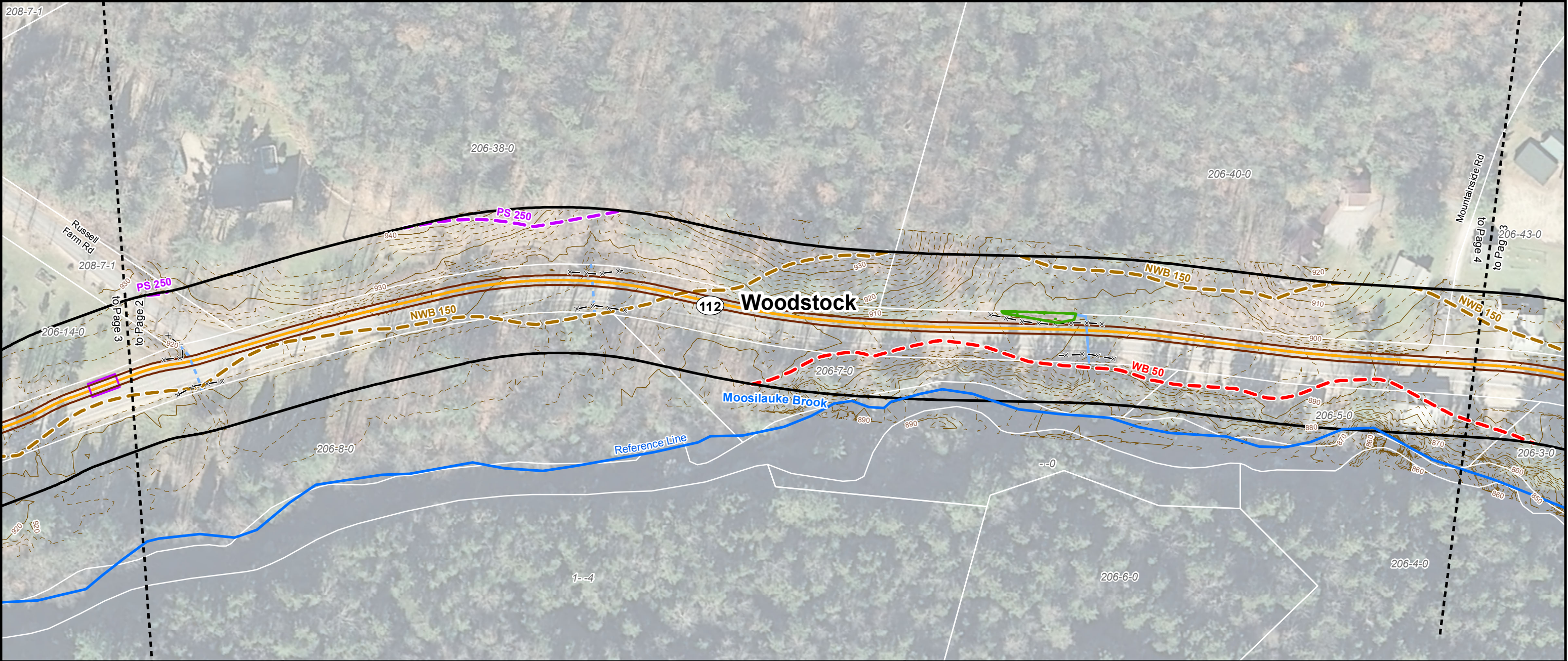
100

Feet

NHDES Shoreland Permit Application Plans					
SWQPA Areas	Extent of Clearing (sq. ft.)	Construction Impacts (sq. ft.)		Impervious Surface (sq. ft.)	
	Clearing in Upland	Temporary	Permanent	Pre-Construction	Post - Construction
Waterfront Buffer (50')	0	5,062	0	17,091	17,091
Natural Woodland Buffer (150')	0	6,176	0	12,629	12,629
Protected Shoreland (250')	0	2,114	293	4,246	4,246
Total	0	13,352	293	33,967	33,967
May not sum to total due to rounding					
THE NORTHERN PASS PROPOSED ROUTE			Moosilauke Brook, Woodstock		
Date: 9/8/2015	DRAWN: LD				Page 02

Source: NHDOT 2010 and 2011 Aerials; New Hampshire GRANIT GIS Data; Coler & Colantonio; Normandeau; Burns & McDonnell.





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Limits of Permanent Vegetation Clearing

UG Splice Vaults

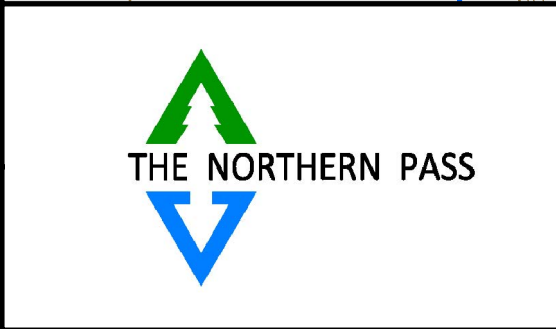
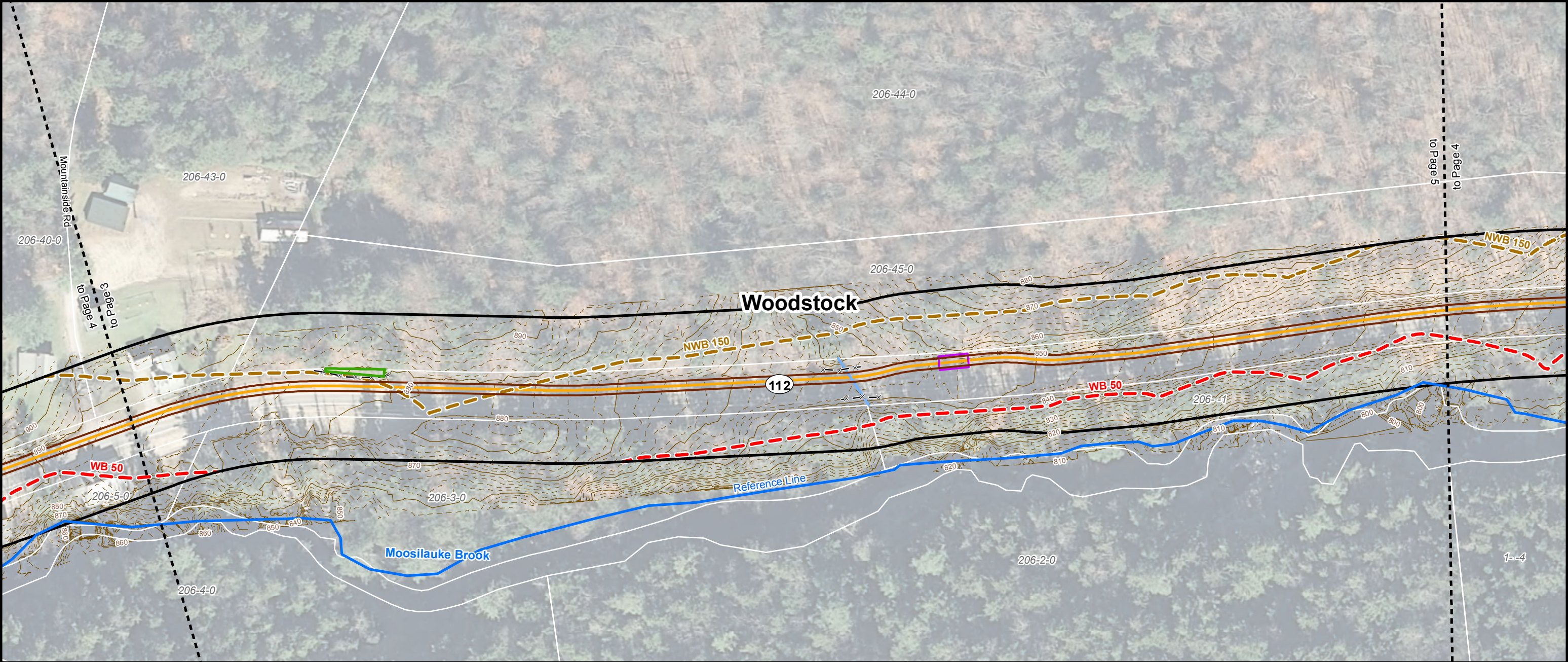
Trenched UG

