V182-F139 Electric Transmission Line Rebuild Project

Franklin, Northfield, Canterbury, and Concord, New Hampshire

PREPARED FOR

Public Service Company of NH (PSNH)
d/b/a Eversource Energy
c/o Kurt Nelson
13 Legends Drive
Hooksett, NH 03106
603.634.3256

PREPARED BY

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110
603.391.3900

March 10, 2023

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Cover Letter

www.vhb.com

March 10, 2023

Ref: 52932.00

Mr. Ridgely Mauck
NHDES - Alteration of Terrain Bureau
29 Hazen Drive
Concord, NH 03302-0095

Re: V182/F139 Electric Transmission Line Rebuild
Franklin, Northfield, Canterbury, and Concord, NH

Dear Mr. Mauck,

On behalf of Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH), VHB respectfully submits for your consideration the attached Alteration of Terrain Application for the proposed replacement of the existing V182 and F139 Electric Transmission Lines. Both lines share the same utility structure right-of-way that spans approximately 14.3 miles from Webster Substation in Franklin, NH to Farmwood Substation in Concord, NH.

Eversource has identified the need to replace 142 wooden structures and conductor (wire) and install fiber optic cable known as Optical Ground Wire (OPGW), along the existing F139 Transmission Line and to replace 147 laminated wood structures along the existing V182 Transmission Line. Recent physical inspections and engineering analysis of both lines revealed that many of the structures suffer from woodpecker damage, insect damage, and pole rot. All wooden utility structures along both lines will be replaced with new weathered steel structures in accordance with current construction methods and materials.

The proposed OPGW installation on the F139 Transmission Line will enable faster and more reliable communication between substations, allowing for increased visibility of the system, quicker response times for system issues, increased automation, reduced outages, and overall improved reliability across the electric system. The PSNH 115-kV transmission system is an integral part of the regional power system delivering electricity to customers throughout New England, and it is critical that the 115-kV system remain operational without interruption from preventable outages.

The total land disturbance for the project was calculated to be approximately 61.1 acres. The disturbance area includes the work pads, access roads, and the estimated limits of necessary grading. The largest work pad to be established around proposed replacement structures will be limited to approximately 100 foot x100 foot in size.

Engineers | Scientists | Planners | Designers

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

In association with this application, the following documents are enclosed

- Unbound signed application form, application fee and color USGS maps.
- Alteration of Terrain Application Package.

Please feel free to contact me if there are any questions or comments regarding this project or the enclosed materials.

Sincerely,

Dave Fenstermacher

Director of Land Development

Vanasse Hangen Brustlin, Inc.

cc: Ashley Friend – PSNH
Sherrie Trefry - VHB

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Application Form & Checklist

ALTERATION OF TERRAIN PERMIT APPLICATION

Water Division/ Alteration of Terrain Bureau/ Land Resources Management
Check the Status of your Application: www.des.nh.gov/onestop

RSA/ Rule: RSA 485-A:17, Env-Wq 1500

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

1. APPLICANT INFORMATION (INTENDED PERMIT HOLDER)		
Applicant Name: PSNH d/b/a Eversource Energy	Contact Name: Ashley Friend	
Email: ashley.friend@eversource.com	Daytime Telephone: (603) 634-2992	
Mailing Address: 13 Legends Drive		
Town/City: Hooksett	State: NH	Zip Code: 03106
2. APPLICANT'S AGENT INFORMATION If none, check here: ☐		
Business Name: Vanasse Hangen Brustlin, Inc. (VHB)	Contact Name: Sherrie Trefry	
Email: strefry@vhb.com	Daytime Telephone: (603) 391-3951	
Address: 2 Bedford Farms Drive, Suite 200		
Town/City: Bedford	State: NH	Zip Code: 03110
3. PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT)		
Applicant Name: Same	Contact Name:	
Email:	Daytime Telephone:	
Mailing Address:		
Town/City:	State:	Zip Code:
4. PROPERTY OWNER'S AGENT INFORMATION If none, check here: ☐		
Business Name: Same as Applicant's agent	Contact Name:	
Email:	Daytime Telephone:	
Address:		
Town/City:	State:	Zip Code:
5. CONSULTANT INFORMATION If none, check here: ☐		
Engineering Firm: Vanasse Hangen Brustlin, Inc. (VHB)	Contact Name: Sherrie Trefry	
Email: strefry@vhb.com	Daytime Telephone: (603) 391-3951	
Address: 2 Bedford Farms Drive, Suite 200		
Town/City: Bedford	State: NH	Zip Code: 03110

6. PROJECT TYPE

☐ Excavation Only ☐ Residential ☐ Commercial ☐ Golf Course ☐ School ☐ Municipal
☐ Agricultural ☐ Land Conversion ☒ Other: Utility

7. PROJECT LOCATION INFORMATION

Project Name: V182/F139 Electric Transmission Line Rebuild

Street/Road Address: Existing Electric Transmission Line Right-of-Way (ROW)

Town/City: Franklin, Northfield, Canterbury, and Concord, NH | County: Merrimack

Tax Map: N/A | Block: N/A | Lot Number: N/A | Unit: N/A

Location Coordinates: 43.455607°, -71.674170° ☒ Latitude/Longitude ☐ UTM ☐ State Plane

Post-development, will the proposed project withdraw from or directly discharge to any of the following? If yes, identify the purpose.

1. Stream or Wetland Purpose:	☐ Yes ☒ No	☐ Withdrawal	☐ Discharge
2. Man-made pond created by impounding a stream or wetland Purpose:	☐ Yes ☒ No	☐ Withdrawal	☐ Discharge
3. Unlined pond dug into the water table Purpose:	☐ Yes ☒ No	☐ Withdrawal	☐ Discharge

Post-development, will the proposed project discharge to:

- A surface water impaired for phosphorus and/or nitrogen? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A Class A surface water or Outstanding Resource Water? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A lake or pond not covered previously? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond**

Is the project a High Load area? ☐ Yes ☒ No
If yes, specify the type of high load land use or activity: _____

Is the project within a Water Supply Intake Protection Area (WSIPA)? ☐ Yes ☒ No
Is the project within a Groundwater Protection Area (GPA)? ☒ Yes ☐ No
Will the well setbacks identified in Env-Wq 1508.02 be met? ☒ Yes ☐ No

Note: Guidance document titled "*Using NHDES's OneStop WebGIS to Locate Protection Areas*" is available online. For more details on the restrictions in these areas, read Chapter 3.1 in Volume 2 of the NH Stormwater Manual.

Is any part of the property within the 100-year floodplain? ☒ Yes ☐ No
If yes: Cut volume: 567 cubic feet within the 100-year floodplain
Fill volume: 47,331 cubic feet within the 100-year floodplain

☒ Project **IS** within **¼ mile of a designated river** Name of River: Merrimack River
☐ Project is **NOT** within ¼ mile of a designated river

☐ Project **IS** within **a Coastal/Great Bay Region community** - **include info required by Env-Wq 1503.08(l) if applicable**
☒ Project is **NOT** within a Coastal/Great Bay Region community

8. BRIEF PROJECT DESCRIPTION (PLEASE DO NOT REPLY "SEE ATTACHED")

Eversource has identified the need to replace 142 wooden structures and conductor (wire) and install fiber optic cable known as Optical Ground Wire (OPGW), along the existing F139 Transmission Line and to replace 147 laminated wood structures along the existing V182 Transmission Line. Recent physical inspections and engineering analysis of both lines revealed that many of the structures suffer from woodpecker damage, insect damage, and pole rot. All wooden utility structures along both lines will be replaced with new weathered steel structures in accordance with current construction methods and materials.

9. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT

Not Applicable

10. ADDITIONAL REQUIRED INFORMATION

A. Date a copy of the application was sent to the municipality as required by Env-Wq 1503.05(e)[1]: __/__/____. **TBD**
(Attach proof of delivery)

B. Date a copy of the application was sent to the local river advisory committee if required by Env-Wq 1503.05(e)[2]: __/__/____. **TBD**
(Attach proof of delivery)

C. Type of plan required: ☐ Land Conversion ☒ Detailed Development ☐ Excavation, Grading & Reclamation ☐ Steep Slope

D. Additional plans required: ☐ Stormwater Drainage & Hydrologic Soil Groups ☐ Source Control ☐ Chloride Management

E. Total area of disturbance: 2,660,546 square feet

F. Additional impervious cover as a result of the project: 0* square feet (use the "-" symbol to indicate a net reduction in impervious coverage).
Total final impervious cover: 0 square feet
*Due to the linear nature of these types of utility replacement projects, the presence of existing, unquantified, gravel access roads and in association with the waiver request related to stormwater calculations impervious cover is considered to be di minimis.

G. Total undisturbed cover: 19,340,015 square feet {= total right-of-way area between Webster Lake Substation and Farmwood Substation (22,000,561 SF) - area of disturbance (2,660,546 SF)}

H. Number of lots proposed: 0

I. Total length of roadway: 0 linear feet

J. Name(s) of receiving water(s): Hayward Brook, Burnham Brook, Cold Brook, Bryant Brook, Merrimack River, Chance Pond

K. Identify all other NHDES permits required for the project, and for each indicate whether an application has been filed and is pending, or if the required approval has been issued provide the permit number, registration date, or approval letter number, as applicable.

Type of Approval	Application Filed?	Status	
		Pending	If Issued:
1. Water Supply Approval	☐ Yes ☐ No ☒ N/A	☐	Permit number:
2. Wetlands Permit	☐ Yes ☒ No ☐ N/A	☐	Permit number:
3. Shoreland Permit	☐ Yes ☒ No ☐ N/A	☐	Permit number:
4. UIC Registration	☐ Yes ☐ No ☒ N/A	☐	Registration date:
5. Large/Small Community Well Approval	☐ Yes ☐ No ☒ N/A	☐	Approval letter date:
6. Large Groundwater Withdrawal Permit	☐ Yes ☐ No ☒ N/A	☐	Permit number:
7. Other:	☐ Yes ☐ No	☐	Permit number:

L. List all species identified by the Natural Heritage Bureau as threatened or endangered or of concern: See NHB Letters included

M. Using NHDES's Web GIS OneStop program (www2.des.state.nh.us/gis/onestop/), with the Surface Water Impairment layer turned on, list the impairments identified for each receiving water. If no pollutants are listed, enter "N/A."
Hayward Brook: Fishes Bio-assessments, Merrimack River: Aluminum, Burnham Brook: N/A, Cold Brook: N/A, Bryant Brook: N/A, Chance Pond: N/A

N. Did the applicant/applicant's agent have a pre-application meeting with AOT staff? ☐ Yes ☒ No
If yes, name of staff member:

[1] Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the governing body of each municipality in which the project is proposed.

[2] Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the Local River Advisory Committee, if the project is within ¼ mile of a designated river.

O. Will blasting of bedrock be required? ☐ Yes ☒ No If yes, estimated quantity of blast rock: _____ cubic yards
If yes, standard blasting BMP notes must be placed on the plans, available at:
http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-10-12.pdf

NOTE: If greater than 5,000 cubic yards of blast rock will be generated, a groundwater monitoring program must be developed and submitted to NHDES. Contact AOT staff for additional detail.

11. CHECK ALL APPLICATION ATTACHMENTS THAT APPLY (SUBMIT WITH APPLICATION IN ORDER LISTED)

LOOSE:

- ☒ Signed application form: des.nh.gov/organization/divisions/water/aot/index.htm (with attached proof(s) of delivery)
- ☒ Check for the application fee: des.nh.gov/organization/divisions/water/aot/fees.htm
- ☒ Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale)
- ☒ If Applicant is not the property owner, proof that the applicant will have a legal right to undertake the project on the property if a permit is issued to the applicant.

BIND IN A REPORT IN THE FOLLOWING ORDER:

- ☒ Copy of the signed application form & application checklist (des.nh.gov/organization/divisions/water/aot/index.htm)
- ☒ Copy of the check
- ☒ Copy of the USGS map with the property boundaries outlined (1" = 2,000' scale)
- ☒ Narrative of the project with a summary table of the peak discharge rate for the off-site discharge points
- ☒ Web GIS printout with the "Surface Water Impairments" layer turned on - http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx
- ☒ Web GIS printouts with the AOT screening layers turned on - http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx
- ☒ NHB letter using DataCheck Tool – www.nhdfl.org/about-forests-and-lands/bureaus/natural-heritage-bureau/
- ☒ The Web Soil Survey Map with project's watershed outlined – websoilsurvey.nrcs.usda.gov
- ☒ Aerial photograph (1" = 2,000' scale with the site boundaries outlined)
- ☒ Photographs representative of the site
- N/A ☐ Groundwater Recharge Volume calculations (one worksheet for each permit application): des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- N/A ☐ BMP worksheets (one worksheet for each treatment system): des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- N/A ☐ Drainage analysis, stamped by a professional engineer (see Application Checklist for details)
- N/A ☐ Riprap apron or other energy dissipation or stability calculations
- N/A ☐ Site Specific Soil Survey report, stamped and with a certification note prepared by the soil scientist that the survey was done in accordance with the Site Specific Soil Mapping standards, *Site-Specific Soil Mapping Standards for NH & VT, SSSNNE Special Publication No. 3*.
- N/A ☐ Infiltration Feasibility Report (example online) [Env-Wq 1503.08(f)(3)]
- N/A ☐ Registration and Notification Form for Storm Water Infiltration to Groundwater (UIC Registration-for underground systems only, including drywells and trenches): (http://des.nh.gov/organization/divisions/water/dwgb/dwspp/gw_discharge)
- N/A ☐ Inspection and maintenance manual with, if applicable, long term maintenance agreements [Env-Wq 1503.08(g)]
- N/A ☐ Source control plan

PLANS:

- ☒ One set of design plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)
- N/A ☐ Pre & post-development color coded soil plans on 11" x 17" (see Application Checklist for details)
- N/A ☐ Pre & post-development drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)

100-YEAR FLOODPLAIN REPORT:

- ☒ All information required in Env-Wq 1503.09, submitted as a separate report.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

- ☒ N/A See Checklist for Details

☒ **REVIEW APPLICATION FOR COMPLETENESS & CONFIRM INFORMATION LISTED ON THE APPLICATION IS INCLUDED WITH SUBMITTAL.**

12. REQUIRED SIGNATURES

ST By initialing here, I acknowledge that I am required by Env-Wq 1503.20(e) to submit a copy of all approved documents to the department in PDF format on a CD within one week after permit approval.

By signing below, I certify that:

- The information contained in or otherwise submitted with this application is true, complete, and not misleading to the best of my knowledge and belief;
- I understand that the submission of false, incomplete, or misleading information constitutes grounds for the department to deny the application, revoke any permit that is granted based on the information, and/or refer the matter to the board of professional engineers established by RSA 310-A:3 if I am a professional engineer; and
- I understand that I am subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.

☐ **APPLICANT** ☒ **APPLICANT'S AGENT**:

Signature: Sherrie Trefry Date: 3/13/2023

Name (print or type): Sherrie Trefry Title: Energy Market Lead

☒ PROPERTY OWNER ☐ PROPERTY OWNER'S AGENT:

Signature: Ashley Friend Date: 3/13/2023

Name (print or type): Ashley Friend Title: License and Permitting Specialist

ATTACHMENT A:
ALTERATION OF TERRAIN PERMIT APPLICATION CHECKLIST

Check the box to indicate the item has been provided or provide an explanation why the item does not apply.

DESIGN PLANS

☒ Plans printed on 34 - 36" by 22 - 24" white paper

N/A ☐ PE stamp Engineered design is limited to the electrical infrastructure and can be provided upon request.

☒ Wetland delineation

☒ Temporary erosion control measures

N/A ☐ Treatment for all stormwater runoff from impervious surfaces such as roadways (including gravel roadways), parking areas, and non-residential roof runoff. Guidance on treatment BMPs can be found in Volume 2, Chapter 4 of the NH Stormwater Management Manual.

☒ Pre-existing 2-foot contours

N/A ☐ Proposed 2-foot contours

N/A ☐ Drainage easements protecting the drainage/treatment structures

☒ Compliance with the Wetlands Bureau, RSA 482- A http://des.nh.gov/organization/divisions/water/wetlands/index.htm. Note that artificial detention in wetlands is not allowed.

☒ Compliance with the Comprehensive Shoreland Protection Act, RSA 483-B. http://des.nh.gov/organization/divisions/water/wetlands/cspa

N/A ☐ Benches. Benching is needed if you have more than 20 feet change in elevation on a 2:1 slope, 30 feet change in elevation on a 3:1 slope, 40 feet change in elevation on a 4:1 slope.

N/A ☐ Check to see if any proposed ponds need state Dam permits. http://des.nh.gov/organization/divisions/water/dam/documents/damdef.pdf

DETAILS

N/A ☐ Typical roadway x-section

N/A ☐ Detention basin with inverts noted on the outlet structure

N/A ☐ Stone berm level spreader

N/A ☐ Outlet protection – riprap aprons

☒ A general installation detail for an erosion control blanket

☒ Silt fences or mulch berm

N/A ☐ Storm drain inlet protection. Note that since hay bales must be embedded 4 inches into the ground, they are not to be used on hard surfaces such as pavement.

N/A ☐ Hay bale barriers

☒ Stone check dams

☒ Gravel construction exit

N/A ☐ Temporary sediment trap

N/A ☐ The treatment BMP's proposed

N/A ☐ Any innovative BMP's proposed

CONSTRUCTION SEQUENCE/EROSION CONTROL

☒ Note that the project is to be managed in a manner that meets the requirements and intent of RSA 430:53 and Chapter Agr 3800 relative to invasive species.

☒ Note that perimeter controls shall be installed prior to earth moving operations.

☒ Note that temporary water diversion (swales, basins, etc) must be used as necessary until areas are stabilized.

☒ Note that ponds and swales shall be installed early on in the construction sequence (before rough grading the site).

☒ Note that all ditches and swales shall be stabilized prior to directing runoff to them.

☒ Note that all roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.

☒ Note that all cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade

☒ Note that all erosion controls shall be inspected weekly AND after every half-inch of rainfall.

☒ Note the limits on the open area allowed, see Env-Wq 1505.02 for detailed information.

Example note: The smallest practical area shall be disturbed during construction, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized.

☒ Note the definition of the word "stable"

Example note: An area shall be considered stable if one of the following has occurred:

- Base course gravels have been installed in areas to be paved.
- A minimum of 85 percent vegetated growth has been established.
- A minimum of 3 inches of non-erosive material such stone or riprap has been installed.
- Or, erosion control blankets have been properly installed.

☒ Note the limit of time an area may be exposed
Example note: All areas shall be stabilized within 45 days of initial disturbance.

☒ Provide temporary and permanent seeding specifications. (Reed canary grass is listed in the Green Book; however, this is a problematic species according to the Wetlands Bureau and therefore should not be specified)

☒ Provide winter construction notes that meet or exceed our standards.

Standard Winter Notes:

- All proposed vegetated areas that do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events.
- All ditches or swales which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions.
- After October 15, incomplete road or parking surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.

N/A ☐ Note at the end of the construction sequence that "Lot disturbance, other than that shown on the approved plans, shall not commence until after the roadway has the base course to design elevation and the associated drainage is complete and stable." – This note is applicable to single/duplex family subdivisions, when lot development is not part of the permit.

N/A **DRAINAGE ANALYSES**

Please double-side 8 ½" × 11" sheets where possible but, **do not** reduce the text such that more than one page fits on one side.

☐ PE stamp

☐ Rainfall amount obtained from the Northeast Regional Climate Center- http://precip.eas.cornell.edu/. Include extreme precipitation table as obtained from the above referenced website.

☐ Drainage analyses, in the following order:

- Pre-development analysis: Drainage diagram.
- Pre-development analysis: Area Listing and Soil Listing.
- Pre-development analysis: Node listing 1-year (if applicable), 2-year, 10-year and 50-year.
- Pre-development analysis: Full summary of the 10-year storm.
- Post-development analysis: Drainage diagram.
- Post-development analysis: Area Listing and Soil Listing.
- Post-development analysis: Node listing for the 2-year, 10-year and 50-year.
- Post-development analysis: Full summary of the 10-year storm.

☐ Review the Area Listing and Soil Listing reports

- Hydrologic soil groups (HSG) match the HSGs on the soil maps provided.
- There is the same or less HSG A soil area after development (check for each HSG).
- There is the same or less "woods" cover in the post-development.
- Undeveloped land was assumed to be in "good" condition.
- The amount of impervious cover in the analyses is correct.

Note: A good check is to subtract the total impervious area used in the pre analysis from the total impervious area used in the post-analysis. For residential projects without demolition occurring, a good check is to take this change in impervious area, subtract out the roadway and divide the remaining by the number of houses/units proposed. Do these numbers make sense?

☐ Check the storage input used to model the ponds.

☐ Check to see if the artificial berms pass the 50-year storm, i.e., make sure the constructed berms on ponds are not overtopped.

☐ Check the outlet structure proposed and make sure it matches that modeled.

☐ Check to see if the total areas in the pre and post analyses are same.

☐ Confirm the correct NRCS storm type was modeled (Coos, Carroll & Grafton counties are Type II, all others Type III).

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N/A **PRE- AND POST-DEVELOPMENT DRAINAGE AREA PLANS** (See attached waiver request)

☐ Plans printed on 34 - 36" by 22 - 24" on white paper.

☐ Submit these plans separate from the soil plans.

☐ A north arrow.

☐ A scale.

☐ Labeled subcatchments, reaches and ponds.

☐ Tc lines.

☐ A clear delineation of the subcatchment boundaries.

☐ Roadway station numbers.

☐ Culverts and other conveyance structures.

N/A **PRE AND POST-DEVELOPMENT COLOR-CODED SOIL PLANS** (See attached waiver request)

☐ 11" × 17"sheets suitable, as long as it is readable.

☐ Submit these plans separate from the drainage area plans.

☐ A north arrow.

☐ A scale.

☐ Name of the soil scientist who performed the survey and date the soil survey took place.

☐ 2-foot contours (5-foot contours if application is for a gravel pit) as well as other surveyed features.

☐ Delineation of the soil boundaries and wetland boundaries.

☐ Delineation of the subcatchment boundaries.

☐ Soil series symbols (e.g., 26).

☐ A key or legend which identifies each soil series symbol and its associated soil series name (e.g., 26 = Windsor).

☐ The hydrologic soil group color coding (A = Green, B = yellow, C= orange, D=red, Water=blue, & Impervious = gray).

N/A **Please note that excavation projects (e.g., gravel pits) have similar requirements to that above, however the following are common exceptions/additions:**

☐ Drainage report is not needed if site does not have off-site flow.

☐ 5 foot contours allowed rather than 2 foot.

☐ No PE stamp needed on the plans.

☐ Add a note to the plans that the applicant must submit to the Department of Environmental Services a written update of the project and revised plans documenting the project status every five years from the date of the Alteration of Terrain permit.

☐ Add reclamation notes.

See NRCS publication titled: *Vegetating New Hampshire Sand and Gravel Pits* for a good resource, it is posted online at: http://des.nh.gov/organization/divisions/water/aot/categories/publications.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

N/A ☐ If project will discharge stormwater to a surface water impaired for phosphorus and/or nitrogen, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.

N/A ☐ If project will discharge stormwater to a Class A surface water or Outstanding Resource Water, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.

N/A ☐ If project will discharge stormwater to a lake or pond not covered previously, include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond.

N/A ☐ If project is within a Coastal/Great Bay Region community, include info required by Env-Wq 1503.08(l) if applicable.

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Application Fee Calculation & Copy of Check

Project V182/F139 Line Structure Rebuild Project # 52941.00
Location Franklin, Northfield, Canterbury, and Concord, New Hampshire
Calculated by A. Mahoney Date 3/1/2023
Title NHDES Alteration of Terrain Permit Fee Calculation

Computations

Make check payable to: "**Treasurer State of New Hampshire**"

Total Disturbance Area: 2,660,546 SF
61.07 AC

Fee Schedule:

Area of Disturbance in square feet	Fee
< 100,000	$500 + 0.005/SF
100,000 to 199,999	$3,125
200,000 to 299,999	$4,375
300,000 to 399,999	$5,625
400,000 to 499,999	$6,875
500,000 to 599,999	$8,125
600,000 to 699,999	$9,375
700,000 to 799,999	$10,625
800,000 to 899,999	$11,875
900,000 to 999,999	$13,125
1,000,000 to 1,099,999*	$14,375

*For each additional 100,000 SF, add $1,250 to the fee

Total Fee = $34,375

Alteration of Terrain
Permit Application Fee Schedule

The permit application fee is based upon the proposed area of disturbance, in square feet. The following tables illustrate the fee structure.