Trenchless UG

NHDES Shoreland Permit Application Plans					
SWQPA Areas	Extent of Clearing (sq. ft.)	Construction Impacts (sq. ft.)		Impervious Surface (sq. ft.)	
	Clearing in Upland	Temporary	Permanent	Pre-Construction	Post - Construction
Waterfront Buffer (50')	0	0	0	2,794	2,794
Natural Woodland Buffer (150')	0	8,220	0	23,918	23,918
Protected Shoreland (250')	0	5,658	0	14,552	14,552
Total	0	13,877	0	41,265	41,265
May not sum to total due to rounding					
THE NORTHERN PASS PROPOSED ROUTE			Moosilauke Brook, Woodstock		
Date: 9/8/2015	DRAWN: LD				Page 03

Source: NHDOT 2010 and 2011 Aerials; New Hampshire GRANIT GIS Data; Coler & Colantonio; Normandeau; Burns & McDonnell.





Existing Conditions

Existing Structure

Existing Structure to be Removed

Existing Transmission Line

Existing Transmission Line to be Removed

Delineated Wetlands

Tax Parcels

Existing Right of Way

10' Index Contour

2' Interval Contour

USGS 10' Contour

USGS 2' Contour

Stream Centerlines

Perennial

Intermittent

Ephemeral

Delineated Waterbodies

Perennial

Intermittent

Ephemeral

Local Setbacks

Proposed Conditions

Proposed Structure - No Shoreland Impact

Proposed Structure - Shoreland Impact

Proposed Transmission Line

Proposed New Right of Way

Off ROW and UG Reporting Extents

Temporary Construction Pad

Station LODs

Existing Access Route

New Access Route

Temporary Wetlands Matting (16'x 16')

Erosion and Sedimentation Control BMPs

Erosion and Sedimentation Control BMPs (Steep Slope)

Temporary Limit of Disturbance - Construction Pad

Limits of Permanent Vegetation Clearing

UG Splice Vaults

Trenched UG

Trenchless UG

1 inch equals 100 feet when printed at 11" x 17"

0

25

50

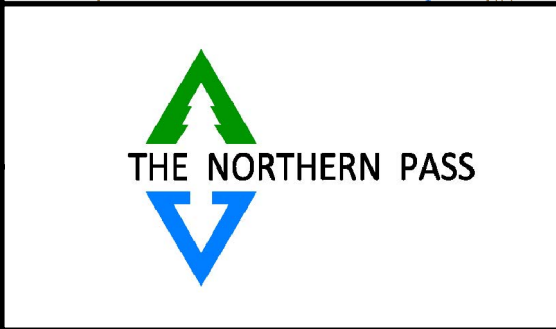
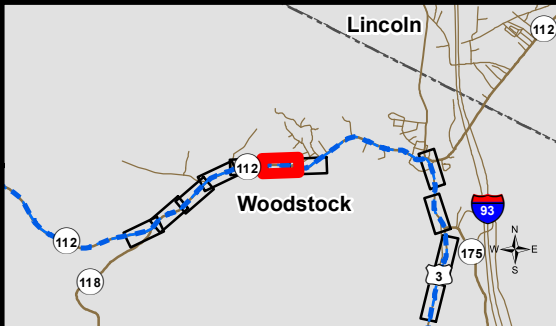
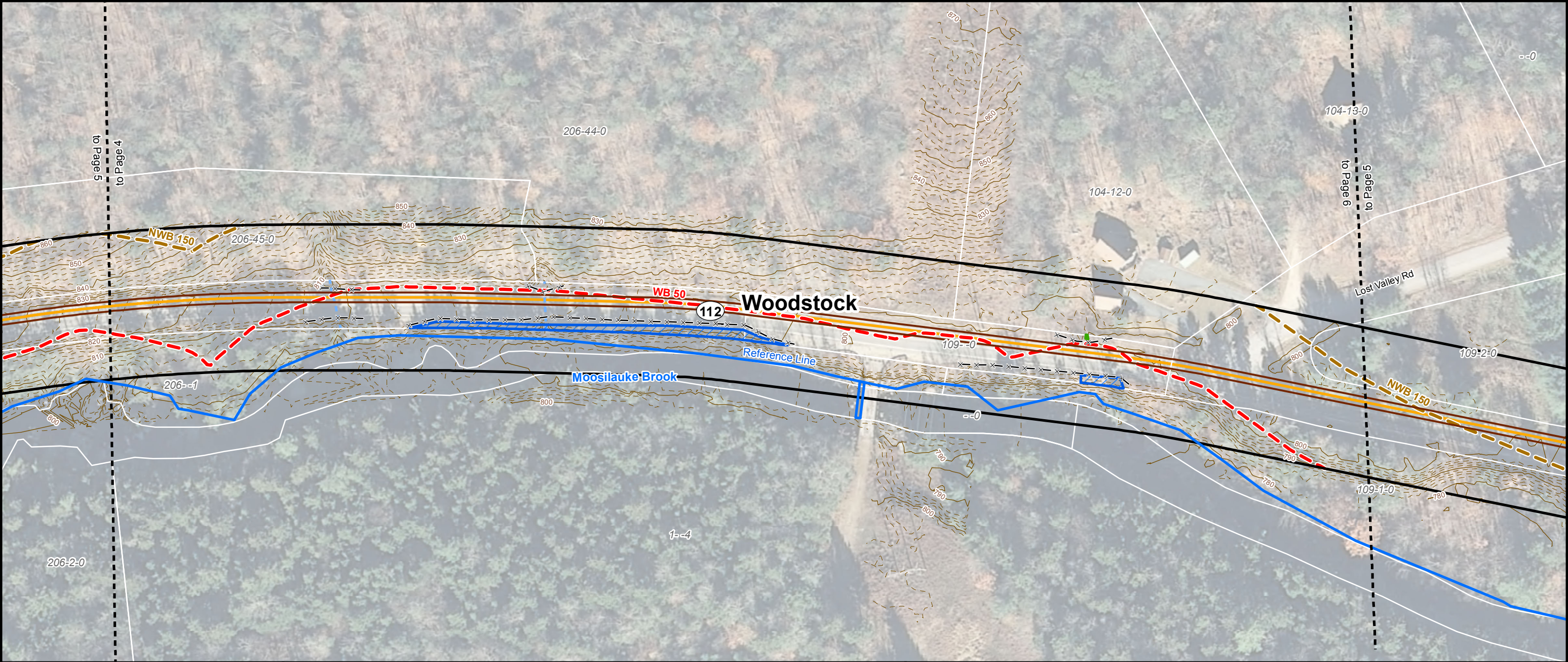
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Feet

NHDES Shoreland Permit Application Plans					
SWQPA Areas	Extent of Clearing (sq. ft.)	Construction Impacts (sq. ft.)		Impervious Surface (sq. ft.)	
	Clearing in Upland	Temporary	Permanent	Pre-Construction	Post - Construction
Waterfront Buffer (50')	0	0	0	0	0
Natural Woodland Buffer (150')	0	12,010	315	31,780	31,780
Protected Shoreland (250')	0	1,250	0	3,227	3,227
Total	0	13,260	315	35,007	35,007
May not sum to total due to rounding					
THE NORTHERN PASS PROPOSED ROUTE			Moosilauke Brook, Woodstock		
Date: 9/8/2015	DRAWN: LD				Page 04

Source: NHDOT 2010 and 2011 Aerials; New Hampshire GRANIT GIS Data; Coler & Colantonio; Normandeau; Burns & McDonnell.





Existing Conditions

Existing Structure

Existing Structure to be Removed

Existing Transmission Line

Existing Transmission Line to be Removed

Delineated Wetlands

Tax Parcels

Existing Right of Way

10' Index Contour

2' Interval Contour

USGS 10' Contour

USGS 2' Contour

Stream Centerlines

Perennial

Intermittent

Ephemeral

Delineated Waterbodies

Perennial

Intermittent

Ephemeral

Local Setbacks

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Proposed Structure - No Shoreland Impact

Proposed Structure - Shoreland Impact

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Erosion and Sedimentation Control BMPs (Steep Slope)

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Limits of Permanent Vegetation Clearing

UG Splice Vaults

Trenched UG

Trenchless UG

1 inch equals 100 feet when printed at 11" x 17"

0

25

50

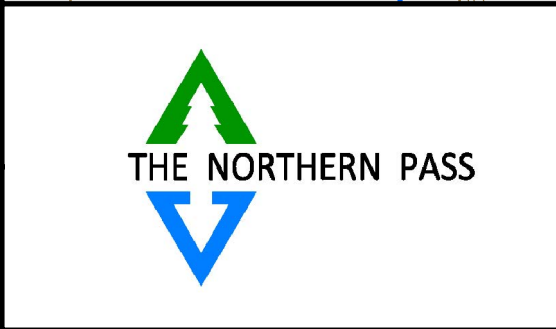
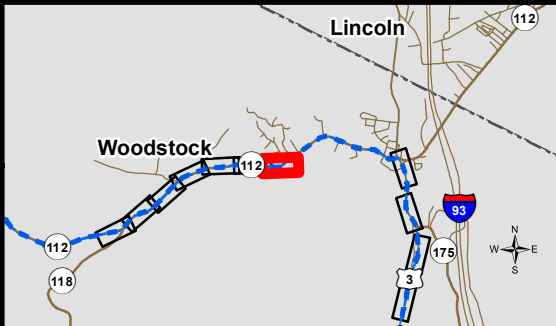
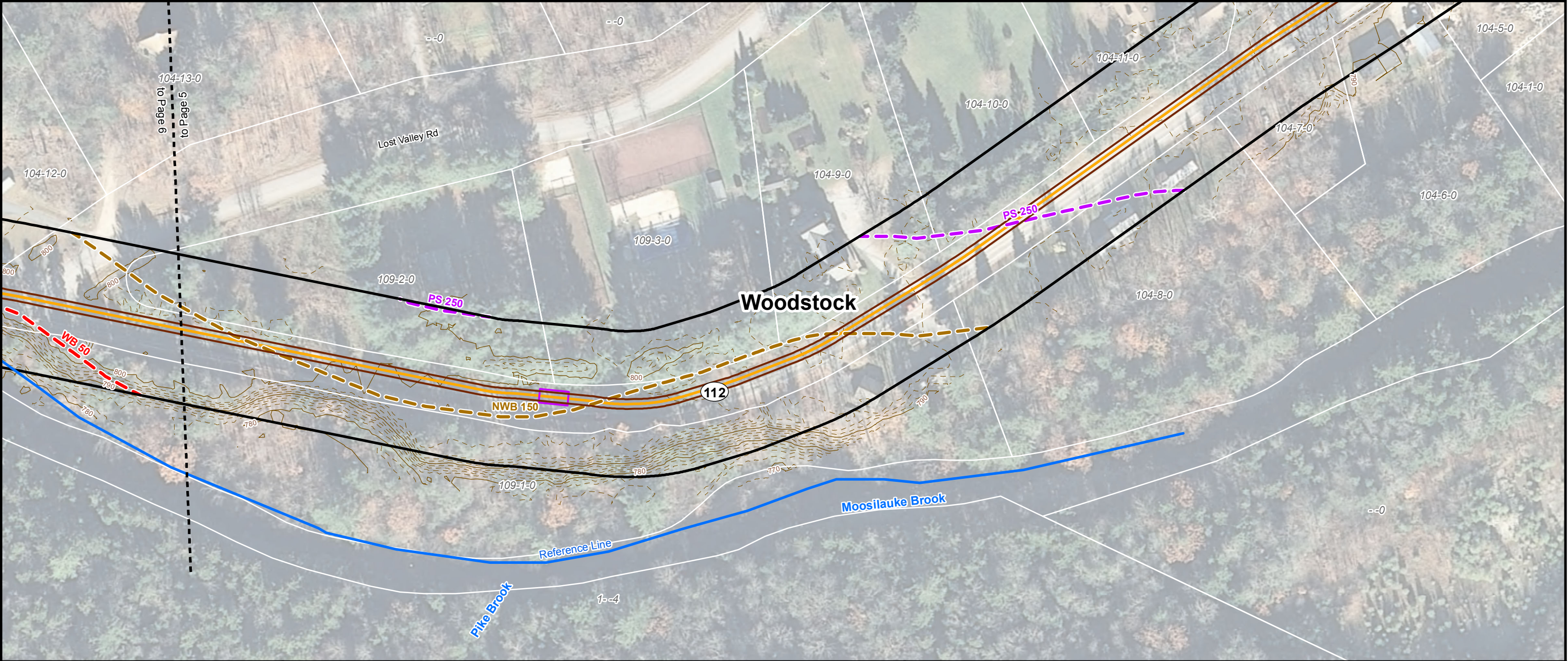
100