Fee schedule for projects not in the Protected Shoreland	
Area of disturbance in square feet (sf)	**Fee**
< 100,000	$500 + $0.005/sf
100,000 to 199,999	$3,125
200,000 to 299,999	$4,375
300,000 to 399,999	$5,625
400,000 to 499,999	$6,875
500,000 to 599,999	$8,125
600,000 to 699,999	$9,375
700,000 to 799,999	$10,625
800,000 to 899,999	$11,875
900,000 to 999,999	$13,125
1,000,000 to 1,099,999	$14,375
***For each additional 100,000 sf, add $1,250 to the fee.**	

Fee schedule for projects in the Protected Shoreland:	
Area of disturbance in square feet (sf)	**Fee**
< 50,000	$500 + $0.005/sf
50,000 to 199,999	$3,125
200,000 to 299,999	$4,375
300,000 to 399,999	$5,625
400,000 to 499,999	$6,875
500,000 to 599,999	$8,125
600,000 to 699,999	$9,375
700,000 to 799,999	$10,625
800,000 to 899,999	$11,875
900,000 to 999,999	$13,125
1,000,000 to 1,099,999	$14,375
*For each additional 100,000 sf, add $1,250 to the fee.	

Fee schedule for request to amend a permit that requires plan review
$500 + $0.10/square feet of disturbance

Please make checks payable to: "Treasurer State of New Hampshire."

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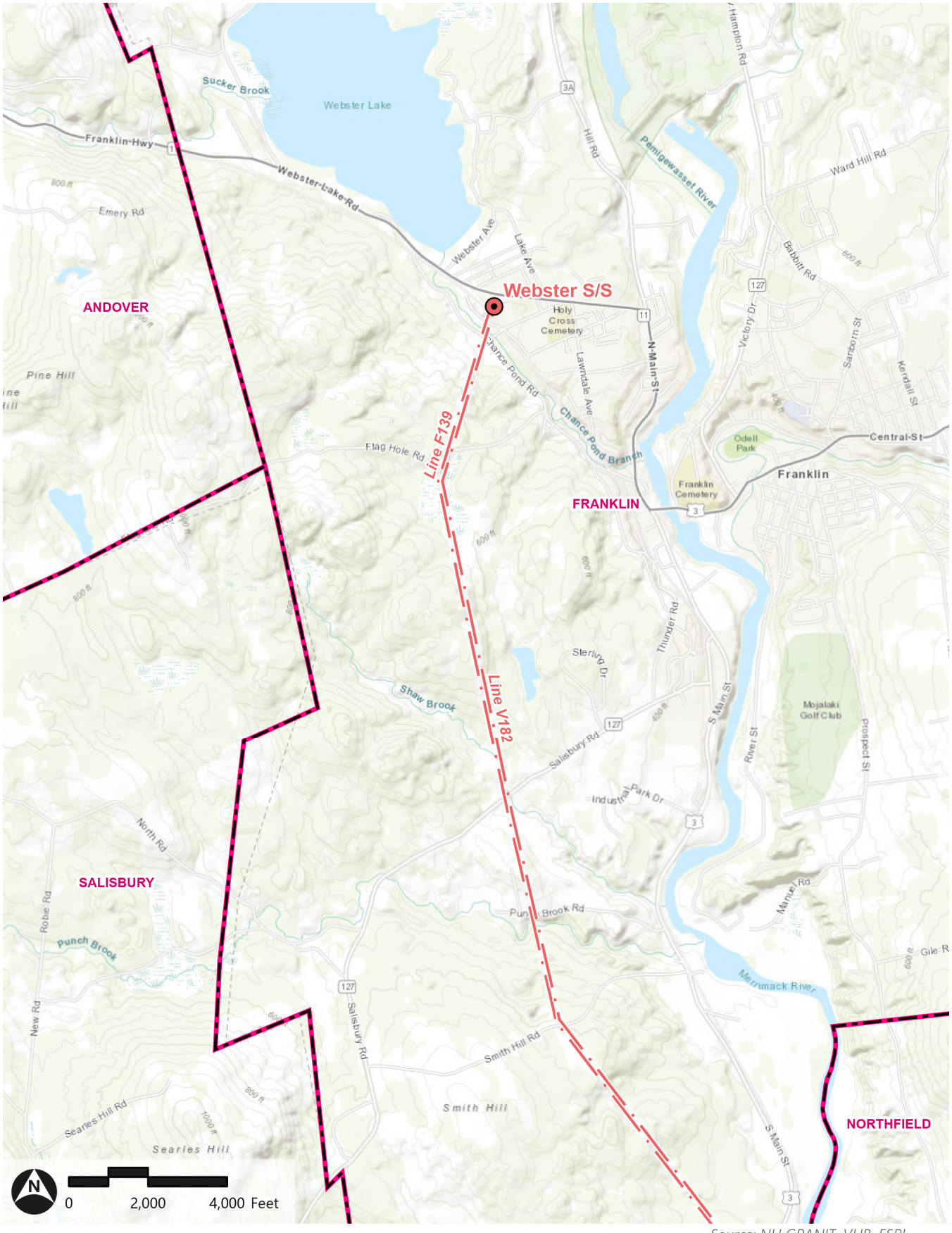
USGS Site Location Map

Figure 2A: USGS Overview

Lines F139 & V182 Rebuild Project | Franklin



Source: NH GRANIT, VHB, ESRI

Path: \\vhb\gis\proj\Bedford\52941.00 V182 Rebuild Construction\Project\V182 & F139 - 12-22\V182 & F139 - 1-23.aprx (srao, 2/22/2023)

Figure 2B: USGS Overview

Lines F139 & V182 Rebuild Project | Franklin, Northfield & Canterbury

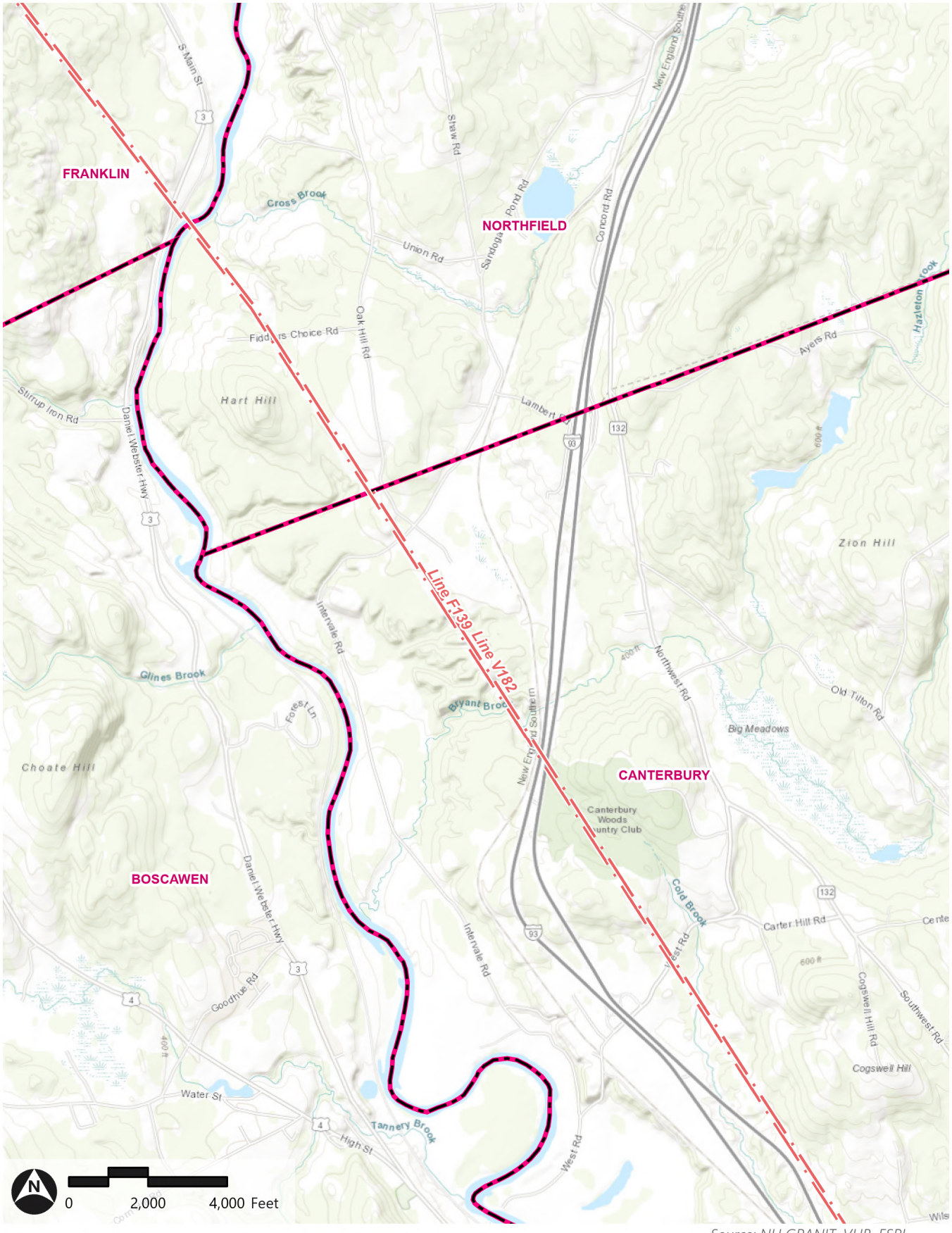
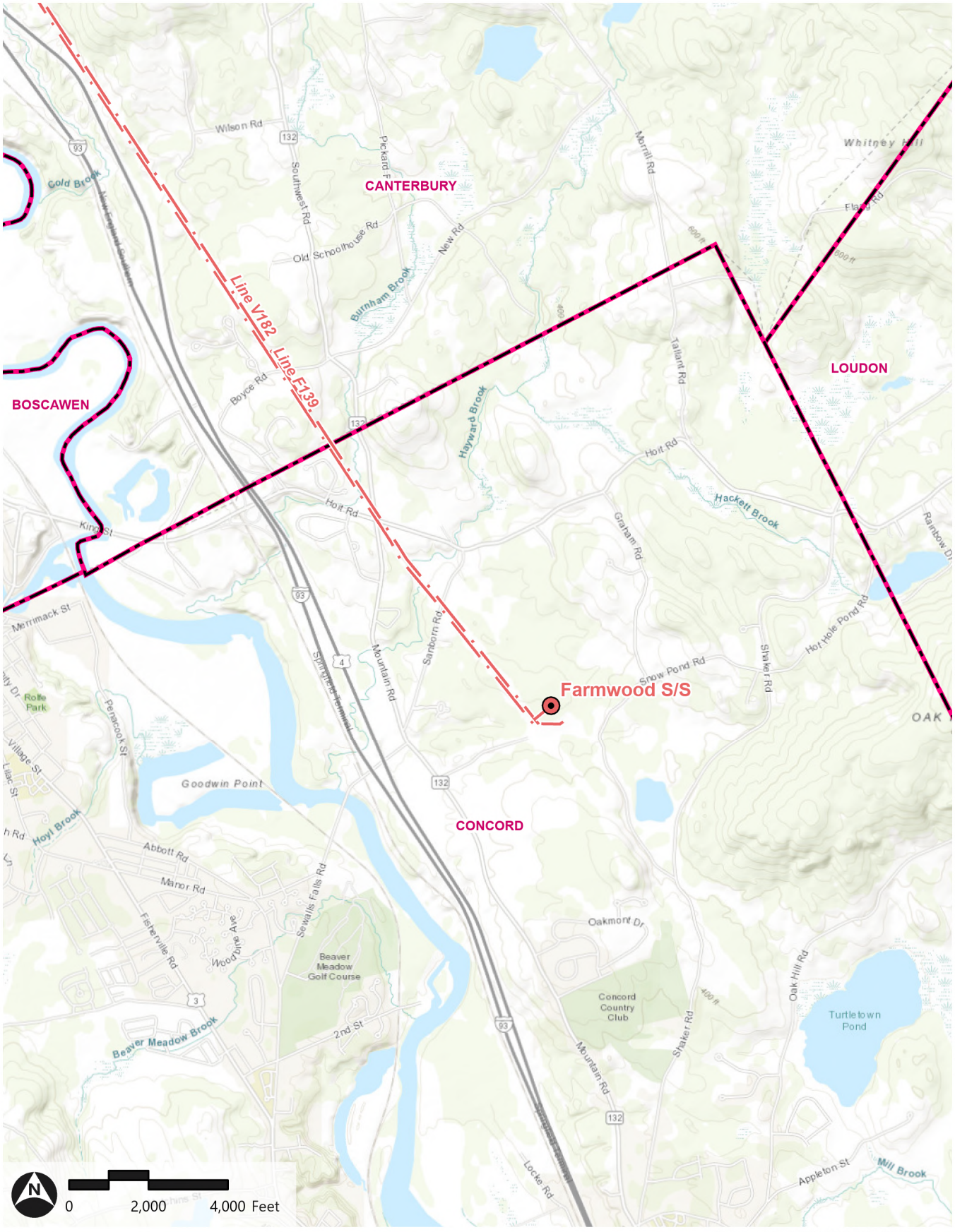


Figure 2C: USGS Overview

Lines F139 & V182 Rebuild Project | Canterbury & Concord



Source: NH GRANIT, VHB, ESRI

Path: \\vhb\gis\proj\Bedford\52941.00 V182 Rebuild Construction\Project\V182 & F139 - 12-22\V182 & F139 - 1-23.aprx (srao, 2/22/2023)

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Project Narrative

Project Narrative

On behalf of the Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH), this Alteration of Terrain Permit Application was prepared by VHB pursuant to the New Hampshire Revised Statutes Annotated (RSA) Chapter 485-A:17, Terrain Alteration, and the Alteration of Terrain Bureau Code of Administrative Rules, Chapters Env-Wq 1500.

Site Description and Existing Conditions

The project involves the proposed replacement of the existing V182 and F139 Electric Transmission Lines along a shared Right-of-Way (ROW) that ranges in width from approximately 200 to 225 feet. The V182 and F139 Lines are 115kV lines that spans approximately 14.3 miles, originating at the Webster Lake Substation in Franklin and culminating at the Farmwood Substation in Concord (refer to the USGS Site Location Maps attached). The V182 Line runs along the eastern half of the utility ROW and consists of laminated wood structures, while the F139 Line runs along the western half of the utility ROW and consists of wooden H-frame structures.

The ROW contains 162 electric transmission line structures along the V182 Line (15 of which were already replaced with weathered steel, while the remainder are wooden) and 192 electric transmission line structures along the F139 Line (48 of which were already replaced with weathered steel, while the remainder are wooden). Previous disturbances along the ROW include clearing and construction of structures and associated ROW access trails. The ROW is comprised of dense emergent and scrub-shrub wetland and upland vegetation that is maintained (cut) on a three to five-year cycle to achieve vertical clearance requirements between ground vegetation and overhead electric transmission lines.

The ROW is comprised of PSNH owned-property or PSNH controlled easements on privately or publicly held property. The surrounding land use is largely forested with some residential properties, open fields, a golf course, and a disc golf course. The ROW is bisected by Chance Pond Branch south of the Webster Substation, the Merrimack River along the town line of Northfield and Franklin, and a few other named perennial streams, including Shaw Brook, Punch Brook, Bryant Brook, Cold Brook, and Hayward Brook. The ROW is further bisected by public roadways and state routes, including the following roads moving north to south along the ROW: Webster Lake Road, Chance Pond Road, Flaghole Road, Salisbury Road, Punch Brook Road, Smith Hill Road, Fiddlers Choice Road, Intervale Road, Interstate 93, West Road, Boyce Road, Hoit Road, Sanborn Road, and Farmwood Road.

Natural Resource Review

According to the NHDES Wetlands Permit Planning Tool, six (6) Priority Resource Areas (PRAs) were identified along the ROW corridor. Five (5) of the PRAs were identified as a wetland adjacent to a Tier 3

stream and intersect the ROW corridor immediately adjacent V182 Structure 101 in Northfield, V182 Structures 71 and 72 in Canterbury, V182 Structures 18 and 20 in Concord, V182 Structures 12 and 14 in Concord, and Farmwood Substation in Concord. However, only three (3) of the Tier 3 Stream PRAs identified (located adjacent to V182 Structures 71 and 72, 18 and 20, and 12 and 14), will require temporary wetland impacts, totaling approximately 21,250 sq ft. The other two (2) Tier 3 Stream PRAs identified will not be impacted by the proposed project activity as the associated wetlands are not within the vicinity of any proposed work locations.

One (1) Peatland PRA polygon was identified in the forested area adjacent to proposed F139 Structure 4 in Concord. Temporary impacts to this Peatland PRA could not be avoided given the proximity to the existing utility structure, and approximately 1,648 sq ft of temporary impacts are proposed. Although not considered a PRA, the span of ROW between approximately proposed F139 Structures 26 and 46 will be surveyed for upright false bindweed prior to work commencing in that area at the request of the Natural Heritage Bureau. No other PRAs (sand dunes, prime wetlands and their buffers, or tidal waters or wetlands) intersect or abut the project ROW.

Additionally, one (1) structure proposed for replacement, as well as access roads and pulling pads, intersect the 250' Protected Shoreland Zone of the Merrimack River in Franklin and Northfield. As such, an NHDES Shoreland PBN Application will be filed. NHDES Standard Dredge and Fill Applications will be filed (one per town – Franklin, Northfield, Canterbury, and Concord) with the NHDES Wetlands Bureau to cover impacts resulting from work within jurisdictional wetlands as further described in detail below.

Delineated Natural Resources

Jurisdictional wetlands and surface waters along the ROW were previously delineated by Normandeau Associates Wetland Scientists in 2010 and by GZA Wetland Scientists in 2016. VHB Wetland Scientists verified and re-delineated the previously delineated wetlands between October 2022 to December 2022 in preparation for permitting under the supervision of VHB NH Certified Wetlands Scientist Nicole Martin (NH CWS #316). The wetland delineation was performed in accordance with the procedures and standards outlined in the *1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region,* Version 2.0 (January 2012) using alpha-numerically coded pink flagging tape.

Dominant wetland vegetation was assessed using the *2020 National Wetland Plant List* published by the U.S. Army Corps of Engineers. Wetlands were classified using the USFWS methodology *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979, revised 1985). Lastly, a wetland functional assessment was performed in accordance with the *Corps Highway Methodology Workbook* dated 1993, together with the *Corps New England District Highway Method Workbook Supplement*, dated 1999.

Potential vernal pools (PVPs) were identified throughout the ROW and will be revisited in the spring of 2023 for further documentation and confirmation. If confirmed to be vernal pools based on the presence of primary and secondary vernal pool indicator species (as defined by the NHDES Administrative Rules Env-Wt 103.64 and 104.15, respectively), the boundaries will be delineated using alpha-numerically coded orange flagging tape. The assessment will be conducted in accordance with the *Identification and Documentation of Vernal Pools in New Hampshire*, Third Edition (2016) published by the NH Fish and Game Department.

The project area contains 100 wetlands, four potential vernal pools, and various perennial and intermittent streams located throughout the ROW corridor. Delineated wetlands intersecting the proposed project areas exhibit characteristics typically found within a cleared and periodically maintained electric utility ROW setting. The wetlands vary in size and consist of dense Palustrine Scrub-Shrub (PSS) and Palustrine Emergent (PEM) cover types. The hydroperiod within the PSS/PEM wetlands is generally saturated to seasonally flooded/saturated. Additionally, some wetlands contain ponded water/unconsolidated bottom in the center, leading to the occasional PUB classification. Dominant wetland vegetation includes sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmundastrum cinnamomeum*), speckled alder (*Alnus incana*), maleberry (*Lyonia ligustrina*), wool grass (*Scirpus cyperinus*), fringed sedge (*Carex crinita*), various other species of sedges (*Carex* spp.), white meadowsweet (*Spiraea alba*), steeplebush (*Spiraea tomentosa*), swamp dewberry (*Rubus hispidus*), deer-tongue grass (*Dichanthelium clandestinum*), red maple saplings (*Acer rubrum*), gray birch saplings (*Betula populifolia*), various species of goldenrod (*Solidago* spp.), various species of aster (*Doellingeria* spp.) narrow leaf cattail (*Typha angustifolia*), peat moss (*Sphagnum* sp.), and the invasive glossy buckthorn.

Numerous streams intersect the ROW, including some unnamed perennial streams, Hayward Brook, Burnham Brook, Cold Brook, Bryant Brook, Punch Brook, Shaw Brook, a branch of Chance Pond Brook, several intermittent streams, and few ephemeral streams. In general, the perennial stream channels were more deeply incised and defined than the intermittent or ephemeral streams and contained flowing water at the time of observation.

Proposed Project Description

PSNH proposes to replace the existing V182 and F139 115-kV Electric Transmission Lines that share an approximately 14.3-mile-long utility ROW from the Farmwood Substation in Concord, NH to the Webster Substation in Franklin, NH through the replacement of 147 wooden utility structures along the V182 Line and 142 wooden utility structures along the F139 Line. Additionally, two (2) structures are proposed to be removed entirely from the F139 Line (existing Structure 248 in Canterbury and existing Structure 311 in Franklin). The F139 Line will be completely rebuilt, which includes the replacement of conductors, existing ceramic insulators with glass insulators, and existing copper static wire with optical grounding wire (OPGW) in accordance with current construction methods and materials.

The proposed project is part of PSNH's ongoing maintenance program conducted to ensure reliable electric service for their customers. The PSNH 115-kV transmission system is an integral part of the regional power system delivering electricity to customers throughout New England. It is critical that the 115-kV system remain operational without interruption from preventable outages.

Structure replacement work is planned to commence in the early summer of 2023 and continue through winter of 2024. Specifically, construction on the V182 Line will commence in the summer of 2023 and construction on the F139 Line will commence in the fall of 2023. As the V182 Line structure replacements might be complete within the 2023 growing season, an attempt would be made to remove the proposed timber matting from within the V182 work pads promptly following completion of that work.

The existing wooden H-frame structures along the F139 Line are proposed to be replaced with weathered steel H-frame structures and the existing laminated wood structures along the V182 Line are proposed to be replaced with single weathered steel poles to meet the current industry standard. Weathered steel structures are more resilient to insect and woodpecker damage and pole rot, can

support the heavier OPGW, and can further withstand typical New Hampshire storms and severe weather events. The proposed OPGW installation on this line enables communication between PSNH substations, which will improve the reliability across the electric system through increased visibility of the system, quicker response time for system issues, automation, and reduced outage occurrences and durations.

According to the current plans, most of the replacement structures will be installed within 10-15 feet of the existing structure footprints (back or forward on-line), however there are a few instances where structures would require replacement approximately 50-100 feet from the existing structure footprint. Replacement structures will be connected to the existing overhead circuit prior to the removal of the existing structures. The height of the new structures will be increased by about five to ten feet on average (with some instances of larger height increases not to exceed 40 feet). The purpose of the height increase is to gain compliance with current regulatory standards, meet safety clearance requirements, accommodate the site topography, and minimize environmental impacts. Natural resource and property owner impacts have been minimized through the proposed replacement and rebuild of the entire lines, as opposed to incremental structure replacements that would necessitate repeated access and disturbance. Lastly, associated guy support wires and anchors will be replaced.

All of the proposed work will be contained within the existing, cleared utility ROW, and no additional widening of the ROW is proposed. Limited tree and branch removal is proposed at pre-determined locations near V182 Structure 45, F139 Structure 45, and V182 Structures 94-95. Additionally, some routine vegetation mowing within the limits of the existing cleared ROW might be required along the proposed access roads and structural work pads to permit clear and safe crew access. Work crews will access structures targeted for replacement from existing public roadways that intersect the transmission line ROW and will travel within the limits of the existing cleared ROW corridor to reach the structures. Crews will follow existing established access trails within the ROW, where present, during the proposed maintenance work.

Timber matting will be utilized to cross wetlands and streams within the ROW to access the structures targeted for replacement and minimize soil disturbance by avoiding rutting. As noted on the plans, mats within areas that are potentially suitable turtle hibernating habitat will be placed between April 1 and October 15 under biological monitor supervision to prevent the placement of mats on top of hibernating turtles. Additionally, some of the timber matting is anticipated to be in place for longer than one growing season within portions of the Site. Eversource will track the mat placement and removal throughout the Site during construction. Standard Dredge and Fill Wetland Applications will be filed with the NHDES Wetlands Bureau for the work within jurisdictional resource areas. An off-site marshalling yard in a previously disturbed or developed area is expected to be secured by the selected contractor. The yard will contain the field office and will be used for material storage and parking. The yard will be inspected by a qualified environmental scientist prior to use to ensure no impacts to natural resources are required.

Access

Access points to the project ROW originate from public roadways that run parallel to, or perpendicularly intersect the ROW in various locations along the corridor (Webster Lake Road, Chance Pond Road, Flaghole Road, Salisbury Road, Punch Brook Road, Smith Hill Road, Fiddlers Choice Road, Intervale Road, Interstate 93, West Road, Boyce Road, Hoit Road, Sanborn Road, and Farmwood Road). VHB is currently pursuing access approvals from the NH Department of Transportation and host municipalities as required for work directly off of these public roadways. Improvements to existing ROW access roads will be required in upland areas to provide a safe and stable travel way during construction and for future

maintenance and repair activities. The preferred access routes which minimize impacts to natural resources to the extent practicable were selected over the course of several field visits by the PSNH Project Manager, Licensing and Permitting Specialist, Project Engineer, Construction Representatives, and Siting and Construction Services personnel.