Feet

NHDES Shoreland Permit Application Plans					
SWQPA Areas	Extent of Clearing (sq. ft.)	Construction Impacts (sq. ft.)		Impervious Surface (sq. ft.)	
	Clearing in Upland	Temporary	Permanent	Pre-Construction	Post - Construction
Waterfront Buffer (50')	0	5,086	0	18,567	18,567
Natural Woodland Buffer (150')	0	7,826	0	17,426	17,426
Protected Shoreland (250')	0	0	0	663	663
Total	0	12,911	0	36,656	36,656
May not sum to total due to rounding					
THE NORTHERN PASS PROPOSED ROUTE			Moosilauke Brook, Woodstock		
Date: 9/8/2015	DRAWN: LD				Page 05

Source: NHDOT 2010 and 2011 Aerials; New Hampshire GRANIT GIS Data; Coler & Colantonio; Normandeau; Burns & McDonnell.





Existing Conditions

Existing Structure

Existing Structure to be Removed

Existing Transmission Line

Existing Transmission Line to be Removed

Delineated Wetlands

Tax Parcels

Existing Right of Way

10' Index Contour

2' Interval Contour

USGS 10' Contour

USGS 2' Contour

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Proposed Structure - No Shoreland Impact

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Trenchless UG

1 inch equals 100 feet  
when printed at 11" x 17"

NHDES Shoreland Permit Application Plans					
SWQPA Areas	Extent of Clearing (sq. ft.)	Construction Impacts (sq. ft.)		Impervious Surface (sq. ft.)	
	Clearing in Upland	Temporary	Permanent	Pre-Construction	Post - Construction
Waterfront Buffer (50')	0	0	0	0	0
Natural Woodland Buffer (150')	0	3,384	0	10,982	10,982
Protected Shoreland (250')	0	5,401	174	16,249	16,249
Total	0	8,785	174	27,231	27,231
May not sum to total due to rounding					
THE NORTHERN PASS PROPOSED ROUTE			Moosilauke Brook, Woodstock		
Date: 9/8/2015	DRAWN: LD				Page 06

Source: NHDOT 2010 and 2011 Aerials; New Hampshire GRANIT GIS Data; Coler & Colantonio; Normandeau; Burns & McDonnell.



## ■ Appendix B

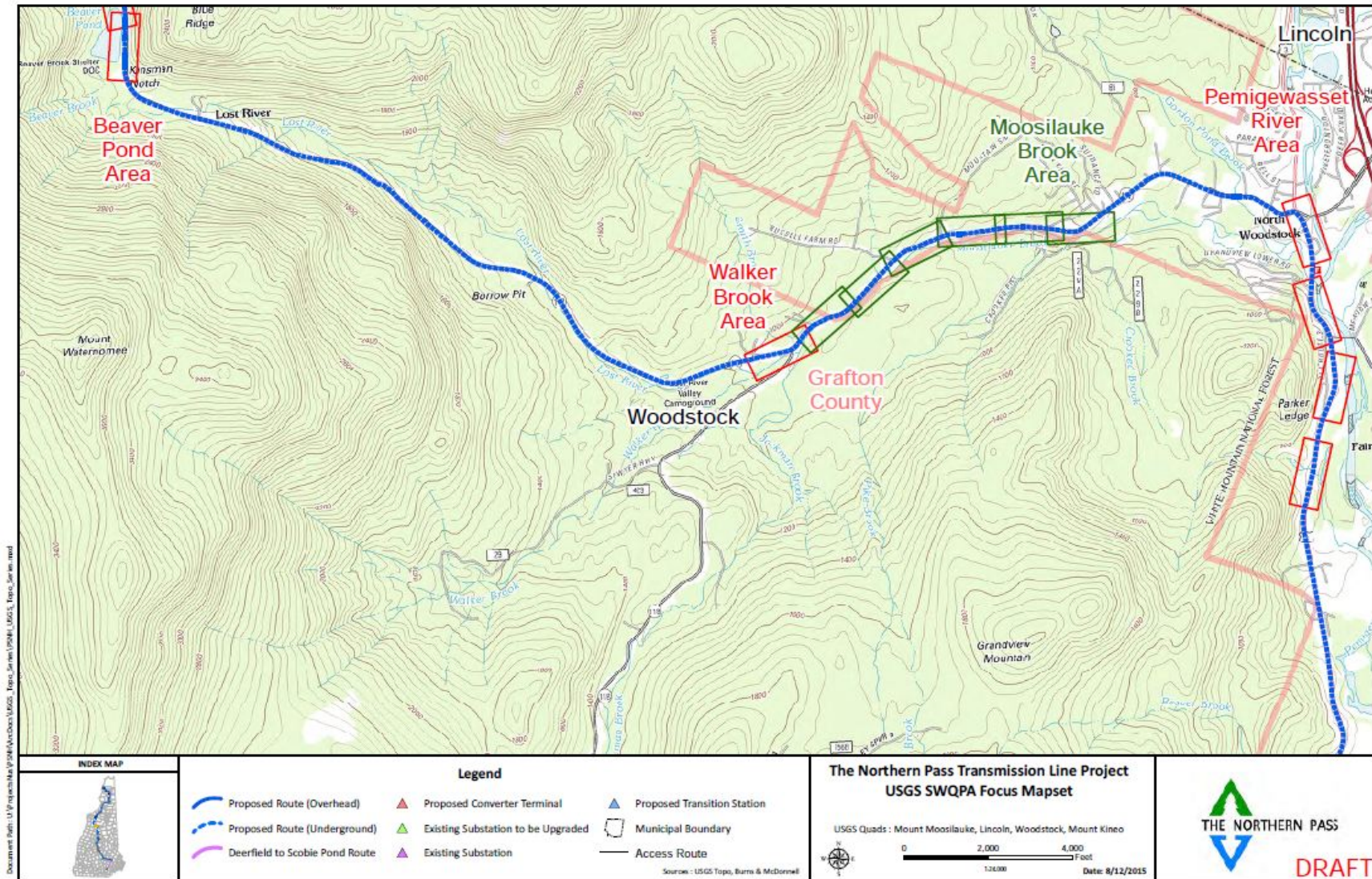
### Property Deeds

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Per recommendation of the NH Department of Environmental Services Shoreland Bureau, legal documents associated with easements and other property rights, including deeds, are being submitted separately via CD to NHDES. NPT will install underground transmission facilities pursuant to authority provided under RSA 231:160, et seq. for use of public highways for various utility purposes.