Timber mats will be used at unavoidable wetland and stream crossings and surrounding structure installations that are within or near natural resources. **Total ground disturbance was calculated at 2,660,546 square feet**, assuming 16-foot wide roads. Ground disturbance and grading within upland areas will be kept to a minimum during the structure replacements, and the largest work pad to be established around proposed replacement structures will be limited to an approximately 100 feet x 100 feet in size.

Construction Methods and Best Management Practices

Minimal tree clearing/branch trimming is proposed within upland areas in the existing utility ROW (as detailed above) prior to the mobilization of utility construction crews in those locations. Tree clearing impacts have been fully avoided within wetlands. The purpose of the clearing/trimming is to meet the standard vertical or horizontal safety clearances from the overhead electric transmission lines and provide space/clearances from the proposed work pads and access roads located along the ROW edge.

Ground-based crews will approach each structure targeted for replacement utilizing the proposed access as indicated on the plans provided in **Appendix B**. Where the proposed access or the 100 foot x 100 foot structural work pads intersect wetlands and/or streams, timber mats (typically with dimensions of 16 feet wide by 4 feet long) will be installed in order to safely stage equipment and crews while minimizing soil disturbance and rutting within these resources. Some work pads may need to be two-tiered or off-set due to site topography or to avoid wetland impacts. Perennial and intermittent stream channels located along the project ROW that cannot be avoided will be spanned with timber mats from beyond their jurisdictional banks in order to avoid bank and bed impacts and allow flow to pass freely during construction.

Any construction laydown areas required for equipment and material staging while the replacement work is carried out will be situated in upland areas along the existing ROW corridor. These areas are typically confined to the structural work pads or upland areas along the existing ROW near primary access points from public roadways. Additionally, pulling/tensioning platforms (ranging from 50 foot x 100 foot to 7 foot ‘x200 foot in size) will be staged at various locations along the ROW to accommodate conductor reel trailers, tensioner machines, and bucket trucks during the stringing of overhead transmission lines onto newly installed structures. Matting will be used where pulling/tensioner sites intersect wetland boundaries.

Once access and work pads are established, the new steel poles will be installed through direct embedment in 4-foot diameter caissons and backfilled with gravel. Traditional auguring and installation procedures will be used. No structures are proposed to be installed within the bed and/or banks of any stream or river along the ROW. Additionally, no structures are proposed to be installed within areas identified as potential vernal pools.

Prior to accessing the ROW with construction equipment, crews will install wildlife friendly erosion and sediment control barriers in accordance with permitting plans and details, New Hampshire Department of Environmental Services (NHDES) conditions, and the *Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire* (or “Utility BMP Manual,”

March 2019), published by the New Hampshire Department of Natural and Cultural Resources (NHDNCR). Selected erosion and sediment control barriers may include silt sock, silt fence, and/or wood chip/compost berms/tubes. Additional Best Management Practices (BMPs) such as stabilized construction exits, water bars, and erosion control blankets will also be utilized along proposed access ways and adjacent to structure locations in order to manage stormwater run-off, reduce erosion and stabilized soils. BMP's consisting of welded plastics will not be utilized during the duration of the project. During project construction, control of the spread of invasive plant species that are currently found within the project ROW will also be managed in accordance with NHDES permit conditions and the Utility BMP Manual.

Installed erosion controls and other installed utility BMPs will be inspected daily by the contractor crews and weekly by a qualified environmental monitor, hired by PSNH, to ensure proper functionality and maintenance. Erosion and sediment control barriers will not be removed until project work is complete, and project areas are stabilized in accordance with NHDES guidance.

As soon as possible after the completion of the structure replacement work, timber matting and construction debris will be removed from the project ROW and properly disposed of off-site. Stabilization and restoration of disturbed areas/exposed soils will be initiated as soon as possible once timber mats are pulled and structural work is completed. Due to the use of timber mats, it is anticipated that minimal restoration within the ROW will be required, and that natural vegetative re-colonization of impacted areas will occur during summer vegetative growth periods in 2024 and 2025. VHB will visit the project ROW post-construction to assess conditions, provide guidance to work crews on restoration, and to determine whether or not additional promotion of vegetation (seeding) is required. If necessary, an appropriate upland and/or wetland seed mix will be applied to any areas where cover is slow to develop. Additionally, straw or weed-free hay will be applied in conjunction with seed. In accordance with Env-Wt 307.12(f), if the temporarily impacted areas do not have at least 75% revegetation after two growing seasons, replanting, or reseeding would occur in those areas.

Refer to the plans provided in **Appendix B** for the location of existing wetlands and surface waters, utility structures, proposed access routes, construction work pads, laydown areas, and timber matting.

Floodplains and Floodways

The project ROW is intersected by FEMA mapped 1% Annual Chance Flood Hazard Zones (100-year floodplains) in a few locations throughout the project area, listed below. The numbers of the effective Flood Insurance Rate Maps (FIRMs) that intersect the ROW moving north from Franklin south to Concord include 33013C0158E, 33013C0166E, 33013C0168E, 33013C0169E, 33013C0307E, 33013C0326E, 33013C0330E, 33013C0337E, 33013C0345E, and 33013C0343E, all dated April 19, 2010. Refer to the figure provided in **Appendix C** for a detailed FEMA map of the project area.

Waterbodies and watercourses with floodplains that intersect the Site include the following (moving north to south along the ROW):

- Chance Pond Brook (no impacts proposed),
- Punch Brook (no impacts proposed),
- Merrimack River (no impacts proposed, although there is a work pad proposed along the floodplain edge),
- Bryant Brook (temporary wetland crossing impact is proposed),

- Cold Brook (a structure replacement along the periphery and some work pad impacts are proposed, both with and without matting),
- Burnham Brook (a structure replacement along the periphery and some work pad impacts are proposed, mostly with matting),
- Hayward Brook (a structure replacement and some work pad impacts are proposed, mostly with matting), and
- Unnamed perennial stream southeast of Farmwood Road (outside of Site, no impacts proposed).

The amount of new fill associated with installation of each new structure and improvement of upland access roads is minimal. Furthermore, access to many of these areas within the floodplains will be on top of temporary timber matting across wetland areas that will be removed post-construction. Therefore, the proposed work is not expected to cause or increase flooding within the ROW or abutting properties.

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Transmittal Documentation to Municipalities and Local River Advisory Committee

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Waiver Requests

ALTERATION OF TERRAIN WAIVER REQUEST FORM

R.S.A. 485-A:17
Department of Environmental Services - Water Division
29 Hazen Drive, PO Box 95
Concord, New Hampshire 03302-0095

Application Date: March 10, 2023 File Number (DES use): _____

V182/F139 Electric Transmission Line Rebuild
Name of Project

Franklin, Northfield, Canterbury, and Concord
Location of Project (town)

Merrimack
County

Utility Replacement
Project Type

1. Owner Information

Public Service Company of NH dba Eversource Energy
Name

ashley.friend@eversource.com
Email address (optional)

Ashley Friend
Contact Name

(603) 634-2992
Telephone Number

13 Legends Drive
Mailing Address

Hooksett
City/Town

NH
State

03106
Zip Code

2. Person Requesting Waiver(s)

VHB
Name

strefry@vhb.com
Email address (optional)

Sherrie Trefry
Contact Name

(603) 391-3951
Telephone Number

2 Bedford Farms Drive; Suite 200
Mailing Address

Bedford
City/Town

NH
State

03110
Zip Code

3. Waiver Request(s)

Rule	Brief Description of Rule
Env-Wq 1504.09	Stormwater Drainage Report, Site Specific Soil Mapping and Plans

Explanation of Request:
A waiver is requested from the requirements to prepare a Stormwater Drainage Report, Drainage Area Plans and Site Specific Soil Mapping as the project is a linear utility maintenance project and the disturbance areas are disconnected and are not concentrated to an individual site or watershed. The proposed project is primarily for the maintenance of an existing transmission line and there will be negligible new impervious area and therefore stormwater detention and treatment practices are not proposed.

Permanent or Temporary:
Permanent

Explanation of Alternative:
Not Applicable

Compliance with Env-Wq:
The proposed project involves the replacement of existing transmission line infrastructure. The land disturbance is associated with ground improvements for vehicle access and work pads at the structure replacement locations. Site specific soil mapping and drainage analysis calculations will provide no benefit to the public or the environment due to the disconnected nature of the work. NRCS web soil survey data will be used to provide a general understanding of the types of soils that may be encountered during construction activities so that the appropriate erosion control BMPs can be implemented. Given that the site has been previously disturbed by the existing transmission line facilities and other land uses, the NRCS web soil survey data, topographic information, and results of field analyses are anticipated to provide an adequate level of information necessary to construct the project without impacting water quality as compared to strict compliance with the rule.

4. Signature(s) Required

(1) The information provided is true, complete, and not misleading to the knowledge and belief or the signer; and

(2) The signer understands that any waiver granted based on false, incomplete, or misleading information shall be subject to revocation.

Signature (owner) and Date	Name (owner)
3/13/2023	Ashley Friend
Signature (person requesting waiver) and Date	**Name (person requesting waiver)**
3/9/2023	Sherrie Trefry

ALTERATION OF TERRAIN WAIVER REQUEST FORM

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2 Bedford Farms Drive; Suite 200
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State

03110
Zip Code

3. Waiver Request(s)

Env-Wq 1503.21(c)(2)	Pertinent to deviations from approved plans
Rule	Brief Description of Rule

Explanation of Request:	A waiver is requested from the requirements to prepare as-built drawings, stamped by a qualified engineer, and a detailed description of all deviations from the approved plans. The potential for various minor changes to access roads and work pad configuration are likely to be executed in the field by the civil crew during construction based on field conditions (e.g., slope, presence of ledge, previous disturbance, stonewalls, etc.) and needs of the line crew to allow for ease of access.
Permanent or Temporary:	Permanent
Explanation of Alternative:	As an alternative to submitting the plans and description required under 1503.21(c)(2), a plan reflecting the changes to access that have been made will be provided following the completion of the project. Changes to work pad configuration are generally within the 100' x 100' designated disturbance area and are, therefore, not included on the plans.
Compliance with Env-Wq 1509.04:	The proposed project involves the replacement of existing transmission line infrastructure. The land disturbance is associated with ground improvements for vehicle access and work pads at the structure replacement locations. Changes to the access road and work pad configurations do not require an amended permit or a new permit and will still maintain compliance with Env-Wq 1507.02 relative to permanent methods of protecting water quality. Total project disturbance will not exceed the total disturbance calculations identified in the permit. Modifications have not and will not result in any changes to wetlands or protected shoreland impacts and will not decrease any buffers required by law or established by a permit or other approval.

4. Signature(s) Required

(1) The information provided is true, complete, and not misleading to the knowledge and belief or the signer; and

(2) The signer understands that any waiver granted based on false, incomplete, or misleading information shall be subject to revocation.

	3/13/2023	Ashley Friend
Signature (owner) and Date		Name (owner)
	3/9/2023	Sherrie Trefry
Signature (person requesting waiver) and Date		Name (person requesting waiver)

ALTERATION OF TERRAIN WAIVER REQUEST FORM

R.S.A. 485-A:17
Department of Environmental Services - Water Division
29 Hazen Drive, PO Box 95
Concord, New Hampshire 03302-0095

Application Date: March 10, 2023 File Number (DES use): _____

V182/F139 Electric Transmission Line Rebuild
Name of Project

Franklin, Northfield, Canterbury, and Concord
Location of Project (town)

Merrimack
County

Utility Replacement
Project Type

1. Owner Information

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VHB
Name

strefry@vhb.com
Email address (optional)

Sherrie Trefry
Contact Name

(603) 391-3951
Telephone Number

2 Bedford Farms Drive; Suite 200
Mailing Address

Bedford
City/Town

NH
State

03110
Zip Code

3. Waiver Request(s)

Rule	Brief Description of Rule
Env-Wq 1503.12 (d)(1&2)	Measurement of Contiguous Area Disturbed; Inclusion in Plans

Explanation of Request:

A waiver is requested by PSNH d/b/a Eversource Energy for including past terrain disturbance in the measurement of contiguous disturbed area included in this 307 Transmission Line Alteration of Terrain Application. No known future disturbance, beyond the scope of the 307 Transmission Line Maintenance Project described in this application, is known at this time.

Permanent or Temporary:

Permanent

Proposed Alternative:

Existing terrain alteration associated with past transmission line maintenance within the 307 Transmission Line right-of-way (ROW) is minimal. Any existing trails or access roads that may have been created within the last 10 years will be utilized and/or improved as part of this project and have been included in the current calculations within this application. Future structure maintenance may occur within they 307 ROW. Eversource, through consultation with NHDES, will evaluate whether future terrain disturbances within the 307 ROW will be permitted with an amendment to this application or subject to a new, separate application.

Compliance with Env-Wq:

The project proposes to improve access routes and work pads around utility structures for the purpose of maintaining existing utility infrastructure. This project is necessary to maintain the safety and reliability of the electrical infrastructure. Proposed disturbances anticipated for 2023 within the 307 ROW is included in this application and shown on the Project Plans. Project disturbances included in this application and subsequent permit approvals will be considered if future structure maintenance is proposed within the 307 ROW. Eversource respectfully requests a waiver from including past disturbance in this application. Future disturbances within the 307 ROW will be evaluated and discussed with NHDES and permit amendments or new permit applications will be submitted, if necessary.

4. Signature(s) Required

(1) The information provided is true, complete, and not misleading to the knowledge and belief or the signer; and

(2) The signer understands that any waiver granted based on false, incomplete, or misleading information shall be subject to revocation.

Signature (owner) and Date	Name (owner)
3/13/2023	Ashley Friend

Signature (person requesting waiver) and Date	Name (person requesting waiver)
3/9/23	Sherrie Trefry

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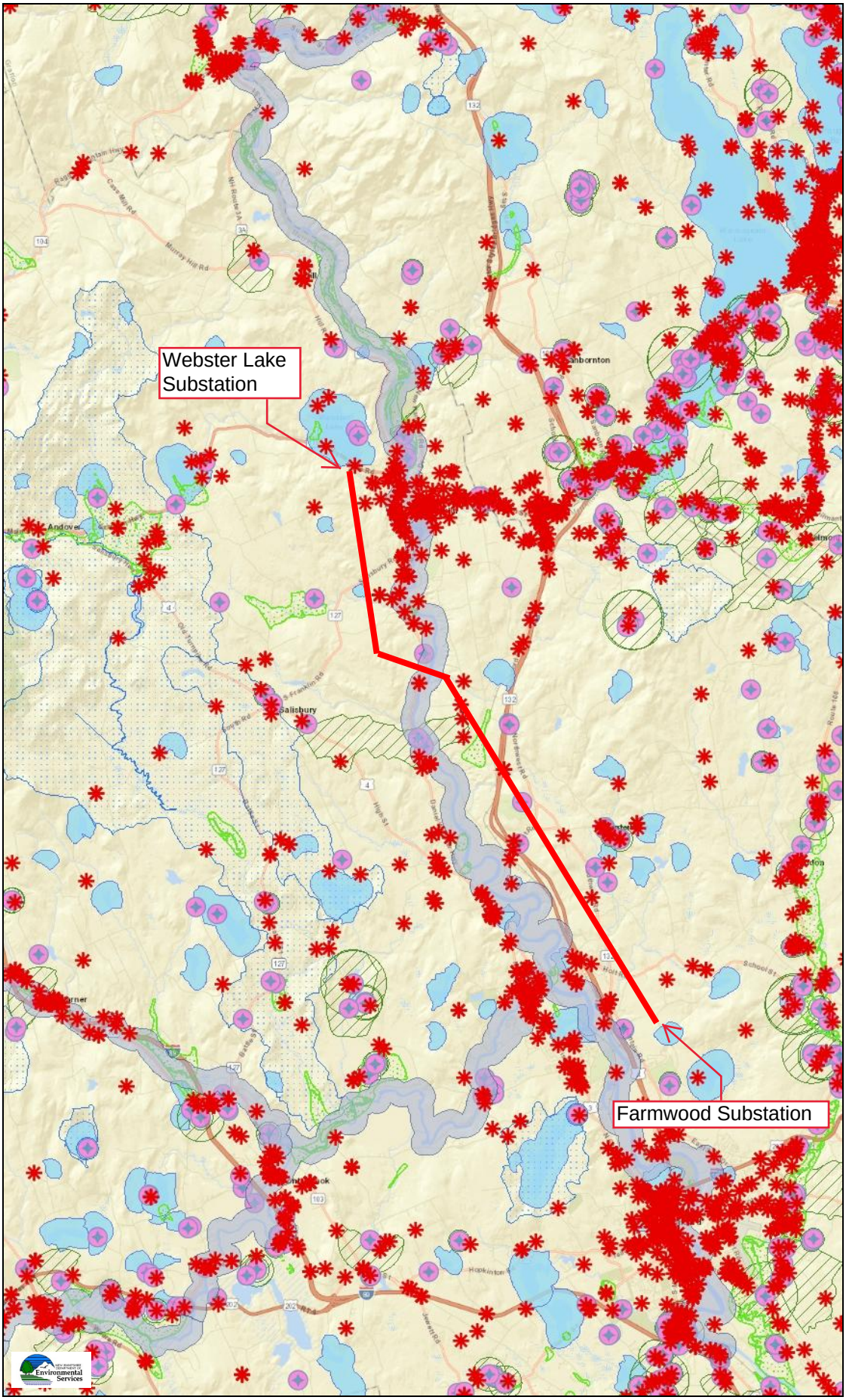
Appendix A – Support Data

- **Web GIS Printout with Water Impairments and AOT Screening Layers**
- **NHB Data Check Letters and Correspondence**
- **Web Soil Survey Maps**
- **Aerial Photograph**
- **Site Photographs**

NHDES Web GIS Printout AoT Screening Layer - V182/F139 Lines



Legend

- Remediation Sites
- Coastal and Great Bay Regi Communities
- Designated Rivers Quarterm Buffer
- Public Water Supply Wells
- Groundwater Classification / GA1
- Groundwater Classification / GA2
- Water Supply Intake Protect Areas
- Wellhead Protection Areas
- Class A Lakes with a Quarte Buffer
- Class A - All Features
- All Lakes, with a Quarter Mil Buffer

Map Scale

1: 207,814

Map Generated: 3/3/2023

Notes

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

To: Andrew Mahoney, VHB
2 Bedford Farms Drive Suite 200
Bedford, NH 03103

From: NHB Review, NH Natural Heritage Bureau
Date: 10/18/2022 (valid until 10/18/2023)
Re: Review by NH Natural Heritage Bureau
Permits: NHDES - Alteration of Terrain Permit, NHDES - Utility Statutory Permit by Notification (SPN)

NHB ID: **NHB22-3276** Town: Franklin, Canterbury, Northfield, Concord Location: Webster Lake Road, Franklin, NH

Description: PSNH d/b/a Eversource Energy intends to rebuild the existing V182 Transmission Line, which will include structure replacements, reconductoring, and optical grounding wire (OPGW) installation. The existing ~14-mile transmission line right-of-way (ROW) extends across Canterbury, Concord, Franklin, and Northfield, New Hampshire. The proposed work will occur within the existing, cleared transmission rights-of-way (ROW) and no additional widening of the ROW is proposed.

cc: NHFG Review

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

Comments **NHB: Please provide proposed project timing. NHB recommends a survey for Upright false bindweed within the growing season, in areas of appropriate habitat nearby the existing plant record.**
F&G: Please refer to NHFG consultation requirements below. Please provide specific project timing.

Plant species	**State[1]**	**Federal**	**Notes**
upright false bindweed (*Calystegia spithamaea ssp. spithamaea*)	E	--	

Vertebrate species	**State[1]**	**Federal**	**Notes**
Blanding's Turtle (*Emydoidea blandingii*)	E	--	Contact the NH Fish & Game Dept (see below).
Smooth Green Snake (*Opheodrys vernalis*)	SC	--	Contact the NH Fish & Game Dept (see below).

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

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

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Maps and NHB record pages are confidential and should be redacted from public documents.

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.

For all animal reviews, refer to 'IMPORTANT: NHFG Consultation' section below.

Disclaimer: 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.

IMPORTANT: NHFG Consultation

If this NHB Datacheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

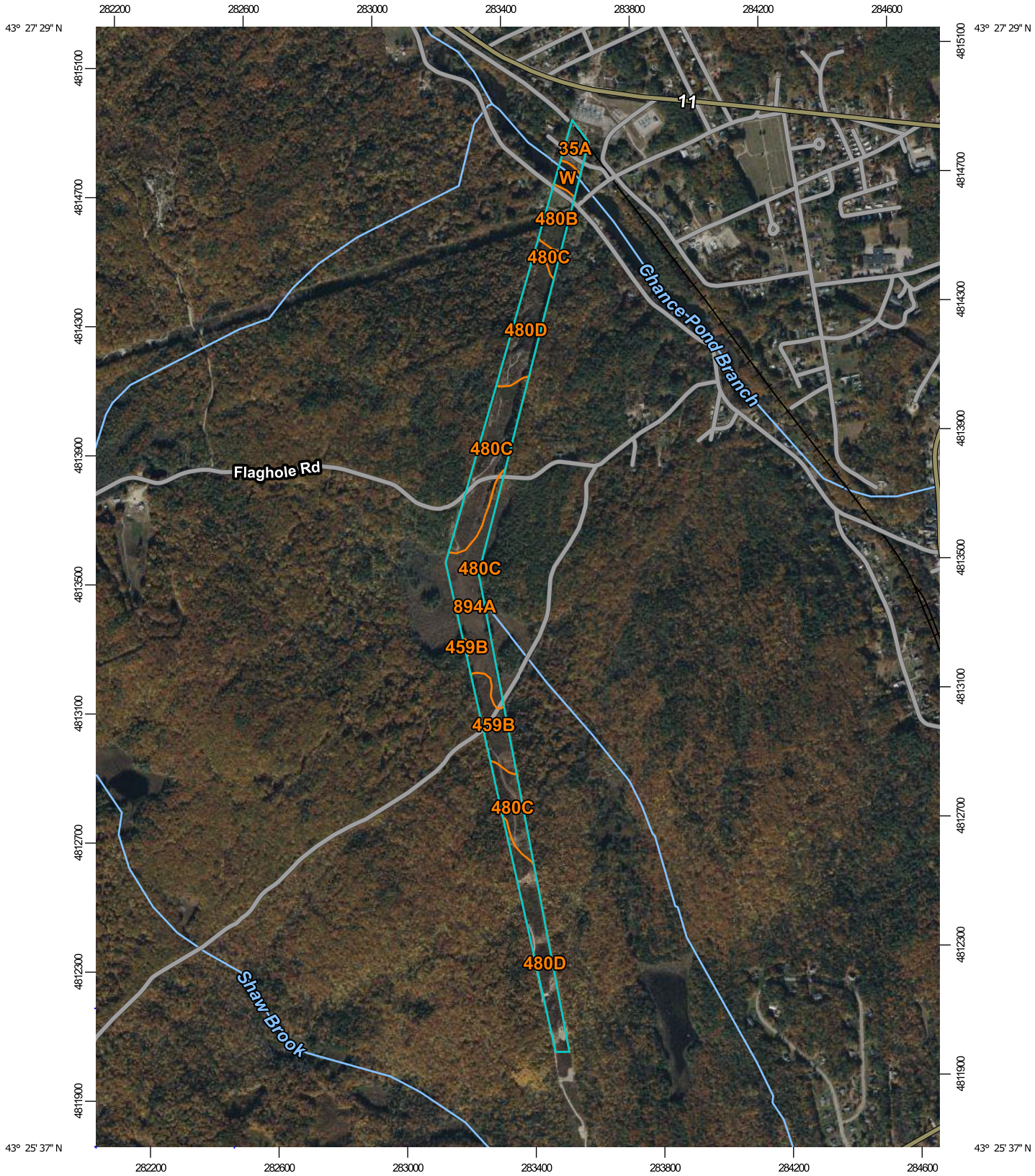
If this NHB Datacheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to https://wildlife.state.nh.us/wildlife/environmental-review.html. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and **must include the NHB Datacheck results letter number and "Fis 1004 consultation request" in the subject line.**

If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Species of Special Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required consultation under Fis 1004 (e.g., *statutory permit by notification, permit by rule, permit by notification, routine roadway registration, docking structure registration, or conditional authorization by rule)*, coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes, and it is recommended you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email: Kim Tuttle *kim.tuttle@wildlife.nh.gov* with a copy to NHFGreview@wildlife.nh.gov, and include the NHB Datacheck results letter number and "review request" in the email subject line.

Contact NH Fish & Game at (603) 271-0467 with questions.