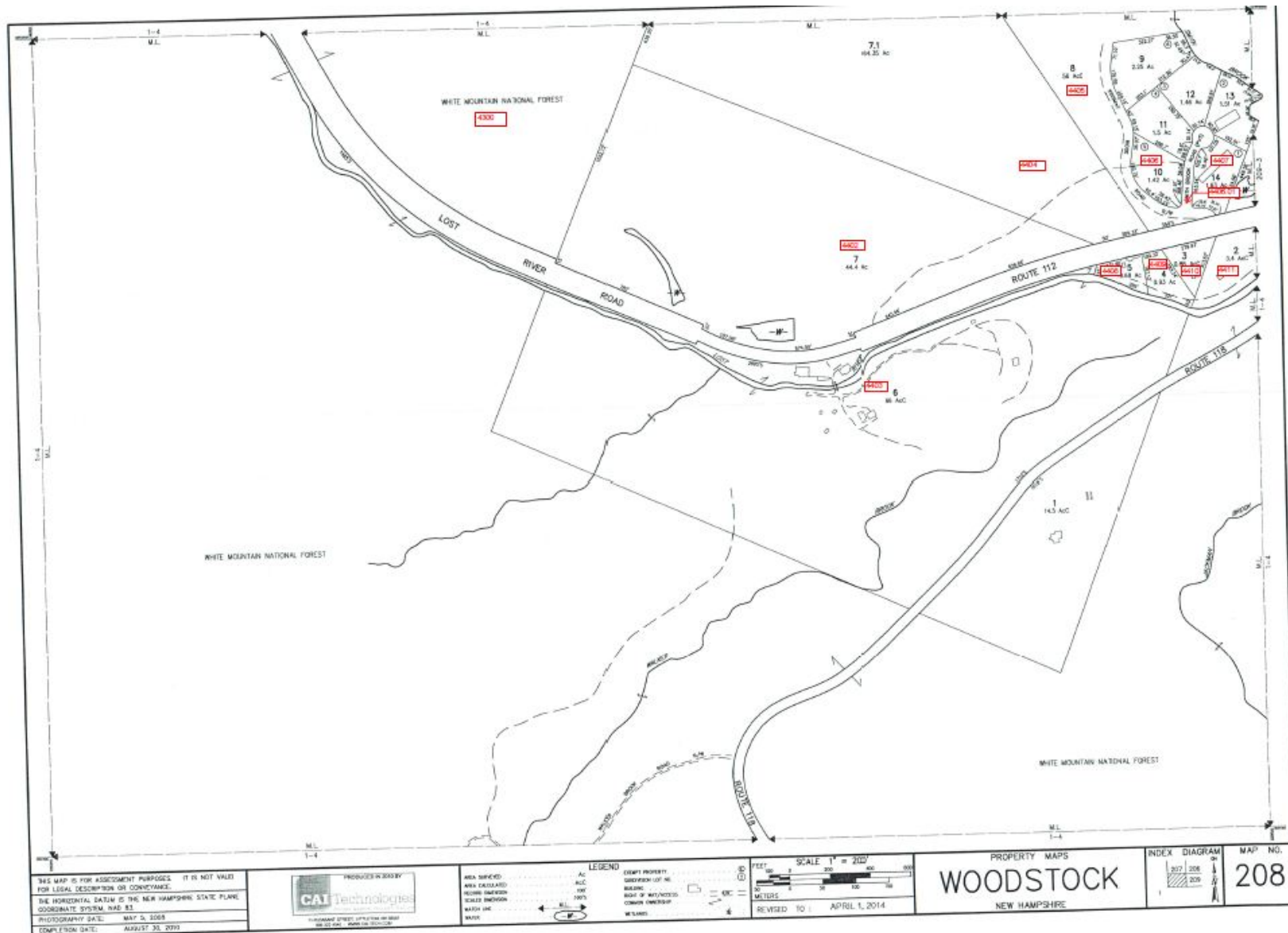
## ■ Appendix C USGS Locus Maps

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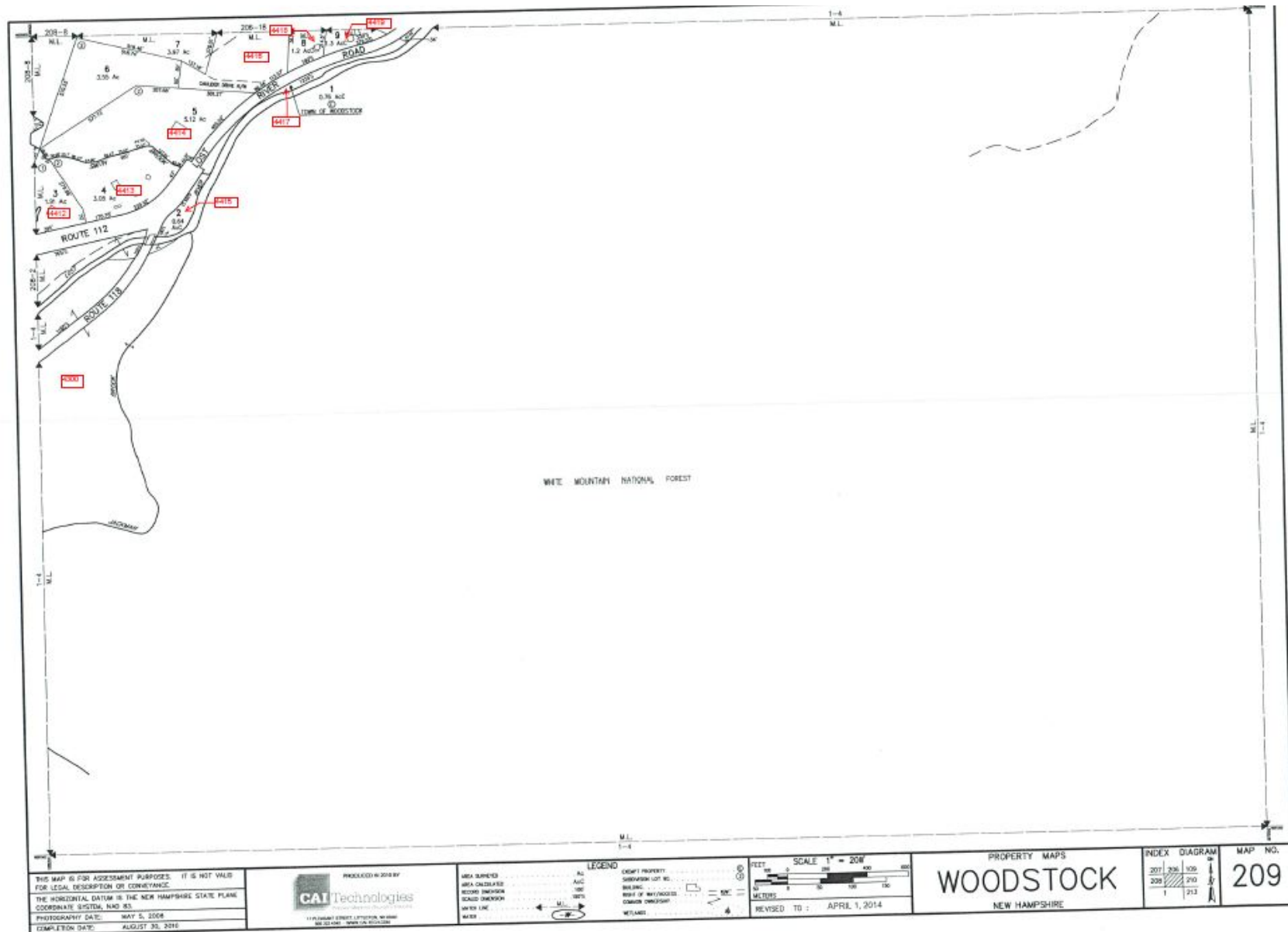


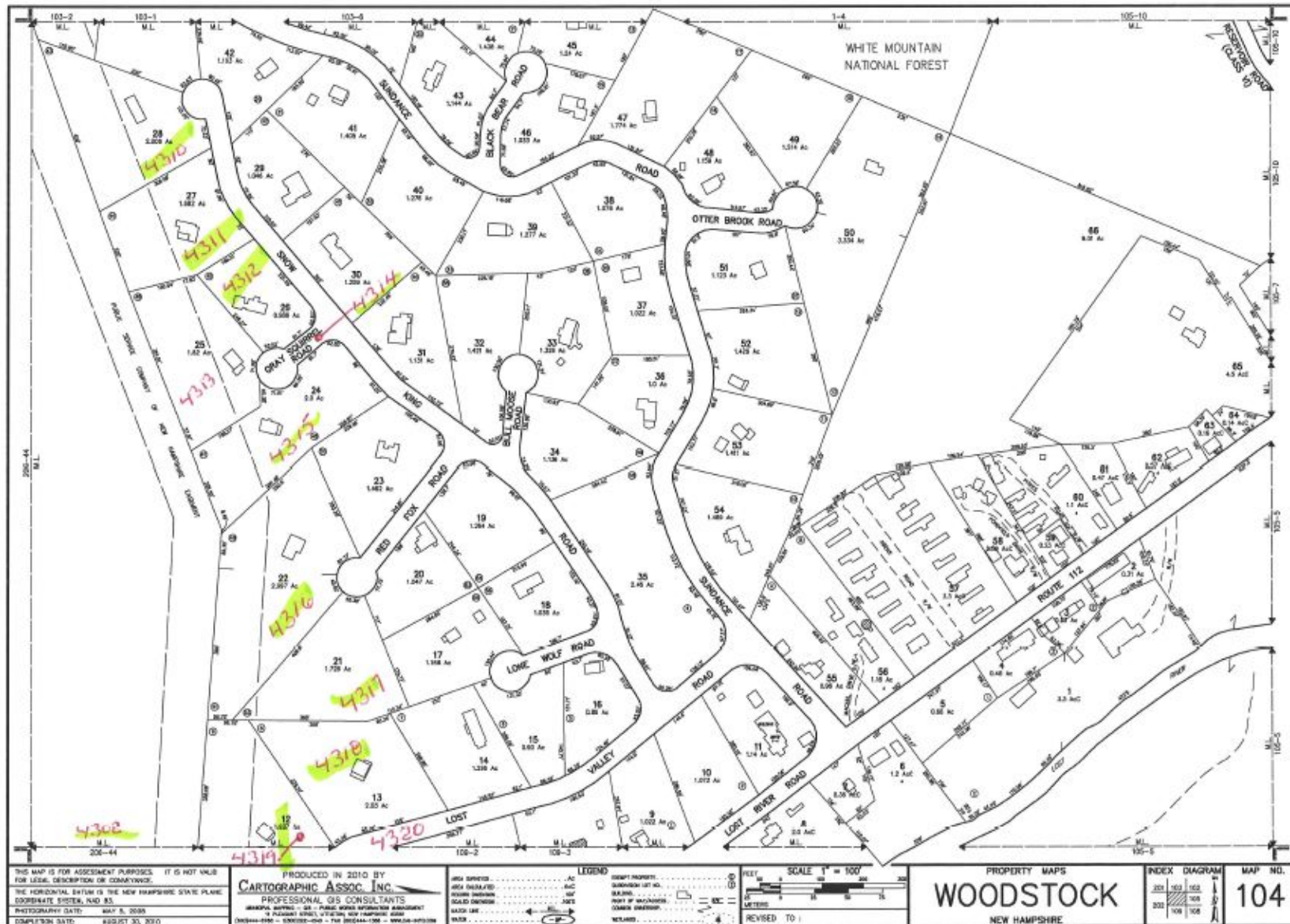
## ■ Appendix D NH Tax Maps

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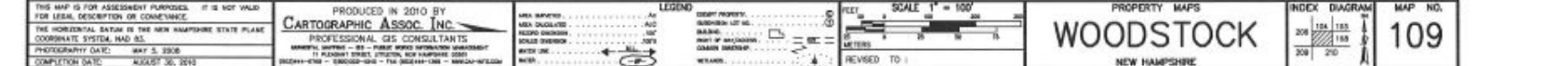


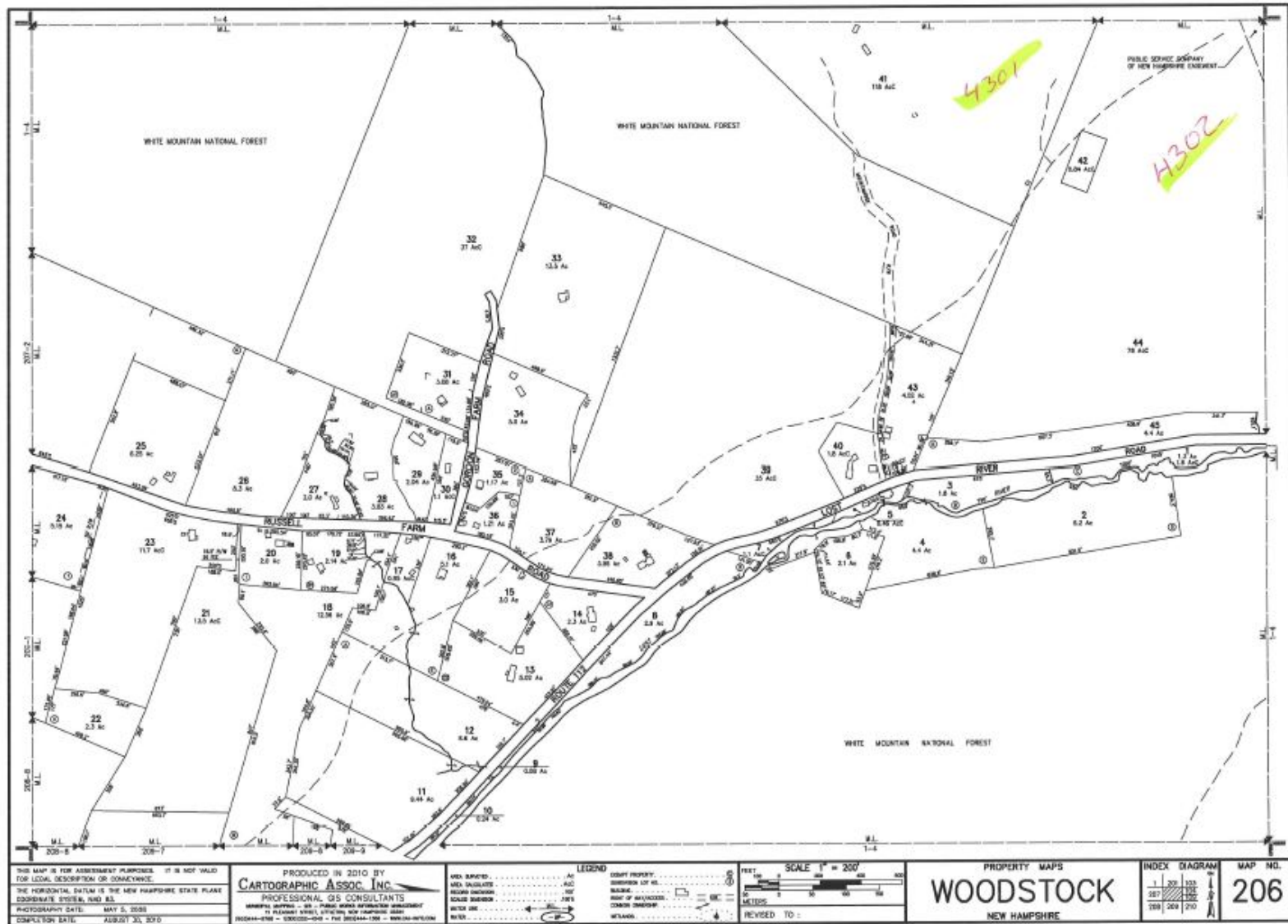












## ■ Appendix E Representative Photos

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**Photo 1. The NPT line follows Route 112 and intersects the protected Shoreland Buffer of Moosilauke Brook in Woodstock, NH as part of the Underground Line (UG1). The underground cable will be trenched in this portion of the Protected Shoreland within the Road ROW. View East. The following photos are representative of the whole Route 112 corridor where underground work will take place along Moosilauke Brook.**







Work along route 112, along the Moosilauke Brook in Woodstock, NH will include the trenching and placement of underground cable within an existing DOT right of way. After installation, the disturbed areas will be regraded and restored.

## ■ Appendix F NHB Report and Correspondence

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**NEW HAMPSHIRE NATURAL HERITAGE BUREAU**

DRED - DIVISION OF FORESTS & LANDS

PO Box 1 856 -- 1 72 PEMBROKE ROAD, CONCORD, NH 03302-1 856

(603) 271 -221 4

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**To:** William McCloy, Normandeau Associates, Inc.