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

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301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71° 39' 37" W
43° 27' 29" N
43° 25' 37" N
282200
282600
283000
283400
283800
284200
284600
4815100
4814700
4814300
4813900
4813500
4813100
4812700
4812300
4811900
11
35A
W
480B
480C
480D
480C
480C
894A
459B
459B
480C
480D
Chance Pond Branch
Flaghole Rd
Shaw Brook
Map Scale: 1:16,900 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 250 500 1000 1500
Feet
0 500 1000 2000 3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 28, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
35A	Champlain loamy fine sand, 0 to 3 percent slopes	1.9	3.4%
459B	Metacomet fine sandy loam, 3 to 8 percent slopes, very stony	5.1	9.0%
480B	Millsite-Woodstock-Henniker complex, 3 to 8 percent slopes, very stony	3.4	6.0%
480C	Millsite-Woodstock-Henniker complex, 8 to 15 percent slopes, very stony	16.8	29.9%
480D	Millsite-Woodstock-Henniker complex, 15 to 25 percent slopes, very stony	16.6	29.6%
894A	Meadowsedge peat, 0 to 1 percent slopes	11.1	19.7%
W	Water	1.4	2.4%
Totals for Area of Interest		**56.2**	**100.0%**

Soil Map—Merrimack and Belknap Counties, New Hampshire

Map Scale: 1:19,700 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 250 500 1000 1500

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 28, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

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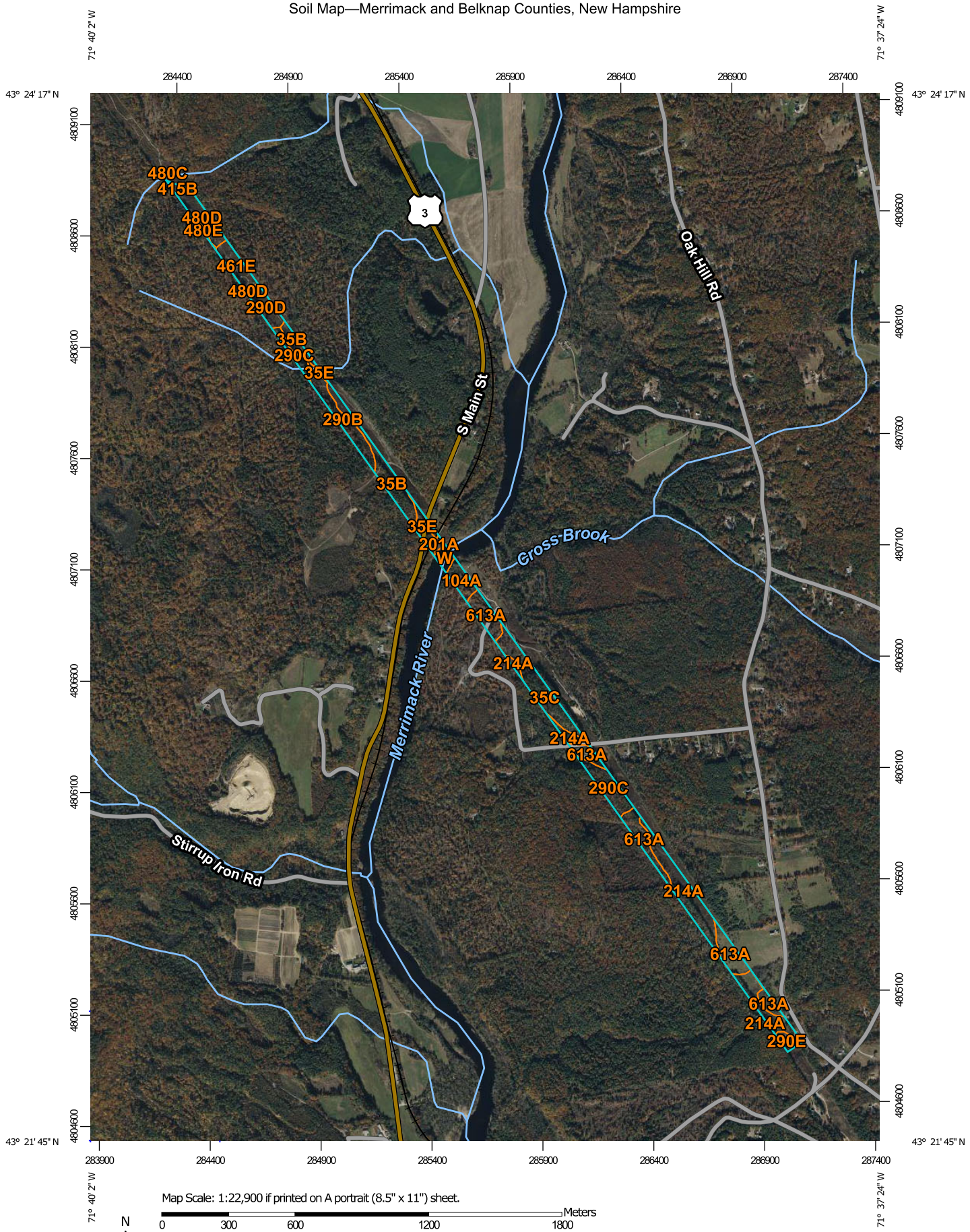
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
35E	Champlain loamy fine sand, 15 to 60 percent slopes	1.2	1.8%
47E	Henniker fine sandy loam, 25 to 35 percent slopes, very stony	7.2	10.4%
394A	Chocorua mucky peat, 0 to 1 percent slopes	7.6	10.9%
415B	Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony	0.9	1.3%
459C	Metacomet fine sandy loam, 8 to 15 percent slopes, very stony	5.6	8.0%
479B	Gilmanton fine sandy loam, 3 to 8 percent slopes, very stony	5.2	7.5%
479C	Gilmanton fine sandy loam, 8 to 15 percent slopes, very stony	7.6	10.8%
480B	Millsite-Woodstock-Henniker complex, 3 to 8 percent slopes, very stony	2.7	3.8%
480C	Millsite-Woodstock-Henniker complex, 8 to 15 percent slopes, very stony	10.9	15.7%
480D	Millsite-Woodstock-Henniker complex, 15 to 25 percent slopes, very stony	9.6	13.7%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	1.7	2.4%
647B	Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony	9.6	13.7%
Totals for Area of Interest		**69.8**	**100.0%**



Map Scale: 1:22,900 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 300 600 1200 1800

Feet
0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
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- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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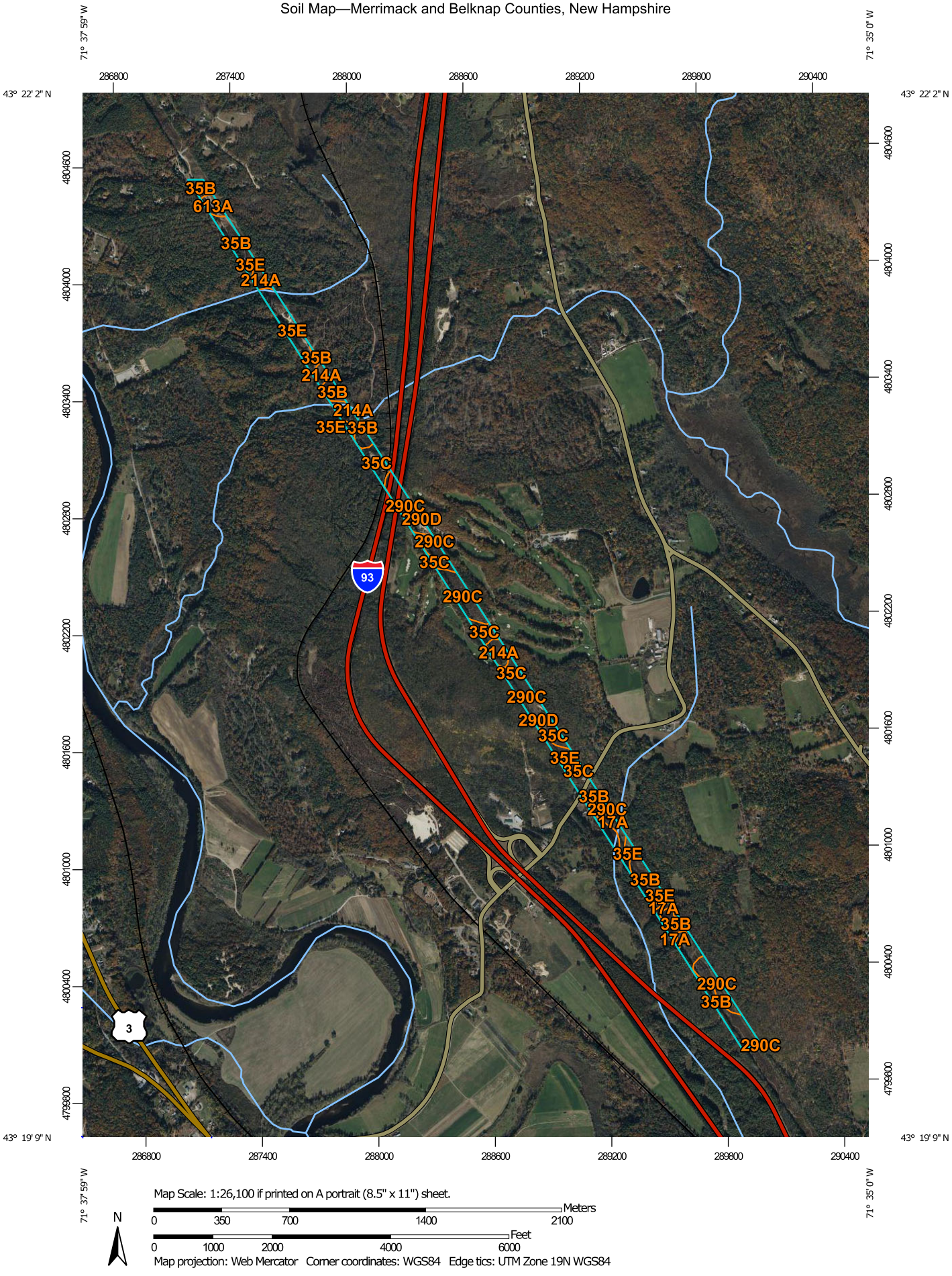
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
35B	Champlain loamy fine sand, 3 to 8 percent slopes	9.9	11.5%
35C	Champlain loamy fine sand, 8 to 15 percent slopes	9.1	10.6%
35E	Champlain loamy fine sand, 15 to 60 percent slopes	2.8	3.2%
104A	Podunk fine sandy loam, 0 to 3 percent slopes, frequently flooded	2.9	3.4%
201A	Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded	0.5	0.5%
214A	Naumburg loamy sand, 0 to 5 percent slopes	16.5	19.3%
290B	Champlain-Woodstock complex, 3 to 8 percent slopes	6.1	7.1%
290C	Champlain-Woodstock complex, 8 to 15 percent slopes	7.0	8.1%
290D	Champlain-Woodstock complex, 15 to 35 percent slopes	3.4	4.0%
290E	Champlain-Woodstock complex, 35 to 60 percent slopes	1.2	1.4%
415B	Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony	0.6	0.7%
461E	Woodstock-Millsite-Rock outcrop complex, 35 to 60 percent slopes	3.9	4.5%
480C	Millsite-Woodstock-Henniker complex, 8 to 15 percent slopes, very stony	0.0	0.0%
480D	Millsite-Woodstock-Henniker complex, 15 to 25 percent slopes, very stony	4.5	5.3%
480E	Millsite-Woodstock-Henniker complex, 25 to 60 percent slopes, very stony	0.3	0.3%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	15.2	17.7%
W	Water	1.5	1.8%
Totals for Area of Interest		**85.7**	**100.0%**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43° 22' 2" N
43° 19' 9" N
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287400
288000
288600
289200
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290400
4804600
4804000
4803400
4802800
4802200
4801600
4801000
4800400
4799800
35B
613A
35B
35E
214A
35E
35B
214A
35B
214A
35E
35B
35C
290C
290D
290C
35C
290C
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214A
35C
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290D
35C
35E
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17A
35E
35B
35E
17A
35B
17A
290C
35B
290C
93
3
Map Scale: 1:26,100 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
350
700
1400
2100
Feet
0
1000
2000
4000
6000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
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Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
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MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 28, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

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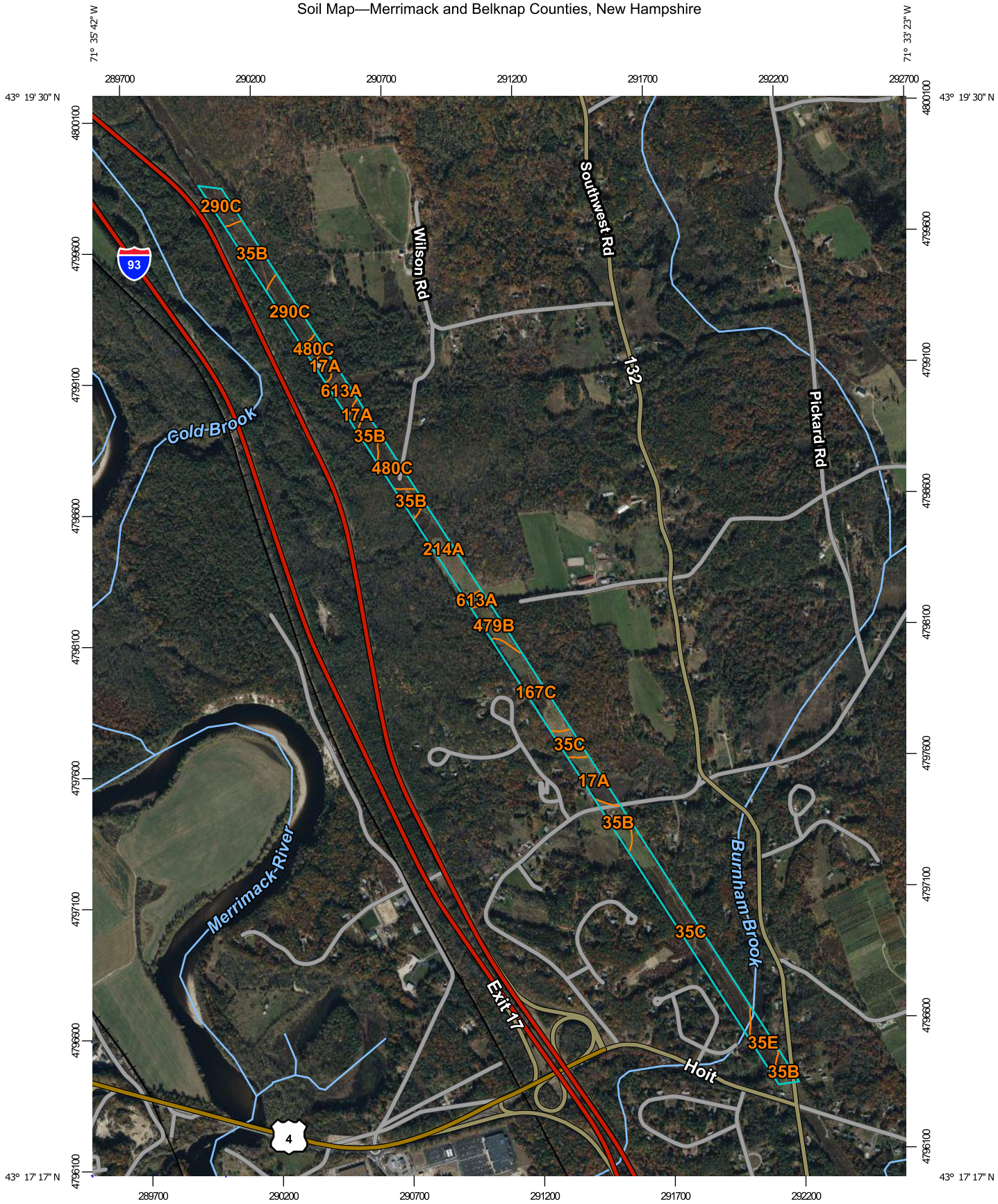
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
17A	Searsport-Chocorua-Naumburg complex, 0 to 1 percent slopes	4.1	4.0%
35B	Champlain loamy fine sand, 3 to 8 percent slopes	32.2	30.8%
35C	Champlain loamy fine sand, 8 to 15 percent slopes	11.9	11.4%
35E	Champlain loamy fine sand, 15 to 60 percent slopes	16.9	16.2%
214A	Naumburg loamy sand, 0 to 5 percent slopes	10.3	9.9%
290C	Champlain-Woodstock complex, 8 to 15 percent slopes	26.7	25.5%
290D	Champlain-Woodstock complex, 15 to 35 percent slopes	0.0	0.0%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	2.0	1.9%
Totals for Area of Interest		**104.7**	**100.0%**


71° 35' 42" W
71° 33' 23" W
289700
290200
290700
291200
291700
292200
292700
43° 19' 30" N
43° 17' 17" N
4800100
4799600
4799100
4798600
4798100
4797600
4797100
4796600
4796100
290C
35B
290C
480C
17A
613A
17A
35B
480C
35B
214A
613A
479B
167C
35C
17A
35B
35C
35E
35B
Wilson Rd
Southwest Rd
132
Pickard Rd
Cold Brook
Merrimack River
Burnham Brook
Exit 17
Hoit
93
4
Map Scale: 1:20,100 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 250 500 1000 1500
Feet
0 500 1000 2000 3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
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Special Point Features
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- Miscellaneous Water
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- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
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- Streams and Canals

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- Local Roads

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- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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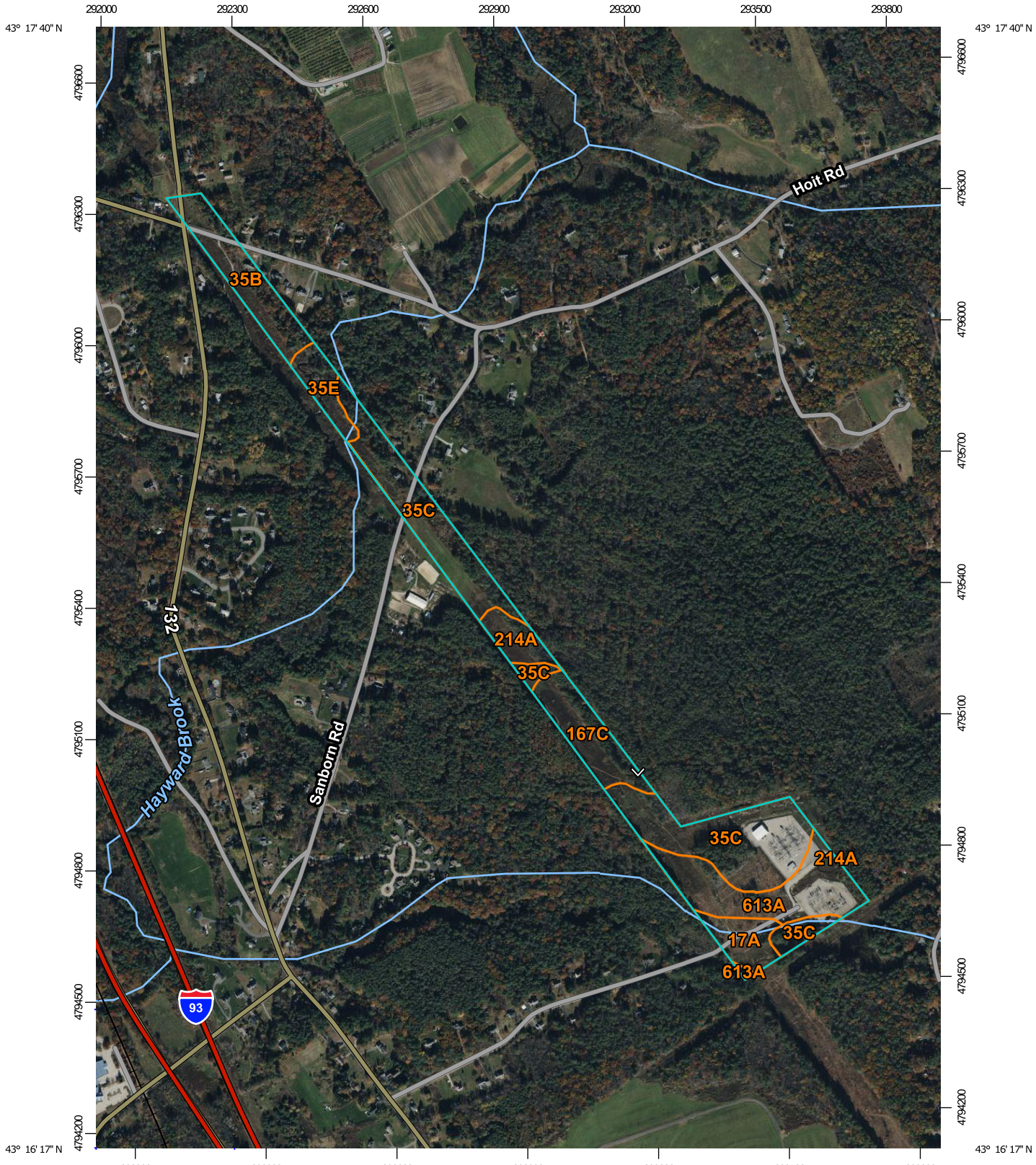
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
17A	Searsport-Chocorua-Naumburg complex, 0 to 1 percent slopes	6.1	8.6%
35B	Champlain loamy fine sand, 3 to 8 percent slopes	12.8	18.0%
35C	Champlain loamy fine sand, 8 to 15 percent slopes	16.9	23.8%
35E	Champlain loamy fine sand, 15 to 60 percent slopes	3.3	4.6%
167C	Canterbury fine sandy loam, 8 to 15 percent slopes, very stony	6.9	9.7%
214A	Naumburg loamy sand, 0 to 5 percent slopes	6.5	9.2%
290C	Champlain-Woodstock complex, 8 to 15 percent slopes	7.4	10.4%
479B	Gilmanton fine sandy loam, 3 to 8 percent slopes, very stony	3.0	4.2%
480C	Millsite-Woodstock-Henniker complex, 8 to 15 percent slopes, very stony	4.4	6.2%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	3.6	5.1%
Totals for Area of Interest		**71.0**	**100.0%**


71° 33' 51" W
71° 32' 25" W
43° 17' 40" N
43° 16' 17" N
292000
292300
292600
292900
293200
293500
293800
4796600
4796300
4796000
4795700
4795400
4795100
4794800
4794500
4794200
35B
35E
35C
214A
35C
167C
35C
214A
613A
17A
35C
613A
Hoit Rd
Sanborn Rd
Hayward Brook
132
93
Map Scale: 1:12,500 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 150 300 600 900
Feet
0 500 1000 2000 3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 28, Sep 6, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

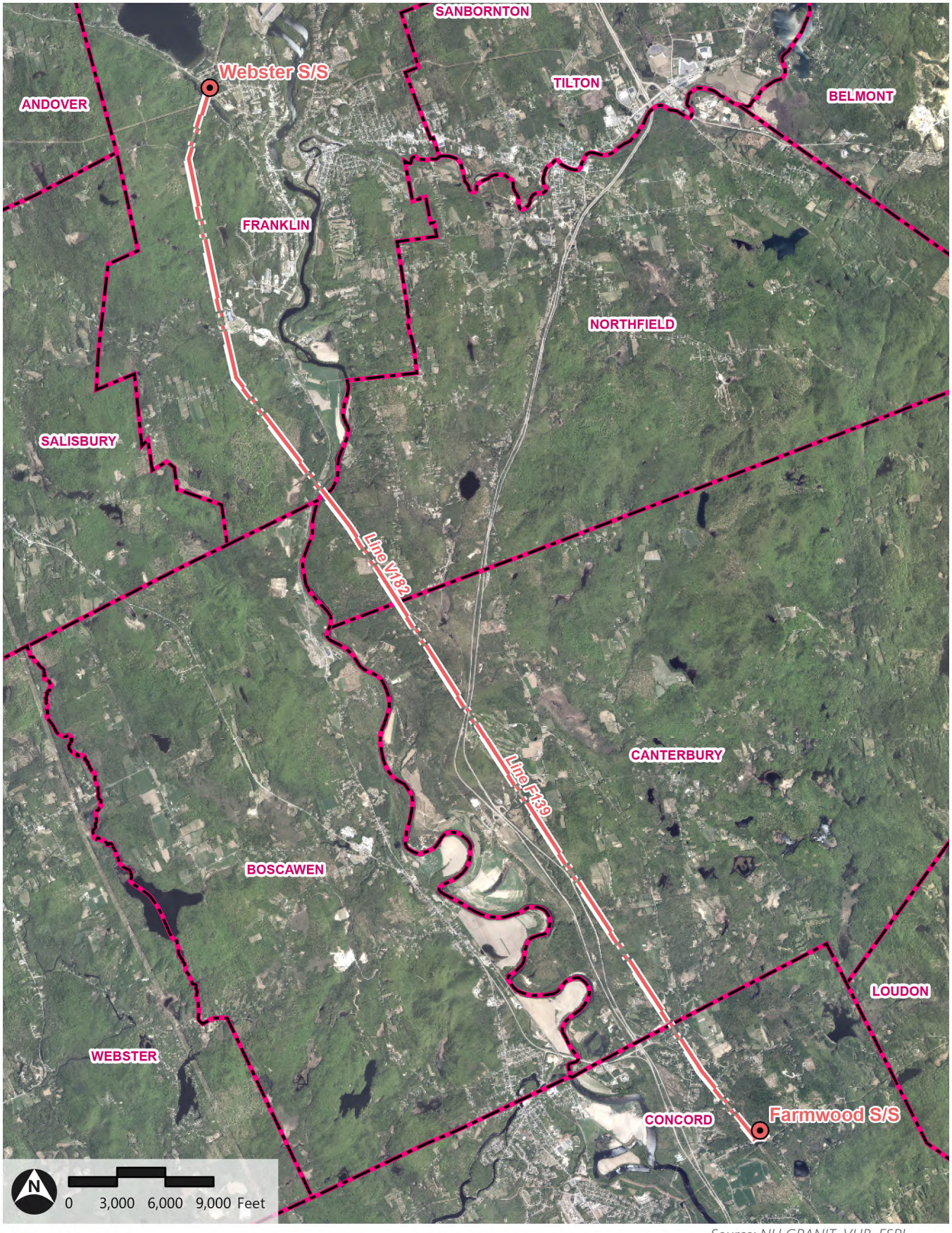
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
17A	Searsport-Chocorua-Naumburg complex, 0 to 1 percent slopes	3.7	5.7%
35B	Champlain loamy fine sand, 3 to 8 percent slopes	8.0	12.3%
35C	Champlain loamy fine sand, 8 to 15 percent slopes	28.6	43.8%
35E	Champlain loamy fine sand, 15 to 60 percent slopes	3.3	5.0%
167C	Canterbury fine sandy loam, 8 to 15 percent slopes, very stony	6.8	10.4%
214A	Naumburg loamy sand, 0 to 5 percent slopes	3.0	4.6%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	11.8	18.1%
Totals for Area of Interest		**65.3**	**100.0%**

Figure 1: Aerial Map

Lines F139 & V182 Rebuild Project | Franklin, Northfield, Canterbury, & Concord, NH



Substation

Overhead Eversource Lines

Municipal Boundary

Source: NH GRANIT, VHB, ESRI

Path: \\vhb\gis\proj\Bedford\52941.00 V182 Rebuild Construction\Project\V182 & F139 - 12-22\V182 & F139 - 1-23.aprx (srao, 2/23/2023)

Representative Site Photos – V182 & F139 Lines

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Franklin	**Project No**: 52941.00

Photo No. 1 **Date:** 07/2022

Description:
Looking northeast at Wetland-1 with Chance Pond Branch in the background.