**From:** Melissa Coppola, Environmental Information Specialist

**Date:** March 30, 2015

**Subject:** Northern Pass Database Request (NHB15-0611)

This memo is to confirm that Normandeau Associates have coordinated with the NH Natural Heritage Bureau (NHB) regarding information on known locations of rare species and exemplary natural communities for the Northern Pass project.

Due to the size and scope of the project, NHB is not providing a typical NHB review memo for permitting. Instead, this memo summarizes information provided by NHB to date, and notes that specific recommendations should be developed after project plans are close to being finalized:

- Normandeau was provided with digital data for the project under a data-sharing agreement dated 1/16/15 (397 digital NHB records). This is the sixth data-sharing agreement Normandeau has requested for this project: others were provided in 2010, 2011, 2012, 2013, and 2014 for project planning and ecological impact studies. NHB has also reviewed work plans associated with plant and community survey methodology on several occasions, including a meeting on 6/18/10.
- At the request of NHB, Normandeau consultants have conducted rare plant and natural community surveys within the proposed project area. If the project area extends to new locations, or new concerns are identified, additional surveys may be requested.
- As the project progresses and impacts areas are further clarified, Normandeau should set up a meeting with NHB staff to discuss avoiding and minimizing impacts to rare plant species and exemplary natural communities.



## New Hampshire Natural Heritage Bureau

DRED - Division of Forests & Lands  
172 Pembroke Road, Concord, NH 03301  
(603) 271-2214

**To:** Lee Carboneau, Normandeau Associates, Inc.  
**From:** Amy Lamb, Ecological Information Specialist  
**Date:** October 5, 2015  
**Subject:** Northern Pass Pre-Application Meeting Summary (NHB15-0611)

On March 30, 2015, Melissa Coppola issued a NH Natural Heritage Bureau (NHB) memo (NHB15-0611) to Normandeau Associates, Inc. that listed Threatened and Endangered species populations that will potentially be impacted by the proposed Northern Pass project. Since that date, NHB and Normandeau have met on several occasions to discuss project impacts, avoidance and minimization measures, route changes, and the remaining survey work to be completed.

This memo summarizes the most recent pre-application meeting, which took place on October 1, 2015. This meeting was held in order to review current rare plant and natural community information, refine avoidance and minimization measures, and determine additional steps to be taken in preparation for permit application submittal at the end of October, 2015.

The meeting resulted in the following determinations regarding data and documentation:

- NHB last provided digital data to Normandeau in February of 2015, and will continue to provide any new data (i.e., new plant surveys within the project area) as they become available.
- Normandeau will provide the final reports on Vegetation and Threatened and Endangered species to NHB upon completion.
- Normandeau will provide NHB a table summarizing the anticipated impacts to all rare plants and exemplary natural communities within the selected corridor. This table will distinguish between the different types of impacts and their resulting (long-term) effects on rare plants and exemplary natural communities.



- Any reports that are filed as publicly available information will not contain specific locations of rare plants; this information will be restricted to an appendix and treated as confidential, and will be removed from publicly available reports.
- The rare plant avoidance and minimization measures that the applicant has proposed were developed in consultation with NHB. NHB will provide additional species-specific avoidance and minimization guidance during the permit review period. This will consist of a table with prioritized actions for each species.
- As any new areas for access, staging, etc. become known, Normandeau (or any subsequent contractor) will conduct rare plant surveys in the areas and provide the results to NHB.
- Normandeau identified Lee Carbonneau as the point person for future Natural Heritage communications, and the NHB point person will be Amy Lamb.

The meeting also resulted in the determination of several measures to avoid and minimize impacts to Natural Heritage resources during construction:

- Meetings will be held among contractors, environmental monitors, and inspectors, prior to contractors working in or near areas where listed plants are located, that will include making contractors aware of sensitive areas and the appropriate best management practices for each area.
- Plans that are provided to contractors will contain a color-coded bar indicating the extent of a sensitive area; no further information will be revealed on such plans.
- Normandeau (or any subsequent contractor) will have "Sensitive Area" signs installed around rare plant populations and exemplary natural communities to alert work crews to their presence.
- It was agreed that it is critical that environmental monitors have the power and authority to stop work immediately if they become aware that any action will violate agreed-upon BMPs.
- NHB will make a recommendation to NHDES regarding qualifications of Environmental Monitors, to be included as a permit condition.

NHB and Normandeau will continue to communicate as the project progresses, in particular as any route changes or new impacts to rare plants become known.

Normandeau Associates has coordinated with the NH Natural Heritage Bureau since 2010 to obtain information on known locations of rare species and exemplary natural communities within a half mile of the Northern Pass Project. Normandeau was provided with a digital data set for known locations and, per the request of NHB, Normandeau consultants conducted rare plant and natural community surveys within the proposed project area. .

Within a half mile of the Protected Shoreland of Moosilauke Brook in Woodstock, NH, NHB identified two element occurrences within a half mile. NHB identified the S3 state ranked high-gradient rocky riverbank natural community and the S1S3 *Cicindela ancocisconensis* (a Tiger Beetle).

## ■ Appendix G

### Certified Mail Notifications and Receipts

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N/A for abutters (Waiver for public utility lines exempt per RSA-483-B:5-b, IV (A))

***Via Certified Mail***

October 14, 2015

Town of Woodstock  
165 Lost River Rd.  
Woodstock, NH 03262

**Re: Shoreland Permit Application – The Northern Pass Project**

Dear Sir or Madam:

Enclosed please find a copy of the Shoreland Permit Application package that will be filed with the NH Department of Environmental Services (DES) and New Hampshire Site Evaluation Committee for the Northern Pass Project. The project includes work in or around rivers, lakes, streams ponds, etc. Under state law, it is a requirement to provide the municipalities and Local River Advisory Committees having jurisdiction over these waterbodies with a copy of the shoreland application by Certified mail, for review and comment. Please find attached a copy of the application, which proposes work within the protected shoreland of a public water or Designated River in your regulatory area.

Sincerely,

A handwritten signature in purple ink that reads "Lee E. Carbonneau". The signature is fluid and cursive, with the first name "Lee" and last name "Carbonneau" clearly legible.

Lee Carbonneau  
Normandeau Associates, Inc.  
As agent for Northern Pass Transmission, LLC.