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Franklin	**Project No**: 52941.00

Photo No. 2 **Date:** 07/2022

Description:
Looking southwest at Wetland-3.

Representative Site Photos – V182 & F139 Lines

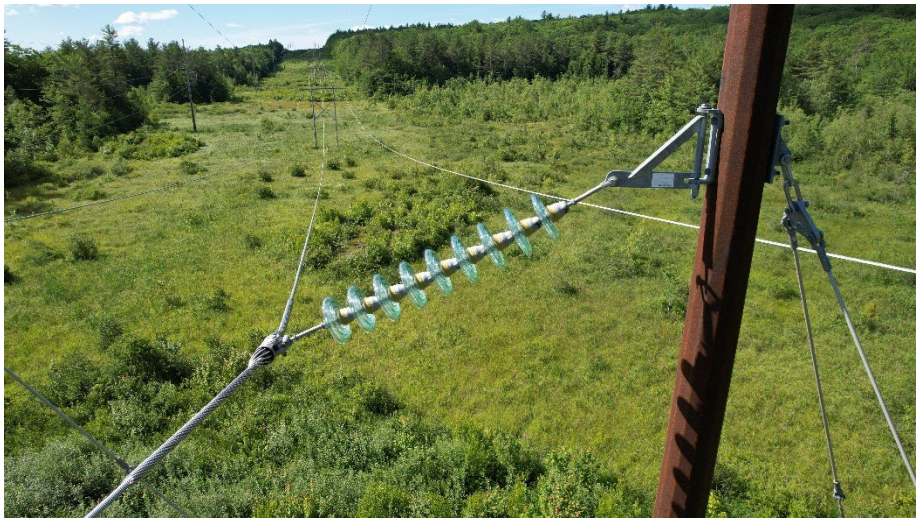
vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Franklin	**Project No**: 52941.00

Photo No. 3 **Date:** 07/2022

Description:
Looking southeast at Wetland-6A.



vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Franklin	**Project No**: 52941.00

Photo No. 4 **Date:** 07/2022

Description:
Looking northwest at Wetland-25A and Wetland-25B.

Representative Site Photos – V182 & F139 Lines

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Franklin	**Project No**: 52941.00

Photo No. 5 **Date:** 07/2022

Description:
Looking southeast at Wetland-35.

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 Utility ROW in Northfield	**Project No**: 52941.00

Photo No. 6 **Date:** 07/2022

Description:
Looking southeast at Wetland-40.

Representative Site Photos – V182 & F139 Lines

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 Utility ROW in Northfield	**Project No**: 52941.00

Photo No. 7 **Date:** 07/2022

Description:
Looking northwest at Wetland-55.

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Canterbury	**Project No**: 52941.00

Photo No. 8 **Date:** 07/2022

Description:
Looking southeast at Wetland-59.

Representative Site Photos – V182 & F139 Lines

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 Utility ROW in Canterbury	**Project No**: 52941.00

Photo No. 9 **Date:** 07/2022

Description:
Looking southeast at Wetland-66.

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 Utility ROW in Canterbury	**Project No**: 52941.00

Photo No. 10 **Date:** 07/2022

Description:
Looking southeast at Wetland-70.

Representative Site Photos – V182 & F139 Lines

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Canterbury	**Project No**: 52941.00

Photo No. 11 **Date:** 07/2022

Description:
Looking southeast at Wetland-81.

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 Utility ROW in Canterbury	**Project No**: 52941.00

Photo No. 12 **Date:** 07/2022

Description:
Looking northwest at Wetland-85.

Representative Site Photos – V182 & F139 Lines

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Concord	**Project No**: 52941.00

Photo No. 13 **Date:** 07/2022

Description:
Looking southeast at Wetland-90, located southeast of existing V182 Structure 126.

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource	**Site Location:** V182/F139 ROW in Concord	**Project No**: 52941.00

Photo No. 14 **Date:** 06/2022

Description:
Looking northwest at Wetland-95.

Representative Site Photos – V182 & F139 Lines

vhb Engineers | Scientists | Planners | Designers

PHOTOGRAPHIC LOG

Client Name: Eversource

Site Location: V182/F139 Utility ROW in Concord

Project No: 52941.00

Photo No. 15

Date: 10/27/22

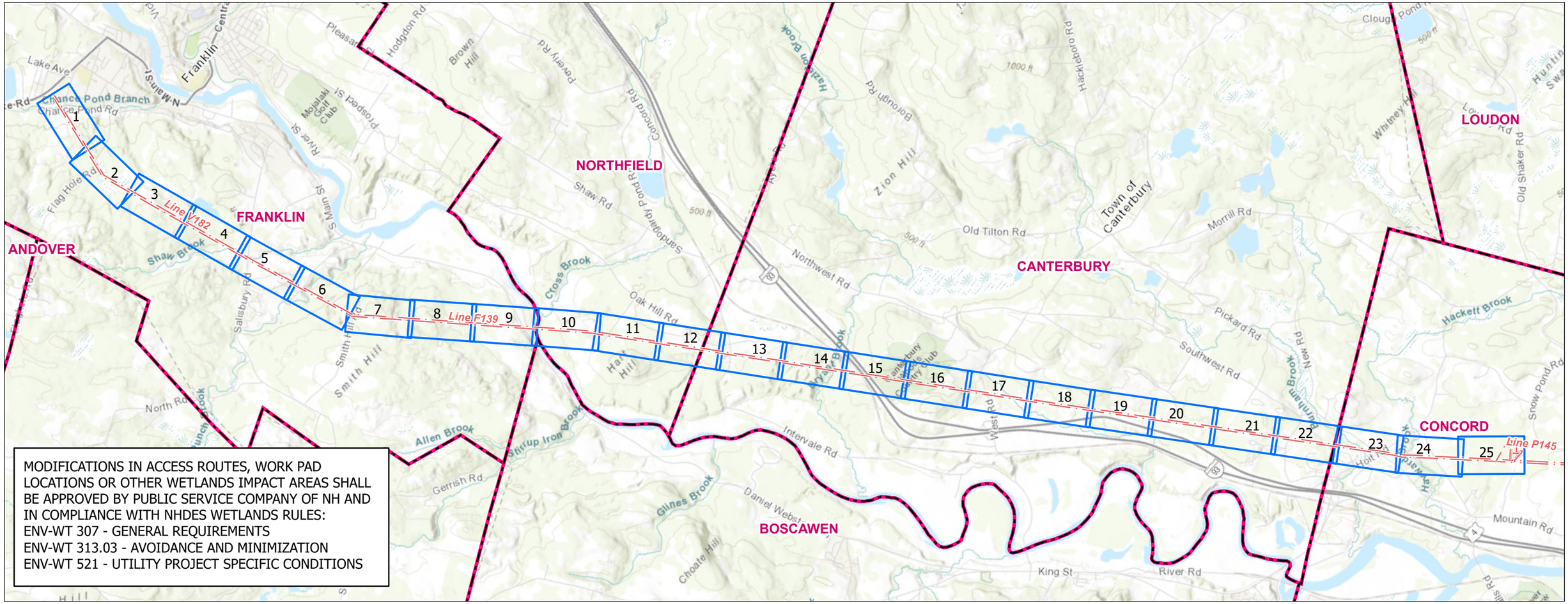
Description:
Looking southwest at Wetland-96.

Appendix B – Alteration of Terrain Permitting Plans

V182 & F139 Lines - Maintenance Project

Franklin, Northfield, Canterbury, and Concord New Hampshire
Alteration of Terrain Permitting Plans

Date: June 5, 2023



MODIFICATIONS IN ACCESS ROUTES, WORK PAD LOCATIONS OR OTHER WETLANDS IMPACT AREAS SHALL BE APPROVED BY PUBLIC SERVICE COMPANY OF NH AND IN COMPLIANCE WITH NHDES WETLANDS RULES:
ENV-WT 307 - GENERAL REQUIREMENTS
ENV-WT 313.03 - AVOIDANCE AND MINIMIZATION
ENV-WT 521 - UTILITY PROJECT SPECIFIC CONDITIONS

Legend

- Overhead Eversource Line
- Map Sheet
- Municipal Boundary

N

0 1 2 Miles

INDEX OF FIGURES

Title Sheet / Index Map
Map Sheets 1-25

NO.	DATE	REVISIONS

PREPARED FOR:

EVERSOURCE ENERGY

13 Legends Dr
Hooksett, NH 03106

PREPARED BY:

vhb

2 Bedford Farms Drive Suite 200
Bedford, NH 03110

Construction Requirement Notes

Date Issued: June 5, 2023

General Notes:

1. This plan set is intended to show the proposed line replacements of the V182/F139 electric transmission lines from the Webster Lake Substation in Franklin, NH to the Farmwood Substation in Concord, NH.
2. Erosion control and temporary stormwater control measures shall comply with the New Hampshire Stormwater Manual Volume 3 – Erosion and Sediment Control During Construction December 2008 and the New Hampshire Department of Natural and Cultural Resources Best Management Practices Manual Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire, March 2019.
3. VHB Certified Wetlands Scientists reviewed and confirmed previously delineated wetlands performed by Normandeau Associates and GZA along the PSNH V182/F139 ROW.
4. Wetland delineations were performed to the standards in the Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012).
5. Elevations are based contours derived from NH GRANIT LIDAR (Coastal New Hampshire 2015)
6. Proposed construction limits of disturbance are approximate. Contractor is responsible for minimizing earth disturbance, as practicable.
7. The environmental controls shown on these plans may need to be supplemented due to season of work or work methods proposed. Refer to BMP manuals and additional guidance documents, as needed.
8. Erosion and sedimentation control measures shall be installed prior to start of work, shall be maintained, and shall remain in place during construction until all disturbed surfaces are stabilized. Following stabilization, erosion and sedimentation control measures that are not compostable shall be removed and properly disposed of off-site.
9. Erosion and sedimentation controls shall be appropriate to the size and nature of the project and to the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to wetlands or surface waters. The type and installation method of erosion and sediment controls shall be in accordance with the BMP Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire ("BMP Manual") (NHDNCR, 2019).
10. Temporary stone construction entrances will be used at points of construction ingress/egress from public and private roadways.
11. The selected contractor is responsible for street sweeping at points of ingress/egress from public and private roadways.
12. Swamp matting shown on the plans represents the square footage and alignment of matting which is required and has been approved by the regulators. Additional layers of mats may be required at certain locations. Any increase in the number, change in alignment, or decision not to use swamp mats must be approved by the Permittee or an authorized representative of the Permittee(s) and, as appropriate, regulators.
13. Any excavated material shall be placed outside of jurisdictional areas or removed from the site.
14. If dewatering is required, dewatering basins shall be placed in uplands areas and discharge water into upland areas.
15. Areas of soil disturbance shall be stabilized following construction in accordance with the BMP Manual.
16. For work within the 100-year floodplain, there shall be no net additional fill placed, existing surface grades shall be restored upon completion of work.

Construction Sequence

1. Prior to construction crew mobilization, wetland limits will be flagged with pink neon vinyl ribbons and vernal pool limits will be flagged with orange neon vinyl ribbons tied to vegetation and visible to the crews.
2. Proposed pole locations will be staked in the field with numbered grade stakes.
3. Crews will be provided with approved plans depicting work areas and required matting and erosion controls to be used to avoid and minimize jurisdictional impacts.
4. Civil crews will mobilize to the project vicinity. It is anticipated that the Contractor will secure a marshalling yard outside of the ROW in a previously disturbed or developed area that will be used for delivery of materials, field office and parking.
5. Crews will establish construction track pads, where appropriate, as access is established from public roads into the ROW. Traffic control will be implemented, as required, by DOT or local access approvals.
6. Erosion and sediment control BMPs will be installed prior to land disturbing activities.
7. Civil crews will begin removing topsoil and establishing gravel access roads along designated routes.
8. Timber matting will be laid down across wetland crossings and around existing pole locations that are in or adjacent to wetlands.
9. Once access is established, line crews will mobilize to start drilling activities associated with pole replacements.
10. New steel poles will be installed. Existing conductors and static wire will be transferred to new steel poles until all new steel poles are installed.
11. New conductor and optical grounding wire will replace existing conductor and static wire.
12. Old poles, conductor, insulators, and any other type of construction debris will be removed from the site and properly disposed.
13. Work pad restoration will begin following line construction completion. Work pads will be covered with topsoil, seeded, and mulched. A portion of each work pad will be maintained for future access.
14. Timber matting will be removed from wetland areas. Care should be taken to remove any pieces of matting that break off during mat removal.
15. If required, wetland areas will be smoothed, seeded with an appropriate wetland seed mix, and mulched to ensure revegetation.
16. Access roads will be pulled back from wetland areas by a minimum of 10-15 feet.
17. Civil crews should ensure that appropriate water diversion BMPs implemented for the access roads are functioning prior to demobilizing from the ROW.
18. Sediment and erosion controls should remain in place until areas are stabilized and then be removed and properly disposed. If sediment and erosion controls can fully decompose, then erosion controls can remain in place after demobilization.
19. Wetland areas will be assessed by a qualified environmental monitor to ensure wetland vegetation is re-established within impacted areas prior to releasing the contractor.

Invasive Species Control Plan

1. Workers who will be operating equipment in areas that may contain invasive plant species will be trained in the identification and modes of dispersal and spread of common, highly-prolific terrestrial invasive plant species that are commonly found within the utility ROW.
2. In locations where invasive infestations exist, the contractor shall minimize contact with invasive species by choosing access routes and staging areas that are outside areas of infestation to the greatest extent practicable.
3. The contractor will be responsible for certifying that all equipment on the project is clean of invasive species prior to arriving onsite. The contractor will also be responsible for cleaning equipment as it is moved within the project to reduce the risk of spreading invasive plant seeds and fragments.
4. Clean vehicles, equipment, materials, gear, footwear or clothing of all visible soil and plant material on site in the infested area, or as near as practical to the infested area, prior to leaving the project site.
5. Cleaning methods can include:
    a. Use a brush, broom or hand tools to manually clean.
    b. Clean debris off equipment such as construction matting by shaking or dropping mats in a controlled manner to dislodge attached soil and debris.
    c. Compressed air.
    d. Using low-or high-pressure wash stations provided containment is in compliance with wastewater discharge regulations.
6. Do not decontaminate equipment next to streams or water bodies that could potentially transport seeds or propagules.
7. Decontaminate equipment and materials that may be contaminated by aquatic plant materials adjacent to the surface water they were exposed to prior to use in another surface water body.
8. Do not transport water withdrawn from a surface water body and discharge it to another water body.
9. Stabilize disturbed soils as soon as possible by seeding and/or using mulch, straw or gravel that is free of invasive plant material.
10. Where possible, when excavating soils, top layers of soil containing plant material and roots should be segregated from sub soils and left on site.
11. Do not transport fill and material containing invasive plant material onto a project site.
12. If fill and materials containing invasive species must be transported off site, cover soil and other material containing invasive plant material during transport and do not reuse. Stockpile or dispose of these materials in such a manner that would not promote the spread of invasive plants.

Erosion Control

1. The project shall be managed in a manner that meets the requirements and intent of RSA 430:53 and chapter AGR 3800 relative to invasive species.

2. Prior to starting any earth moving operations, the contractor shall notify appropriate agencies and shall install erosion control measures as shown on the plans, as field and as identified in federal, state, and local approval documents pertaining to this project and as field conditions dictate.

3. Temporary water diversion (swales, basins, etc.) must be used as necessary until areas are stabilized.

4. Diversion swales and other temporary BMP's shall be installed early on in the construction sequence (before rough grading.

5. Contractor shall inspect and maintain erosion control measures, and remove sediment therefrom on a weekly basis and within twelve hours after each storm event (0.5" of rainfall or greater) and dispose of sediments in an upland area such that they do not encumber other drainage structures and protected areas.

6. Contractor shall be fully responsible to control construction such that sedimentation shall not affect regulatory protected areas, whether such sedimentation is caused by water, wind, or direct deposit.

7. Contractor shall perform construction sequencing such that earth materials are exposed for a minimum of time before they are covered, seeded, or otherwise stabilized to prevent erosion.

8. Areas remaining unstabilized for a period of more than 45 days shall be temporarily seeded and mulched. S traw mulch shall be applied at a minimum rate of 1-1/2 tons/acre.

9. Permanent seeding shall occur between April 1 and June 1, and/or between August 15 and October 15. All seeding from September 15 on shall be straw mulched.

10. Dust shall be controlled through the use of water.

11. Soils to be stockpiled for a period of more than 45 days shall be temporarily seeded and mulched. Contractor shall install silt fencing along downhill side of stockpiles.

12. Contractor shall provide temporary sedimentation basins to control sedimentation and stormwater runoff during the construction period. The contractor shall submit proposed basin locations, designs, etc. to the Engineer for review prior to construction. Temporary sedimentation basins shall meet NHDES requirements.

13. Contractor shall provide necessary erosion control measures to ensure that surface water run-off from unstabilized areas does not carry silt, sediment, and other debris outside of the limits of work.

14. An area shall be considered stable if one of the following has occurred:

    A. Base course gravels have been installed in areas to be paved;

B. A minimum of 85% vegetated growth has been established;

C. A minimum of 3-inches of non-erosive material, such as stone or riprap, has been installed;

D. Erosion control blankets have been properly installed.

15. The smallest practical area shall be disturbed during construction and shall be in conformance with the requirements of Env-Wq 1505.03 for Maximum Open Area Allowed.

16. All ditches, swales, and drainage basins shall be stabilized prior to directing runoff to them.

17. All roadways shall be stabilized within 72 hours of achieving finished grade.

18. All cut and fill slopes shall be loamed and seeded within 72 hours of achieving finished grade.

19. All permanent and temporary seeding shall be as follows (unless otherwise noted):

Permanent Seeding	Proportion	Germination (min.)	Purity (min.)
Lawns:			
Creeping Red Fescue	50%	85%	95%
Kentucky Bluegrass	40%	85%	90%
Manhattan Perennial Rye	10%	90%	95%

Temporary Seeding*	% Weight	Germination (min.)
Winter Rye	80% min.	85%
Red Fescue (creeping)	4% min.	80%
Perennial Rye Grass	3% min.	90%
Red Clover	3% min.	90%
Other Crop Grass	0.5% max.	
Noxious Weed Seed	0.5% max.	
Inert Matter	1.0% max.	

* Temporary seed for lawns shall only be planted when permanent grasses cannot be planted due to the growing season.

20. No-mow planting mix (for areas indicated on the plan or as directed) the no-mow planting mix" shall be the "New England Conservation Wildlife Mix" as manufactured by New England Wetland Plants, Inc.

21. Erosion control blankets shall be installed on all disturbed slopes that are steeper than 3-ft horizontal and 1-ft vertical (3:1). erosion control blankets shall be north American Green SC150BN, or approved equivalent.

Winter construction

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized. Stabilization methods shall include seeding and installing erosion control blankets on slopes greater than 3:1 and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. the installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or frozen ground and shall be completed in advance of thaw or spring melt events.

2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be temporarily stabilized with stone or erosion control blankets appropriate for the design flow conditions.

3. After October 15th, incomplete access road or work area surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel (NHDOT 304.3).

Wildlife conservation measures:

- The Project has limited its wetland impacts to those that are unavoidable due to the placement of construction matting for the structure and line replacements.
- Wherever possible, the Project is also avoiding all areas around identified vernal pools by establishing 50-foot buffers around them.
- Areas disturbed during construction will be reseeded and stabilized.
- Erosion controls will be employed around all wetland areas adjacent to proposed work areas. Wildlife-friendly erosion controls, such as those made from woven organic materials or other biodegradable materials, rather than those that use welded plastic netting or polypropylene;
- If appropriate in sensitive areas, exclusion fencing or other physical barrier around the limit of work to prevent migration of animals into the active work zone;
- All observations of threatened or endangered species on the project site shall be reported immediately to the NHF&G nongame and endangered wildlife environmental review program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov, with the email subject line containing the NHB DataCheck tool results letter assigned number, the project name, and the term “Wildlife Species Observation”;
- Photographs of the observed species and nearby elements of habitat or areas of land disturbance shall be provided to NHF&G in digital format at the above email address for verification, as feasible;
- In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHF&G and implementation of corrective actions recommended by NHF&G, if any, to assure the project does not appreciably jeopardize the continued existence of threatened and endangered species as defined in Fis 1002.04; and
- The NHF&G, including its employees and authorized agents, shall have access to the property during the term of the permit.

Final New Hampshire Fish and Game Permit Conditions (3/23/23):

1. Blanding's turtle (state endangered), spotted turtle (state threatened), and wood turtle (state species of special concern) occur within the vicinity of the project area. All operators and personnel working on or entering the site shall be made aware of the potential presence of these species and shall be provided flyers that help to identify these species, along with NHFG contact information. Rare species information (e.g. identification, observation and reporting of observations, when to contact NHFG immediately and NHFG contact information) shall be posted on site at all times and communicated during morning tailgate meetings prior to work commencement. Refer to the species flyers located on the next plan sheet.
2. At least one qualified biological monitor shall be on-site at all times at all active work areas within 300' of Hayward Brook, Burnham Brook and Shaw Brook (including work pads, staging areas, access roads, vegetation removal/maintenance, etc.). A qualified biological monitor shall be someone with training and experience in turtle and reptile identification and handling techniques and shall operate under the guidance of a qualified herpetologist. A qualified herpetologist shall be a wildlife biologist well versed on and with extensive experience in turtle identification, life history, habitat preference, handling, and documentation, i.e. activity, sexing, aging, etc. Provide qualifications of both to NHFG.
    a. The qualified herpetologist shall be responsible for
        i. Searching for, identifying, documenting, reporting and relocating any state-listed herpetofauna within the work areas.
        ii. Instructing and guiding biological monitor on matters pertaining to herpetofauna.
        iii. Ensuring proper documentation and handling techniques are abided to by the construction personnel and the biological monitor.
        iv. At the end of the project, the qualified herpetologist shall provide Eversource Licensing and Permitting staff a report, which includes a summary of observations, reporting logs documenting any documented state-listed species, and mapping and .shp files showing the location of any observed state-listed species. The report shall be reviewed and provided to NHFG for their records.
    b. The biological monitor shall:
        i. Inspect all work areas for S&E controls, the presence of state-listed species, to ensure compliance with environmental regulations and permit conditions.
        ii. Maintain regular contact with the project's qualified herpetologist on all matters pertaining to herpetofauna protection and surveys.
        iii. Report observations of state-listed species immediately to EL&P staff who shall in turn report those observations immediately to NHFG.
        iv. Document field activities and observations daily.

3. For all work pads, staging areas, and matted access roads within 300' of Hayward Brook, Burnham Brook and Shaw Brook:

a. Immediately prior to work or the movement of equipment, searches and sweeps shall be conducted by a qualified herpetologist/biologist or biological monitor.
b. Bridge matting or double stack matting shall be used in all wetland areas in order to minimize the chance of turtles climbing onto work locations.
    i. Any reptiles observed on bridge matting or double stack matting shall be reported to NHFG immediately.
c. In all upland work areas, material shall be staged/placed within pre-established work pads which have been cleared for and isolated from turtle entry, and all work pads around structures shall be cleared and isolated from turtle entry with wildlife exclusion silt fence prior to work. These areas shall be cleared by a qualified biologist or herpetologist.
    i. Silt fence shall be constructed as soon as possible in order to minimize the chance of turtles nesting in work areas.
    ii. Silt fence used for wildlife exclusion should fully enclose the work areas and should be buried to a depth no less than 6-8" and be 18" above grade with ground stakes on the active site side of the fence. Access gates shall be weighed down and lay flat on the ground to prevent wildlife entry. There should be no gaps between the gate and the silt fence or the gate and the ground.
    iii. Any failings in silt fence for wildlife exclusion shall be reported to NHFG immediately.

4. Turtles may be attracted to disturbed ground during nesting season. Turtle nesting season occurs approximately May 15th – June 30th. Nesting areas may include work pads and access roads that are not hard pack gravel and other sandy/gravel work areas. All turtle species nests are protected by NH laws. Be aware of the potential to encounter nesting wildlife in these areas.
5. If a nest or scrape is observed or suspected, operators shall contact Melissa Winters (603-479-1129) or Josh Megyesy (978-578-0802) at NHFG immediately for further consultation. The nest or suspected nest shall be marked (surrounding roped off or cone buffer) and avoided; this shall be communicated to all personnel onsite. Site activities shall not occur in the area surrounding the nest or suspected nest until further guidance is provided by NHFG.
6. Vernal pools and potential vernal pools shall be flagged prior to work, and impacts shall be avoided. No disturb vegetative buffers of 50' shall be maintained with the following exceptions:
    a. NHFG understands that impacts to PVP-4/W-100 cannot be avoided given that existing F139 structure 161 is in close proximity and is proposed to be replaced. All disturbance to this potential vernal pool shall occur under frozen conditions in order to prevent rutting.
    b. Impacts to PVP-1 buffer and PVP-2 buffer shall be allowed. See plan sheets 8 and 20.
7. All matting which will be placed in waterbodies deemed suitable for hibernating rare turtles will be placed prior to the start of the inactive season (October 16-March 31) so as to prevent accidental placement atop hibernating turtles. Immediately prior to matting placement in these wetlands, the area shall be swept by a qualified biologist or herpetologist. They shall watch for signs that turtles are being disturbed in the area (ex. Heads coming above water, animals moving in water). Contact NHFG if biologist/herpetologist sees or suspects turtles in matting areas. Areas identified as suitable hibernation habitat shall be identified on plan sheets and provided to NHFG at least two weeks prior to beginning work. Biologist qualifications shall be provided to NHFG.
8. Immediately prior to the placement of matting in wetlands during the active season (April 1-October 15) in all areas not within 300' of Hayward Brook, Burnham Brook, and Shaw Brook, the areas shall be cleared by a trained individual.
    a. A trained individual shall be defined as any contractor who has gone through project-species protection education conducted by the qualified biologist on rare wildlife species at the site.
9. All work activities shall be restricted to the defined roads, construction areas, and staging areas, with no equipment or materials staged or stored outside of the defined areas as shown on plan sheets.
10. For all areas not within 300' of Hayward Brook, Burnham Brook, and Shaw Brook, searches and sweeps shall be conducted immediately by trained individuals immediately before the start of work and movement of equipment in order to minimize the chance of animals entering an area between the sweep and work.
11. Work, pull pads, and access shall be minimized to the greatest extent possible.
12. Works pads shall be reduced post-construction to 30' x 60' and restored with a native vegetation seed mix.
13. All manufactured erosion and sediment control products, with the exception of turf reinforcement mats, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, inlet protection, check dams, and sediment traps shall not contain plastic, or multifilament or monofilament polypropylene netting or mesh with an opening size of greater than 1/8 inches;
14. All observations of threatened or endangered species on the project site shall be reported immediately to the NHFG nongame and endangered wildlife environmental review program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov, with the email subject line containing the NHB DataCheck tool results letter assigned number, the project name, and the term Wildlife Species Observation;
15. Photographs of the observed species and nearby elements of habitat or areas of land disturbance shall be provided to NHFG in digital format at the above email address for verification, as feasible;
16. In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
    a. Site operators shall be allowed to relocate wildlife encountered if discovered within the active work zone and if in direct harm from project activities. Wildlife shall be relocated in close proximity to the capture location but outside of the work zone and in the direction the individual was heading. NHFG shall be contacted immediately if this action occurs.
17. The NHFG, including its employees and authorized agents, shall have access to the property during the term of the permit.

Additional Recommendations:

• Smooth green snakes (state species of special concern) occur within the vicinity of the project site. All operators and personnel working on or entering the site should be made aware of the potential presence of these species and should be provided flyers that help to identify these species, along with NHFG contact information. Rare species information (e.g. identification, observation and reporting of observations, when to contact NHFG immediately and NHFG contact information) should be posted on site at all times and communicated during morning tailgate meetings prior to work commencement. Refer to the species flyers located on the next plan sheet.

REPORT OBSERVATIONS
Smooth Green Snake
(Species of Special Concern)

Report sightings to NHFG Wildlife Division at NHFGReview@wildlife.nh.gov

Reference NHB# and project name if applicable.
Please report promptly, noting specific location and date.
Photographs strongly encouraged.

- Thin, bright green snake
- 10-20 inches long
- White or pale yellow underside
- Found in open or lightly forested habitats such as grassy fields, meadows, blueberry barrens, and forest openings
- Dead individuals turn blue

Managing Forests

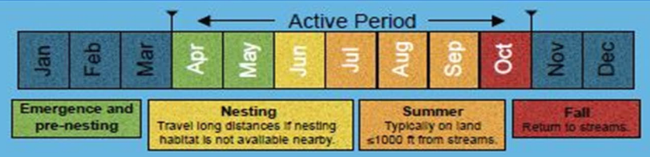
Forest management activities have the potential to both kill Wood Turtles and degrade habitat. However, if applied carefully, timber harvesting can be compatible with Wood Turtle habitat conservation and enhancement.

Guidelines for managing forests:

1. Restrict all logging operations within 300 ft of Wood Turtle streams during the active period: April–October.
2. Minimize harvests within 300 ft of all Wood Turtle streams and within 1000 ft of *regionally significant** streams.
3. *If early-successional habitats are completely absent*: small group selection cuts (top image) created during the inactive period may enhance habitat.
4. Discontinue logging road use after harvests are complete.

*Regionally significant streams are streams identified as critical to Wood Turtle conservation in the Northeast. Contact your state wildlife agency if you are uncertain about the status of a stream.

Active Period



Wood Turtle Habitat

Wood Turtles live in and around cool, clean, slow-moving streams and rivers from Virginia to southern Canada. These semiaquatic turtles overwinter and mate in streams, but spend much of the warmer months roaming the surrounding landscape. They utilize a wide range of upland habitats from fields and shrublands to mature forest.

Found a Wood Turtle?

If you find a Wood Turtle, please take pictures, note the location, and alert your state agency to your discovery. It is always best to leave turtles where you find them unless they are directly in harm's way (such as on a road), in which case the traveling turtle should be moved and released in the direction that it was headed.

www.americanturtles.org www.parcplace.org

Supported by: U.S. Fish and Wildlife Service Competitive State Wildlife Grants

Management Guidelines for Wood Turtles

(*Glyptemys insculpta*)

Nesting Areas
Agricultural Land
Forest Land
Roads

Creating Nesting Areas

Wood Turtles require open, well-drained, elevated, and exposed areas of sand and/or gravel for nesting. These conditions occur naturally in the form of sand/gravel bars, beaches, and cutbanks. Wood Turtles also make use of anthropogenic features for nesting such as gravel pits, boat ramps, powerline corridors, and roadsides.

Considerations for managing nesting habitat:

1. Survey and map natural streamside nesting areas using ground surveys and aerial photographs.
2. Manage natural streamside nesting habitat by clearing vegetation during the inactive season.
3. If natural streamside nesting features are not available, evaluate existing anthropogenic nesting habitat and protect, manage, and/or augment as necessary. Create nesting habitat during winter.

Creating nesting habitat:

Clear land to expose mixed poorly-graded sand and gravel, or build mound(s) of sand in open areas near streams (≤200 ft). Avoid placing nesting areas near roads and, if possible, disperse nesting areas to decrease the chance of depredation. Suggested dimensions for nesting mounds: 60 x 25 x 5 ft.

Managing Agricultural Land

Agricultural land can be attractive and beneficial for Wood Turtles **if properly managed.** Unfortunately, agricultural machinery can also kill Wood Turtles and harm local populations.

Guidelines for managing agricultural land:

1. Establish unfragmented and unmanaged riparian/upland buffers of ≥300 ft around all Wood Turtle streams and buffers of ≥1000 ft around *regionally significant** streams.
2. Manage fields during the inactive period (Nov 1–Mar 31). If warm season management is necessary, leave unmanaged buffers >35 ft at the streamside edge of fields and maintain them during winter.
3. Use crop varieties that can be harvested in October.
4. Implement grazing or off-season burning. Exclude livestock from the riparian corridor.
5. Use sickle bar mowers and raise blade height >6 inches when possible.
6. Conduct systematic surveys to identify heavily used turtle areas (e.g., early summer nesting congregations in fields).

*See Managing Forests

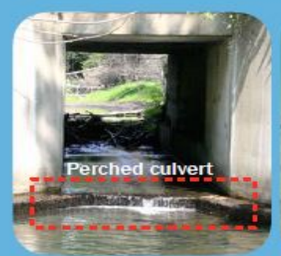
Minimizing Road Mortalities

Photo: Tom Hodgman

Road mortalities are one of the major factors contributing to the decline of Wood Turtles. Roads that run parallel to Wood Turtle streams, especially within 300 ft, are particularly harmful for nearby populations. **The most effective way to protect Wood Turtles is to restrict the construction of new roads near important habitat.**

Guidelines for minimizing road mortalities:

1. Prohibit road construction within 300 ft of all Wood Turtle streams and where feasible within 1000 ft of *regionally significant** streams.
2. Culverts and crossings should be avoided whenever possible near Wood Turtle streams.
3. If a road crossing is necessary, it is critical that:
   A. The culvert or bridge allows turtles to pass below (e.g., is not **perched** or **undersized****).
   B. The road surfaces and side slopes are not attractive to Wood Turtles (e.g., avoid creating nesting or early-successional habitat).
4. Minimize road construction up to 3.5 miles from *regionally significant** streams.



*See Managing Forests **See Stream Crossing Standards

PLEASE REPORT RARE TURTLES

The NH Fish & Game Department is requesting observations of three turtle species that could be encountered onsite.

Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to NHFG Wildlife Biologist Melissa Winters 603-479-1129 (cell) anytime.

Please report promptly, noting specific location and date – Photographs strongly encouraged

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Blanding's turtle (state endangered)

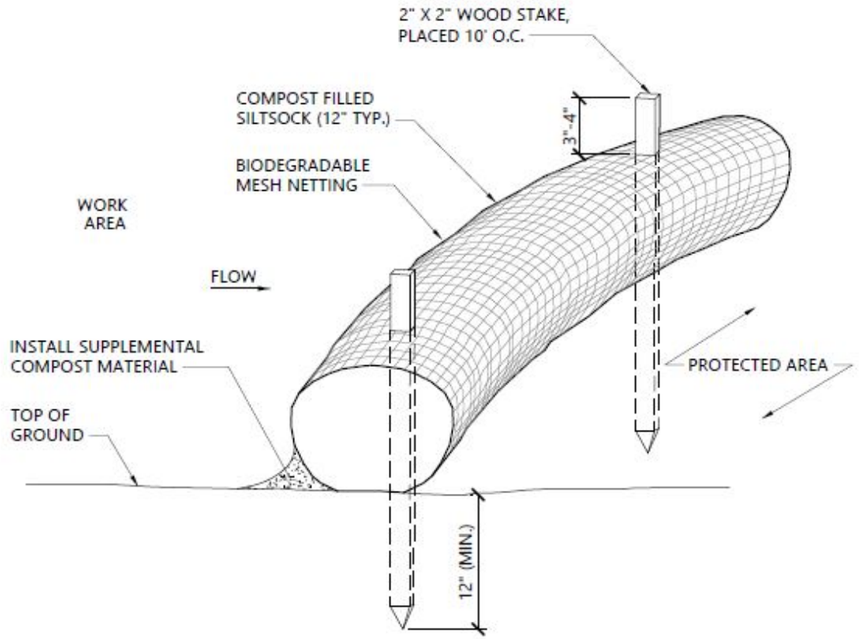
- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land

Wood turtle (special concern)

- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land

Spotted turtle (state threatened)

- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle



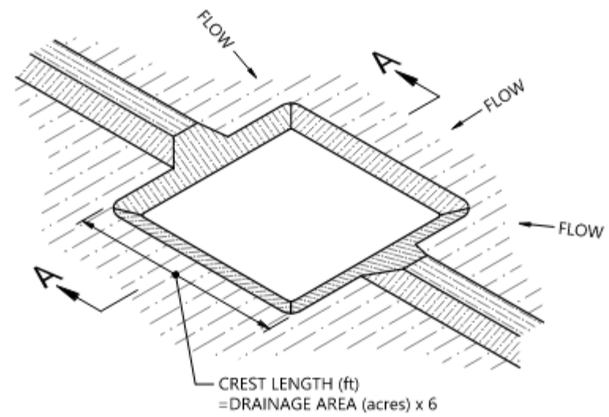
NOTES

1. SILTSOCK SHALL BE FILTREXX SILTSOXX WITH SILTSOXX NATURAL ORIGINAL OR NATURAL PLUS+ COMPOST FILL.
2. SILTSOCKS SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. SILTSOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

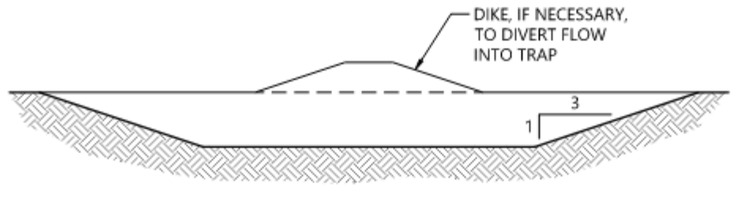
Siltsock - Erosion Control Barrier

1/16

N.T.S. Source: VHB REV LD_658



ISOMETRIC VIEW



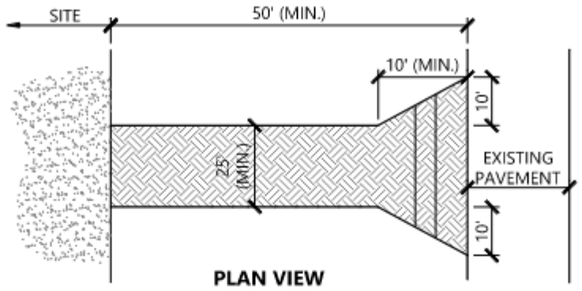
SECTION A-A

NOTES

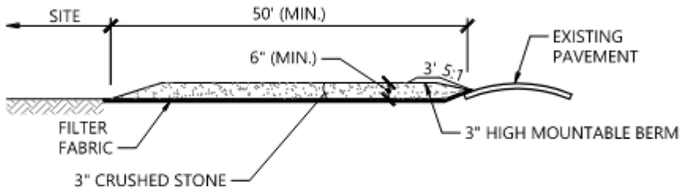
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE .
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

Temporary Sediment Trap

N.T.S. Source: NH Stormwater Manual



PLAN VIEW



CROSS-SECTION

NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

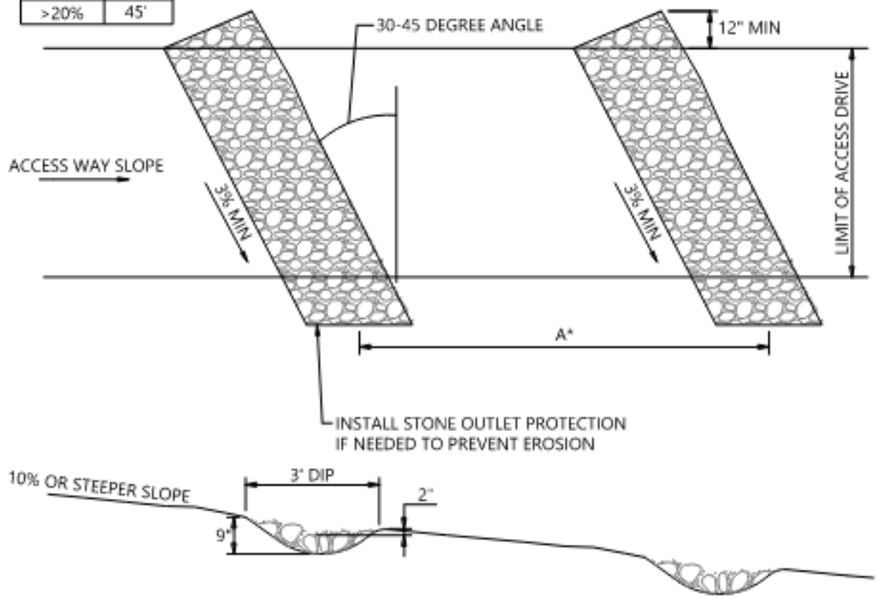
Stabilized Construction Exit

5/17

N.T.S. Source: VHB LD 682-NH

RECOMMENDED MINIMUM SPACING FOR WATERBARS

GRADE	A
≥10%	80'
≥15%	60'
>20%	45'



NOTES

1. WATERBARS SHOULD BE INSTALLED IN SECTIONS WITH SLOPES GREATER THAN OR EQUAL TO 10%.
2. CONTRACTOR TO OBSERVE THE CLEARINGS DURING A RAINSTORM TO DETERMINE IF ADDITIONAL WATERBARS OR ADJUSTMENTS TO WATERBARS ARE NEEDED.
3. WATERBAR DESIGN AND SPACING PROVIDED FOR GUIDANCE TO CONTROL EROSION ALONG CROSS-COUNTRY CLEARINGS. THE CONTRACTOR SHALL DETERMINE IF OTHER APPROPRIATE MEASURES ARE REQUIRED TO CONTROL RUNOFF AND EROSION IN CLEARING AREAS.
4. FOR WIDER LIMITS OF CLEARING MULTIPLE LOG LENGTHS MAY BE REQUIRED.

Waterbars (Alternative) - For Utility Access Areas

11/15

N.T.S. Source: VHB LD_

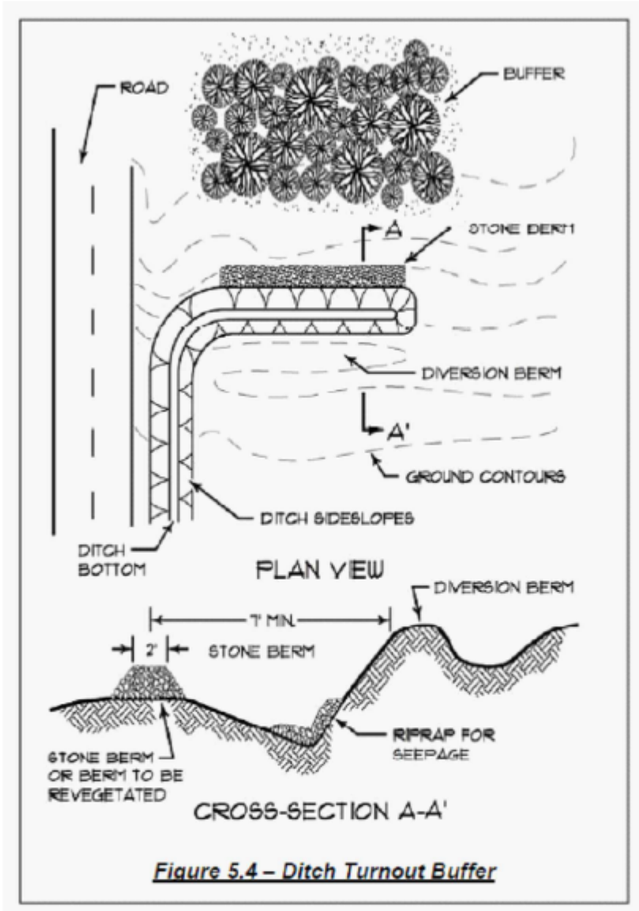
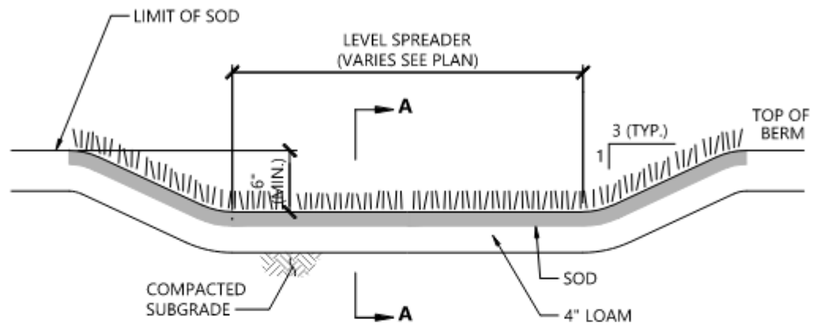


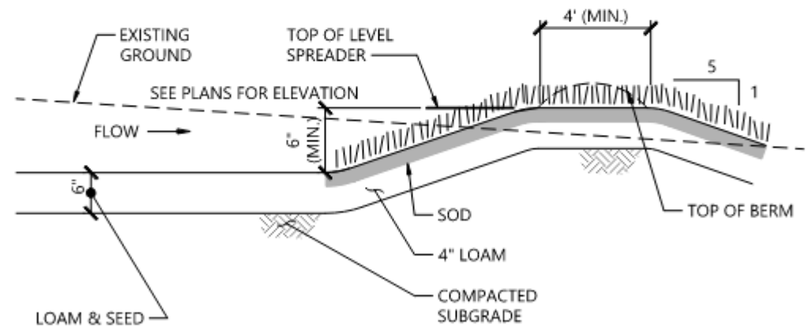
Figure 5.4 – Ditch Turnout Buffer

- *Stone Berm Specifications:* The stone berm to which the ditch turn-out delivers the runoff must be at least 20 feet in length and must be constructed along the contour. It must be at least one- foot high and two feet across the top with 2:1 side slopes.
- *Stone Size:* The stone must be coarse enough that it will not clog with sediment. Stone for stone bermed level lip spreaders must consist of sound durable rock that will not disintegrate by exposure to water or weather. Fieldstone, rough quarried stone, blasted ledge rock or tailings may be used. The rock must be well graded with a median size of approximately 3 inches and a maximum size of 6 inches. See Table 5.4 above.

Ditch Turnout

N.T.S. Source: MDEP



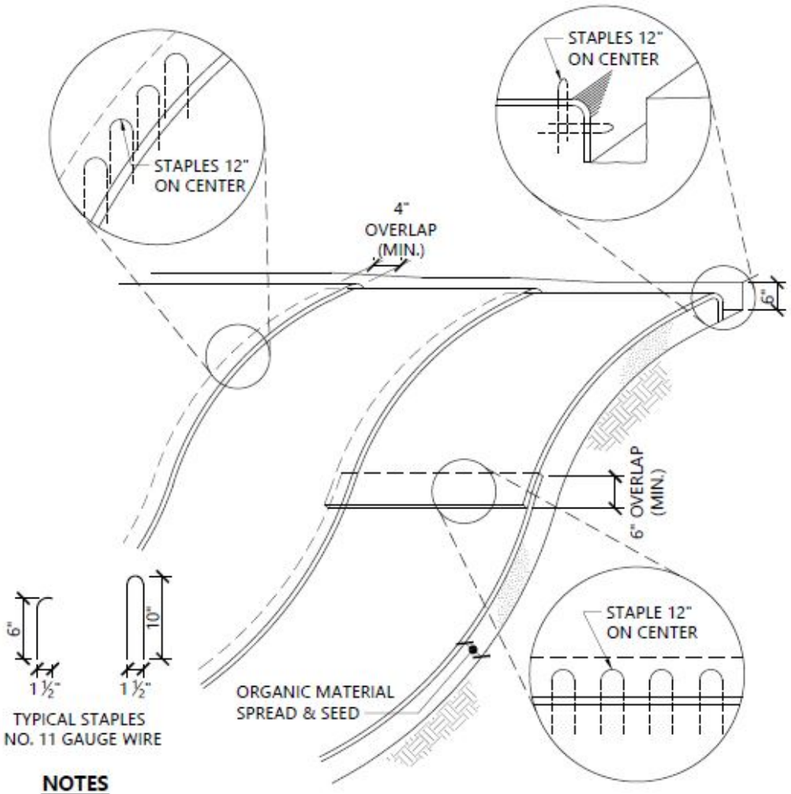


SECTION A-A

Level Spreader Detail

1/16

N.T.S. Source: VHB LD 172



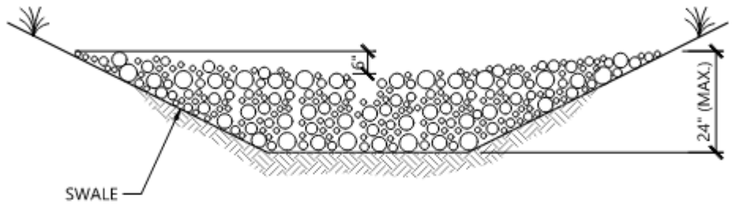
NOTES

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
6. EROSION CONTROL BLANKETS SHALL BE USED IN ALL AREAS WHERE SLOPES EXCEED 3:1.
7. EROSION CONTROL BLANKETS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC MULTI-FILAMENT OR MONO-FILAMENT POLYPROPYLENE NETTING OR MESH.

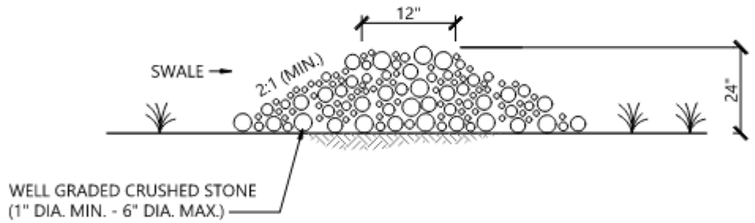
Erosion Control Blanket Slope Installation

1/16

N.T.S. Source: VHB REV LD_680



ELEVATION



CROSS-SECTION

NOTES

1. TOP OF DOWNGRADIENT CHECKDAM AND BOTTOM OF UPGRADIENT CHECKDAM TO BE SET AT THE SAME ELEVATION.
2. STONE CHECKDAMS MAY BE REMOVED WHEN 90% OF THE VEGETATIVE COVER IS ESTABLISHED.

Temporary Stone Checkdam

N.T.S. Source: VHB REV

RANGE RD
CARR ST
CHANCE POND RD
FRANKLIN
POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN THE BANKS
TEMPORARY WETLAND IMPACT: 5,670 SF
TEMPORARY WETLAND IMPACT: 844 SF
TEMPORARY WETLAND IMPACT: 744 SF
TEMPORARY WETLAND IMPACT: 266 SF
TEMPORARY WETLAND IMPACT: 1,326 SF
SPAN STREAM
SPAN STREAM
W-1 PSS1B/PEM1B
W-2 PSS1B/PEM1B
W-3 PSS1E/PEM1E
Line V182
Line F139
Chance Pond Branch
000007600001000000 Public Service Company Of New Hampshire (Eversource)
WEBSTER S/S
000077000402000000 Jose Garneau Revocable Trust of 2022
000077000012000000 Mary C Nadeau
000078000402000000 Properties, Incorporated (Eversource)
000077000015000000 Laighton Qualified Personal Residence Trust
076-005-00 Christopher R Peirce
State Of New Hampshire
State Of New Hampshire
077-013-00 Kenneth L Stephens
077-401-00 Kenneth Yannone
077-404-00 Elaine Rogers
077-405-00 Nelson J Michaud Jr.
077-405-00 City Of Franklin
000077000026000000 City Of Franklin
037-401-00 City Of Franklin
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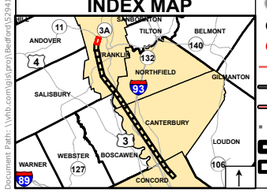

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- Work Pad/Pull Pad
- Culvert
- Delineated Wetland Boundary Outline
- Watercourse (not delineated)
- Delineated Ephemeral Stream Centerline (by others)
- Delineated Intermittent Stream Centerline (by others)
- Delineated Perennial Stream Centerline (by others)
- Delineated Top of Bank (by others)
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- NHDES Floodplain Wetlands
- Potential Vernal Pool 50-foot Buffer
- NHF&G Requested 300-Foot Buffer
- FEMA Floodway
- FEMA 100-Year Flood Zone
- Rare Plant Survey Area
- Municipal Boundary
- Eversource Owned Property
- Areas of Low Archeological Sensitivity
- Parcel Boundary

N

1:2,400

0 50 100 200 Feet

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

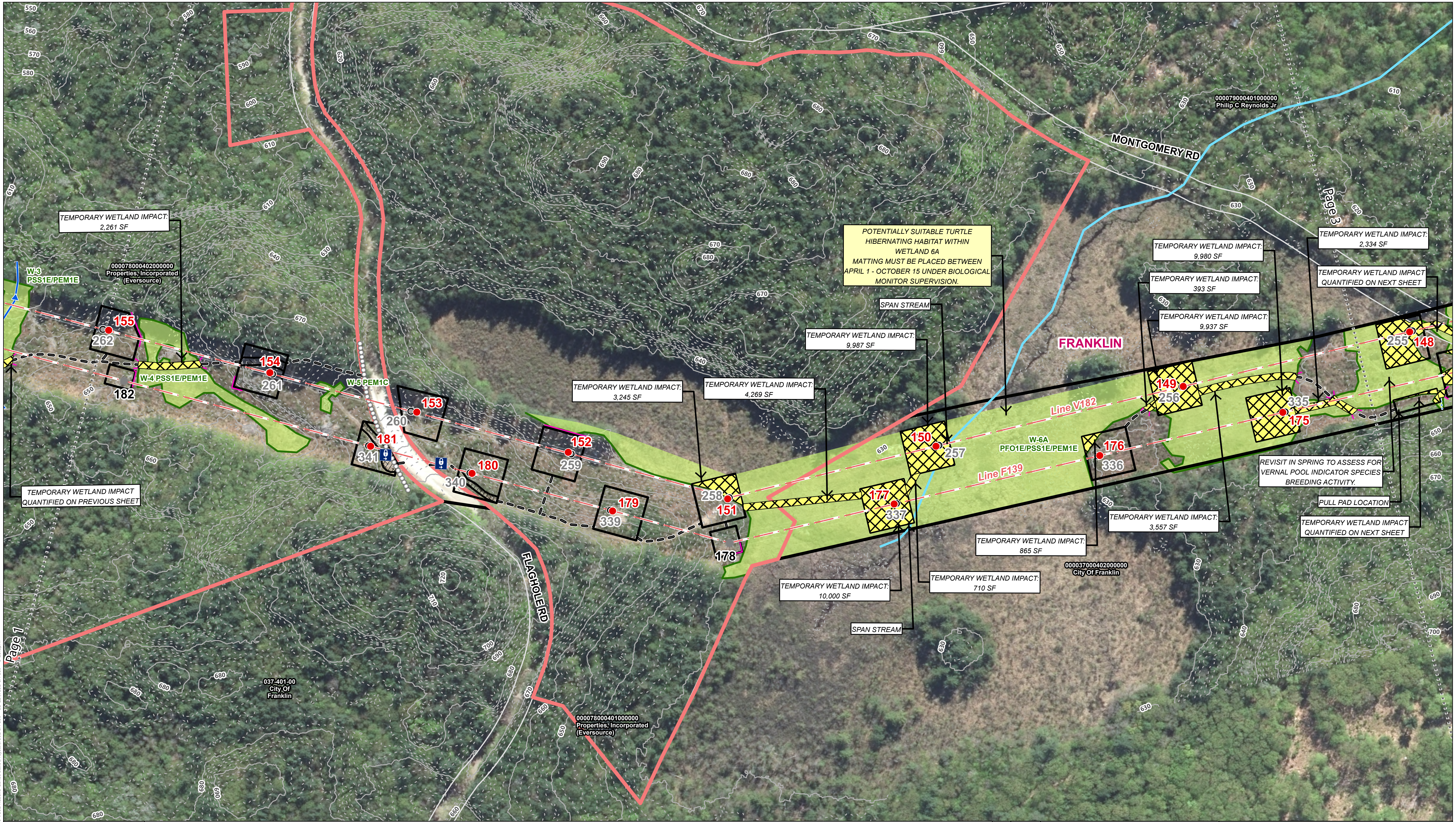
V182 & F139 Lines Structure Replacement Alteration of Terrain Permitting Plans

FRANKLIN, NH | SHEET 1 of 25

Date: March, 2023

vhb

Document Path: \\vhb.com\gis\proj\Bedford\52941.00_V182 Rebuild Constructn\Project\V182 & F139 - 12-22\V182 & F139 - 1-23.aprx


TEMPORARY WETLAND IMPACT: 2,261 SF
000078000402000000 Properties, Incorporated (Eversource)
W-3 PSS1E/PEM1E
W-4 PSS1E/PEM1E
W-5 PEM1C
155
262
154
261
182
153
260
181
341
180
340
152
259
179
339
TEMPORARY WETLAND IMPACT QUANTIFIED ON PREVIOUS SHEET
TEMPORARY WETLAND IMPACT: 3,245 SF
TEMPORARY WETLAND IMPACT: 4,269 SF
258
151
178
FLAGHOLE RD
Page 1
037-401-00 City Of Franklin
000078000401000000 Properties, Incorporated (Eversource)
MONTGOMERY RD
000079000401000000 Philip C Reynolds Jr
POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 6A MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.
SPAN STREAM
TEMPORARY WETLAND IMPACT: 9,987 SF
FRANKLIN
Line V182
Line F139
W-6A PFO1E/PSS1E/PEM1E
150
257
177
337
176
336
149
256
335
175
255
148
TEMPORARY WETLAND IMPACT: 10,000 SF
SPAN STREAM
TEMPORARY WETLAND IMPACT: 710 SF
TEMPORARY WETLAND IMPACT: 865 SF
000037000402000000 City Of Franklin
TEMPORARY WETLAND IMPACT: 3,557 SF
TEMPORARY WETLAND IMPACT: 9,980 SF
TEMPORARY WETLAND IMPACT: 393 SF
TEMPORARY WETLAND IMPACT: 9,937 SF
TEMPORARY WETLAND IMPACT: 2,334 SF
TEMPORARY WETLAND IMPACT QUANTIFIED ON NEXT SHEET
REVISIT IN SPRING TO ASSESS FOR VERNAL POOL INDICATOR SPECIES BREEDING ACTIVITY.
PULL PAD LOCATION
TEMPORARY WETLAND IMPACT QUANTIFIED ON NEXT SHEET
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- Parcel Boundary

N

1:2,400

0 50 100 200 Feet

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

V182 & F139 Lines Structure Replacement Alteration of Terrain Permitting Plans

FRANKLIN, NH

SHEET 2 of 25

Date: March, 2023

vhb

POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 6A
MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.

TEMPORARY WETLAND IMPACT: 8,320 SF

TEMPORARY WETLAND IMPACT: 2,026 SF

TEMPORARY WETLAND IMPACT: 4,878 SF

0000079000401000000
Philip C Reynolds Jr

FRANKLIN

147 146 145 144 143 142

Line V182

Line F139

148 255 174 334 173 333 172 332 171 170 330 169 329 168 328 167 327

W-6B PF01E/PSS1E/PEM1E

W-6A PF01E/PSS1E/PEM1E

W-7B PSS1E/PEM1E

W-7A PSS1E/PEM1E

W-7C PSS1E/PEM1E

W-8 PEM1E/PSS1E

W-9 PSS1B

W-10 PSS1B

SPAN STREAM

TEMPORARY WETLAND IMPACT: 2,304 SF

TEMPORARY WETLAND IMPACT: 2,924 SF

0000820004030000000
City Of Franklin

0000570004010000000
City Of Franklin

0000400004010000000
City Of Franklin

PULL PAD LOCATION

SNOW MOBILE PATH

TEMPORARY WETLAND IMPACT: 253 SF

TEMPORARY WETLAND IMPACT: 557 SF

PULL PAD LOCATION

MONTGOMERY RD

ACCESS FROM SALISBURY ROAD

0000370004020000000
City Of Franklin

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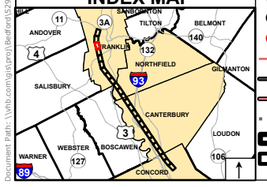
INDEX MAP



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- FEMA 100-Year Flood Zone
- Rare Plant Survey Area
- Municipal Boundary
- Eversource Owned Property
- Areas of Low Archeological Sensitivity
- Parcel Boundary

N

1:2,400
0 50 100 200 Feet

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

V182 & F139 Lines Structure Replacement Alteration of Terrain Permitting Plans

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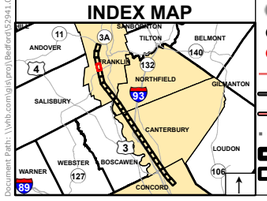
Date: March, 2023

vhb

INDEX MAP



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0 50 100 200 Feet

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

V182 & F139 Lines Structure Replacement Alteration of Terrain Permitting Plans

FRANKLIN, NH | SHEET 4 of 25

Date: March, 2023

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POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 11 AND THE STREAM BANKS MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.

TEMPORARY WETLAND IMPACT: 1,789 SF

SPAN STREAM

POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 12 AND THE STREAM BANKS MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.

TEMPORARY WETLAND IMPACT: 1,051 SF

SPAN STREAM

SPAN STREAM

TEMPORARY WETLAND IMPACT: 689 SF

TEMPORARY WETLAND IMPACT: 6,686 SF

SENSITIVE AREA

TEMPORARY WETLAND IMPACT: 2,497 SF

TEMPORARY WETLAND IMPACT: 1,331 SF

SPAN STREAM

TEMPORARY WETLAND IMPACT: 1,363 SF

TEMPORARY WETLAND IMPACT: 1,723 SF

TEMPORARY WETLAND IMPACT: 1,112 SF

TEMPORARY WETLAND IMPACT: 5,120 SF

WILDLIFE EXCLUSION SILT FENCING SHALL BE INSTALLED WITHIN THIS 300-FOOT BUFFER BEFORE APRIL 1 TO PREVENT TURTLE ENTRY. A QUALIFIED BIOLOGICAL MONITOR SHALL BE PRESENT AT ALL TIMES DURING ACTIVE WORK WITHIN THIS 300-FOOT BUFFER.

WILDLIFE EXCLUSION SILT FENCING SHALL BE INSTALLED WITHIN THIS 300-FOOT BUFFER BEFORE APRIL 1 TO PREVENT TURTLE ENTRY. A QUALIFIED BIOLOGICAL MONITOR SHALL BE PRESENT AT ALL TIMES DURING ACTIVE WORK WITHIN THIS 300-FOOT BUFFER.

Shaw Brook

FRANKLIN

SALISBURY RD

Line V182

Line F139

W-11 PSS1E/PUB2bh

W-12 PEM1E/PSS1E

W-13 PEM1A

W-14 PEM1E/PSS1E

000082000409000000 Concord Regional Solid Waste

000082000008000000 Richard F West

000082000403000000 City Of Franklin

000082000401000000 City Of Franklin

000082000402000000 The Campbell Family Trust

000057000401000000 City Of Franklin

000083000007000000 Lorraine Hassett

000083000006000000 Gerald R Cushing

000083000005000000 Amilcar Giraldo

000083000004000000 Mabel M Laroche

000083000003000000 Liane Adele Lippert

000083000002000000 Michael Champion

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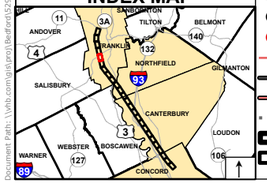
INDEX MAP



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0 50 100 200 Feet

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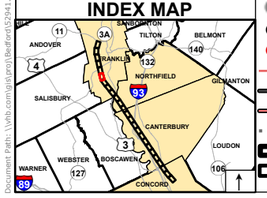

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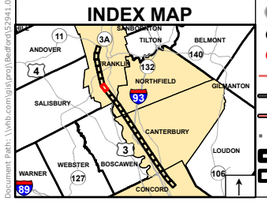

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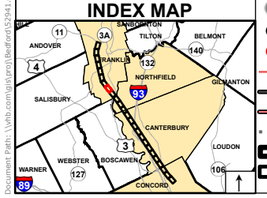

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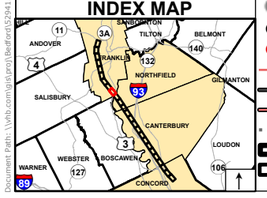

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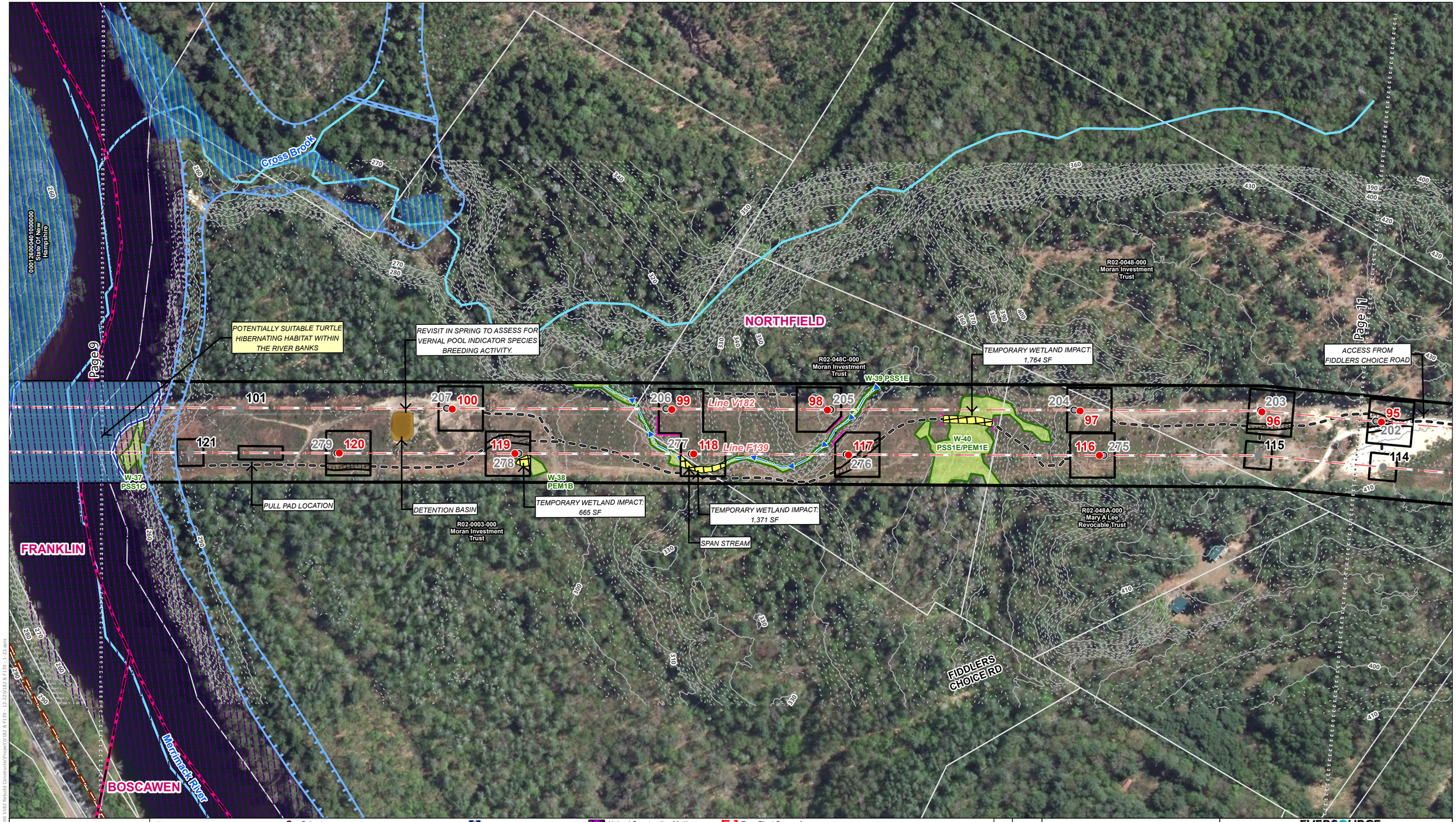

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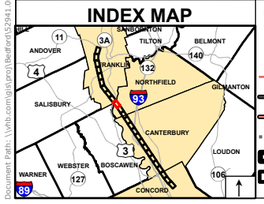

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NORTHFIELD

R03-0005-017
Richard
Dougherty

R03-0004-000
John G Downes

R02-0048-000
Moran
Investment Trust

R02-0046-000
William
A Balkam

R03-0006-000
Debbie L Rich
Revocable Trust

R03-0007-000
Risley
Farmhouse LLC

R03-0008-000
Society For The
Protection Of

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TEMPORARY WETLAND IMPACT:
1,821 SF

TEMPORARY WETLAND IMPACT:
1,915 SF

TEMPORARY WETLAND IMPACT:
833 SF

TEMPORARY WETLAND IMPACT:
5,458 SF

TEMPORARY WETLAND IMPACT:
3,021 SF

TEMPORARY WETLAND IMPACT:
3,164 SF

TEMPORARY WETLAND IMPACT:
1,619 SF

TEMPORARY WETLAND IMPACT:
4,123 SF

TEMPORARY WETLAND IMPACT:
378 SF

TEMPORARY WETLAND IMPACT:
4,228 SF

TEMPORARY WETLAND IMPACT:
1,074 SF

TEMPORARY WETLAND IMPACT:
514 SF

TREE REMOVAL

SPAN STREAM

PULL PAD LOCATION

FIDDLERS CHOICE RD

Line V182

Line F139

W-41 PSS1B

W-42
PSS1B

W-43 PSS1B

W-44
PSS1E/PEM1E

W-45 PSS1E

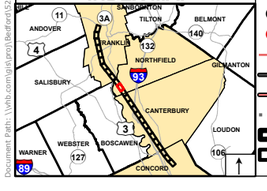
W-46
PSS1B

W-47
PSS1B/PEM1B

W-48
PSS1E/PEM1E

95 202 114 113 94 201 271 112 93 200 270 111 110 269 199 92 268 109 91 198 108 267 90 197 107 266 106 265

INDEX MAP



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0 50 100 200 Feet

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R03-0006-000
Debbie L Rich
Revocable Trust

R03-0007-000
Risley
Farmhouse LLC

R03-0011-000
Barbara
Ann Prue

000219002000000000
David Brent

000219004000000000
Kenneth Blackford

NO NAME

OAK HILL RD

NORTHFIELD

CANTERBURY

R03-0012-000
Risley
Farmhouse LLC

000219003000000000
Michael Colby

000219005000000000
Christopher D. Cyr

000218002000000000
Anthony Whitehouse

R03-0008-000
Society For The
Protection Of

TEMPORARY WETLAND IMPACT:
8,980 SF

TEMPORARY WETLAND IMPACT:
293 SF

TEMPORARY WETLAND IMPACT:
731 SF

TEMPORARY WETLAND IMPACT:
181 SF

TEMPORARY WETLAND IMPACT:
908 SF

TEMPORARY WETLAND IMPACT:
2,450 SF

TEMPORARY WETLAND IMPACT:
536 SF

TEMPORARY WETLAND IMPACT:
104 SF

TEMPORARY WETLAND IMPACT:
9,671 SF

TEMPORARY WETLAND IMPACT:
3,545 SF

TEMPORARY WETLAND IMPACT:
1,702 SF

TEMPORARY WETLAND IMPACT:
1,216 SF

TEMPORARY WETLAND IMPACT:
2,217SF

TEMPORARY WETLAND IMPACT
QUANTIFIED ON PREVIOUS SHEET

ELECTRIC FENCE

SPAN STREAM

SHOOTING RANGE LOCATION

Line V182

Line F139

W-45 PSS1E

W-47 PSS1B/PEM1B

W-48 PSS1E/PEM1E

W-49 PSS1B

W-50 PEM1B

W-51 PSS1B

W-52 PEM1B

W-53 PEM1B

W-54 PSS1B

W-55 PSS1B

W-56A PSS1B/PEM1B

W-56B PSS1B/PEM1B

89 196 105 264 88 195 263 104 87 194 103 102 86 193 101 260 85 192 259 100 84 191 99 258 83 190 257 98

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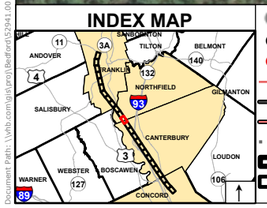

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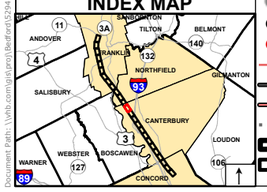
INDEX MAP



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1:2,400

0 50 100 200 Feet

NO.	DATE	REVISIONS

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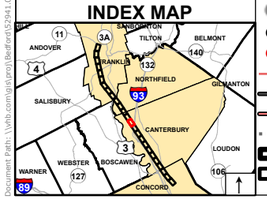

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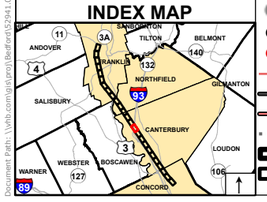

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Cold Brook

CANTERBURY

WEST RD

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POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 67
MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.

SENSITIVE AREA. NO GROUND DISTURBANCE IS PERMITTED BEYOND THE LIMITS OF THE APPROVED WORK AREAS DEPICTED ON THIS PLAN.

POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 68
MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.

SHOOTING RANGE

SPAN STREAM

PULL PAD LOCATION

000248022000000000
Sunset Mtn Fish & Game Club

000248006000000000
Joshua Marshall

000248018000000000
Sunset Mtn Fish & Game Club

000248019000000000
Sunset Mtn Fish & Game Club

000251003000000000
Mann Trust

TEMPORARY WETLAND IMPACT: 448 SF

TEMPORARY WETLAND IMPACT: 4,253 SF

TEMPORARY WETLAND IMPACT: 4,051 SF

TEMPORARY WETLAND IMPACT: 572 SF

TEMPORARY WETLAND IMPACT: 465 SF

TEMPORARY WETLAND IMPACT: 6,186 SF

TEMPORARY WETLAND IMPACT: 168 SF

TEMPORARY WETLAND IMPACT: 1,461 SF

TEMPORARY WETLAND IMPACT: 1,609 SF

TEMPORARY WETLAND IMPACT: 332 SF

TEMPORARY WETLAND IMPACT: 2,162 SF

TEMPORARY WETLAND IMPACT: 8,293 SF

W-65 PSS1B/PEM1B

W-66 PSS1E/PEM1E

W-67 PEM1E

W-68 PSS1E/PEM1E

Line V182

Line F139

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55 162
56 163
57
58 165
65 222 221
66 223
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69 226
70 227
71 228
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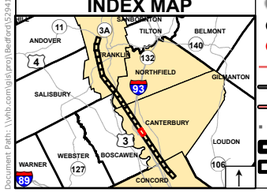

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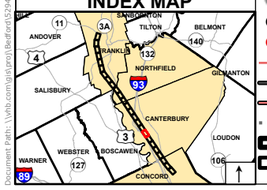

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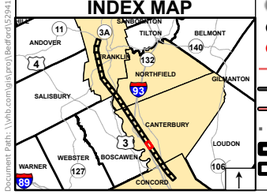

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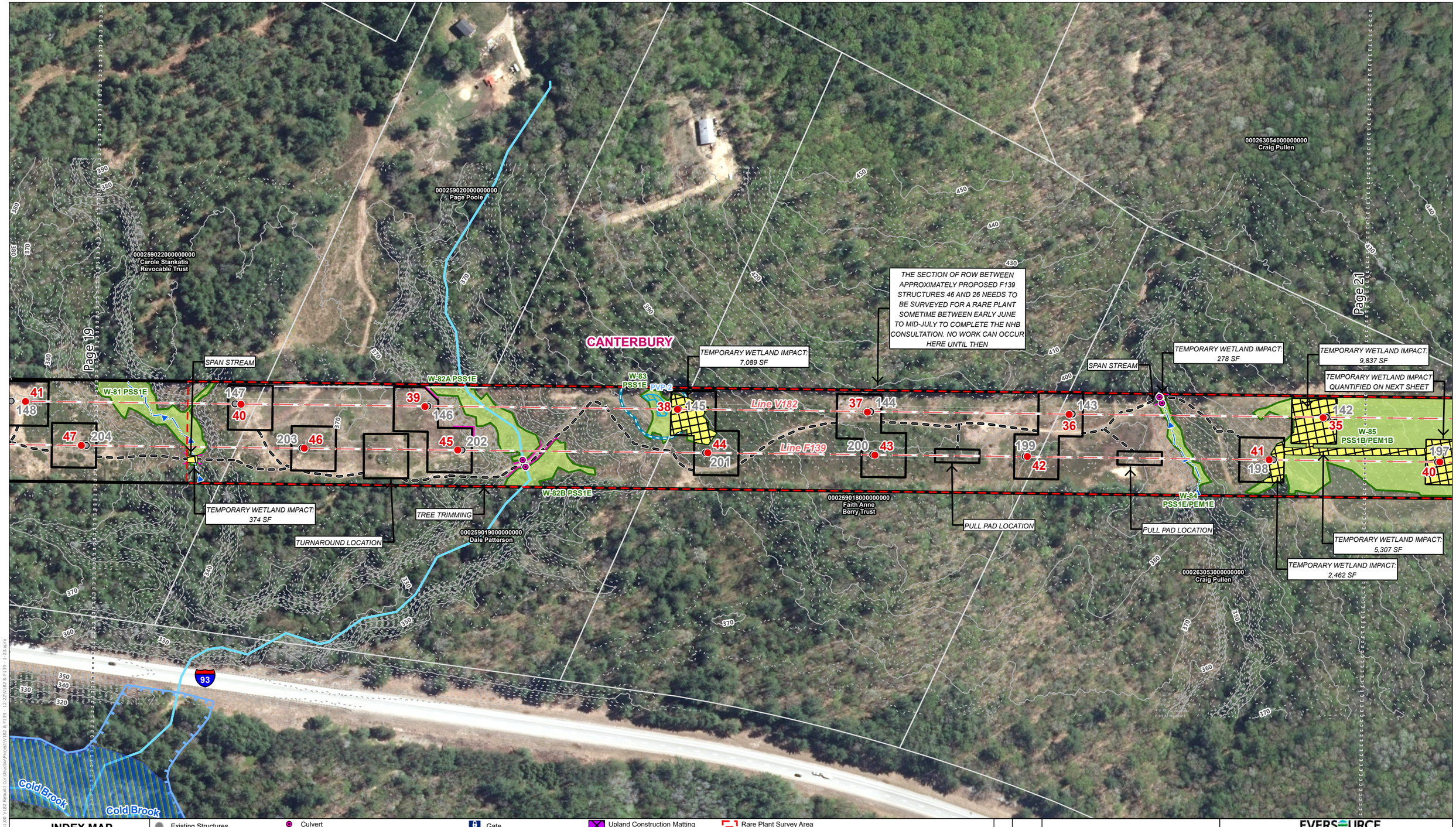

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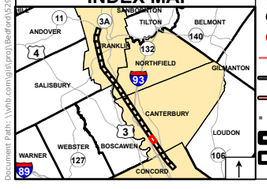

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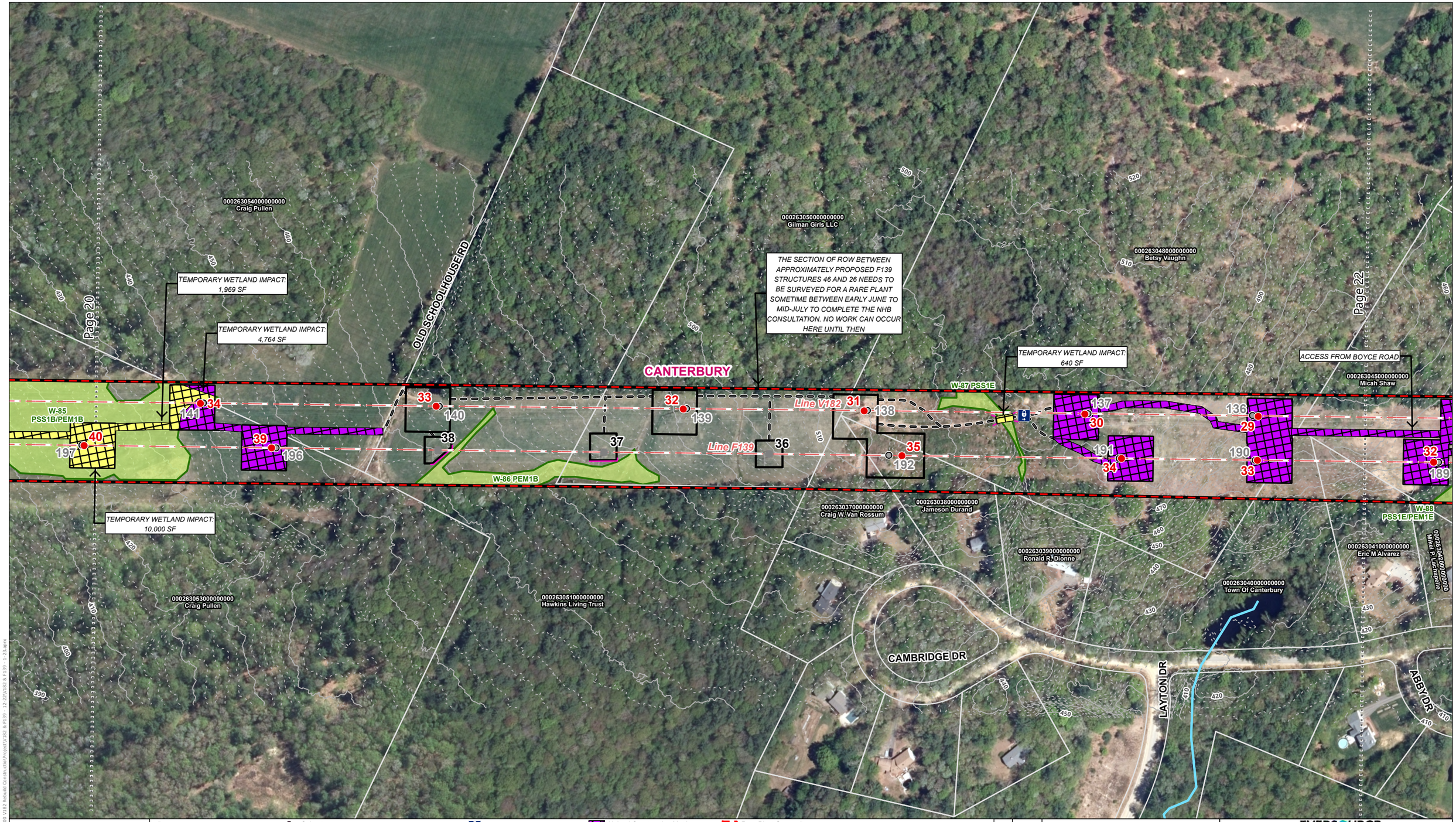

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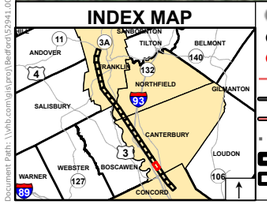

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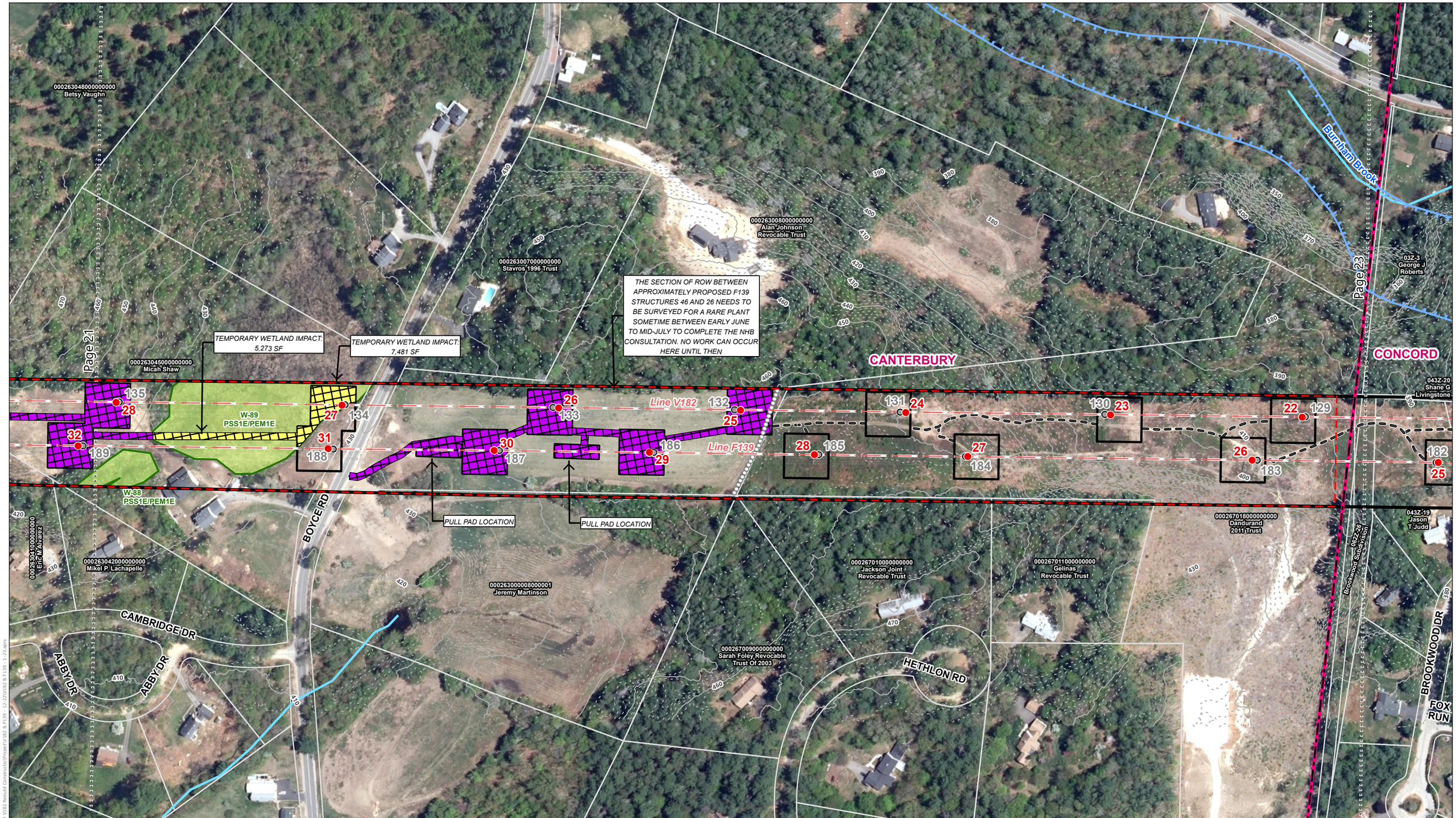

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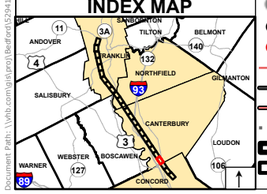

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CANTERBURY

CONCORD

132

MOUNTAIN RD

BROOKWOOD DR

HOIT RD

FOX RUN

FREEDOM ACRES DR

Burnham Brook

FOX RUN

POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 90 AND THE STREAM BANKS MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.

ACCESS FROM BOYCE ROAD

SPAN STREAM

TEMPORARY WETLAND IMPACT: 10,000 SF

TEMPORARY WETLAND IMPACT: 4,988 SF

TEMPORARY WETLAND IMPACT: 5,373 SF

TEMPORARY WETLAND IMPACT: 2,745 SF

TEMPORARY WETLAND IMPACT: 1,306 SF

TEMPORARY WETLAND IMPACT: 324 SF

TEMPORARY WETLAND IMPACT: 3,600 SF

TEMPORARY WETLAND IMPACT: 1,834 SF

TEMPORARY WETLAND IMPACT: 600 SF

BEAVER DAM

TURNAROUND LOCATION

PULL PAD LOCATION

PULL PAD LOCATION

PULL PAD LOCATION

WILDLIFE EXCLUSION SILT FENCING SHALL BE INSTALLED WITHIN THIS 300-FOOT BUFFER BEFORE APRIL 1 TO PREVENT TURTLE ENTRY. A QUALIFIED BIOLOGICAL MONITOR SHALL BE PRESENT AT ALL TIMES DURING ACTIVE WORK WITHIN THIS 300-FOOT BUFFER.

W-90 PSS1E/PEM1E

W-91 PSS1E/PEM1E

Line F139

Line V182

00026701800000000 Dandurand 2011 Trust

03Z-1 Kelly A Mulroy

03Z-3 George J Roberts

07Z-32 Bult One Family Trust

07Z-34 Sylvia J Spear

07Z-96-1 Rodney Picard

07Z-96-2 Shawn M Buxton

07Z-96 R & S A Picard, S & H Buxton, K Woode, C & S Mckinnon, A Kuczkowski, B Dodge & P & H Patel

043Z-19 Jason T Judd

043Z-20 Shane G Livingstone

043Z-21 Taras W Kucman

043Z-22 Justin Levesque

043Z-23 Ronald Normal 2021 Revocable Trust

043Z-26 Aubrey R Davis

043Z-27 Philip A Sciarani

062Z-26 Brookwood Subdivision

07Z-30 Stephen J Guarino Jr

07Z-31 Richard Henderson

07Z-97 Roxanne L Farwell

07Z-98 Ronald L Moreau

07Z-99 Hiram C Morrill

07Z-100 Alvin R Jones

07Z-101 Lee G Lajoie

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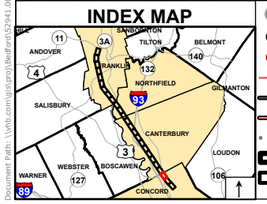

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- Eversource Owned Property
- Areas of Low Archeological Sensitivity
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1:2,400

0 50 100 200 Feet

NO.	DATE	REVISIONS

EVERSOURCE ENERGY

V182 & F139 Lines Structure Replacement Alteration of Terrain Permitting Plans

CONCORD, NH

SHEET 23 of 25

Date: March, 2023

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POTENTIALLY SUITABLE TURTLE HIBERNATING HABITAT WITHIN WETLAND 91 AND THE STREAM BANKS. MATTING MUST BE PLACED BETWEEN APRIL 1 - OCTOBER 15 UNDER BIOLOGICAL MONITOR SUPERVISION.

WILDLIFE EXCLUSION SILT FENCING SHALL BE INSTALLED WITHIN THIS 300-FOOT BUFFER BEFORE APRIL 1 TO PREVENT TURTLE ENTRY. A QUALIFIED BIOLOGICAL MONITOR SHALL BE PRESENT AT ALL TIMES DURING ACTIVE WORK WITHIN THIS 300-FOOT BUFFER.

TEMPORARY WETLAND IMPACT: 1,382 SF
TEMPORARY WETLAND IMPACT: 9,640 SF
TEMPORARY WETLAND IMPACT: 573 SF
TEMPORARY WETLAND IMPACT: 1,337 SF
TEMPORARY WETLAND IMPACT: 912 SF
TEMPORARY WETLAND IMPACT: 225 SF
TEMPORARY WETLAND IMPACT: 561 SF
TEMPORARY WETLAND IMPACT: 10,000 SF
TEMPORARY WETLAND IMPACT: 1,853 SF
TEMPORARY WETLAND IMPACT: 1,485 SF
TEMPORARY WETLAND IMPACT: 8,612 SF
TEMPORARY WETLAND IMPACT: 1,638 SF
TEMPORARY WETLAND IMPACT: 1,092 SF
TEMPORARY WETLAND IMPACT: 1,326 SF
TEMPORARY WETLAND IMPACT: 434 SF
TEMPORARY WETLAND IMPACT: 2,495 SF
TEMPORARY WETLAND IMPACT: 2,272 SF
TEMPORARY WETLAND IMPACT: 9,265 SF
TEMPORARY WETLAND IMPACT: 8,203 SF

07Z-75 City Of Concord
07Z-78 James F Marshall
07Z-90 Frederick D. Kenison II
07Z-89 Peter S & Christine Dolat Bartlett Revocable Trust 2019
07Z-88 James C Sarette
07Z-96 R & S A Picard, S & H Buxton, K Woode, C & S Mckinnon, A Kuczkowski, B Dodge & P & H Patel
07Z-87 Mellissa A Lemay
12Z-43 City Of Concord
07Z-98 Ronald J Morgan
07Z-99 Hiram C Morrill
07Z-100 Alvin R Jones
07Z-101 Lee G Lajoie
07Z-86 Christopher G Byer
07Z-85 Ryan Leslie
07Z-104 Cowan Family Trust of 2021
07Z-79 Powerline Properties LLC

CONCORD
SANBORN RD
MOUNTAIN RD
132
Hayward Brook
Line V182
Line F139

W-91 PSS1E/PEM1E
W-92 PSS1E/PEM1E
W-93 PEM1E/PSS1E
W-94 PEM1E
W-95 PSS1E/PEM1E

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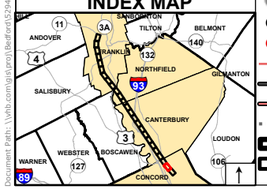
INDEX MAP



- Existing Structures
- Existing Structures to be Removed
- Proposed Structures
- Overhead Eversource Lines
- Existing Access
- Contingency Access Line
- Map Sheet Matchline
- Exising Right-of-Way (ROW)
- Work Pad/Pull Pad
- Culvert
- Delineated Wetland Boundary Outline
- Watercourse (not delineated)
- Delineated Ephemeral Stream Centerline (by others)
- Delineated Intermittent Stream Centerline (by others)
- Delineated Perennial Stream Centerline (by others)
- Delineated Top of Bank (by others)
- Erosion Control Barrier
- Field Delineated Wetland
- Open Water
- Gate
- Fence
- Stone Wall (By Others)
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0 50 100 200 Feet

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EVERSOURCE ENERGY

V182 & F139 Lines Structure Replacement Alteration of Terrain Permitting Plans

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Date: March, 2023

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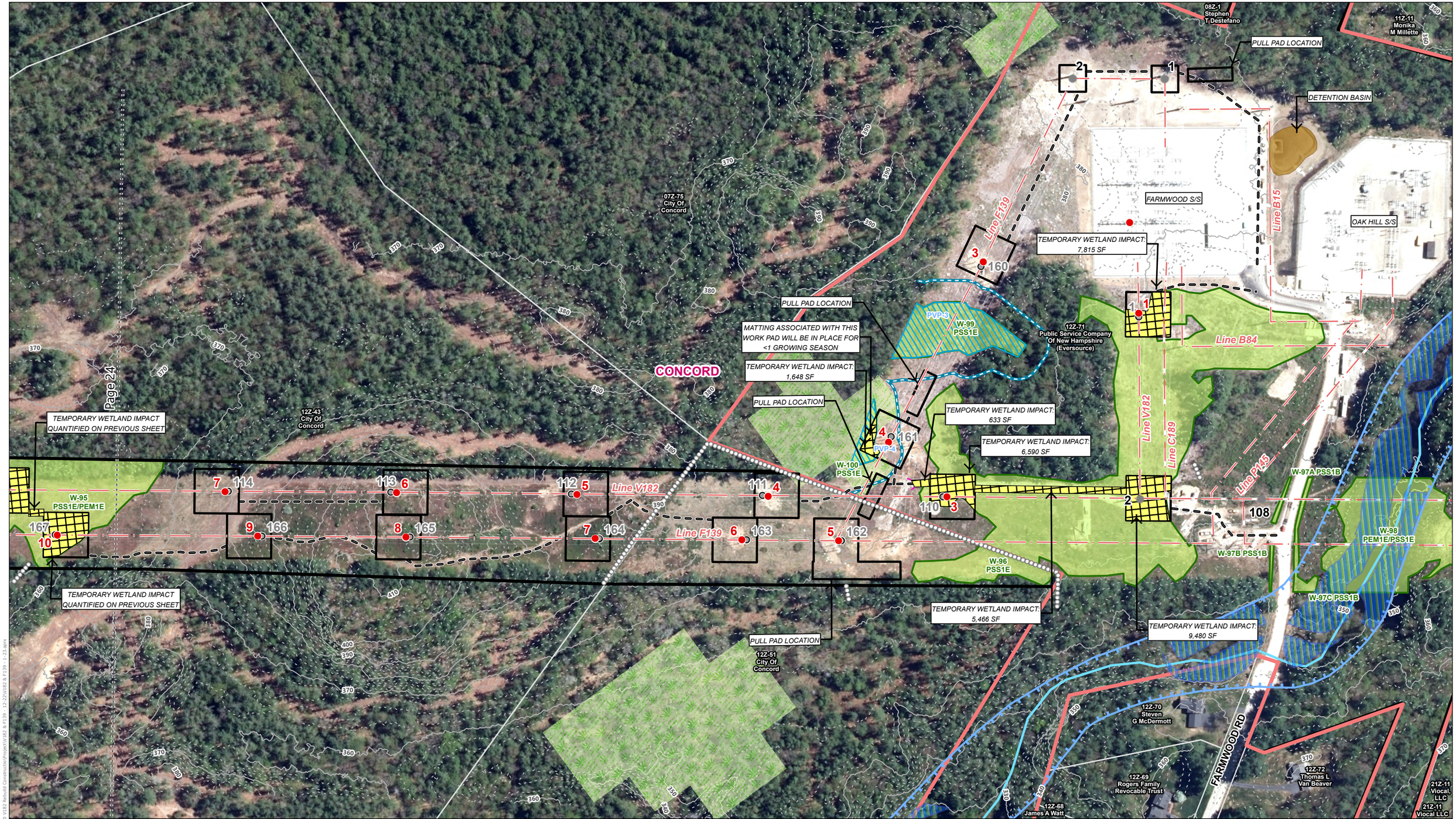
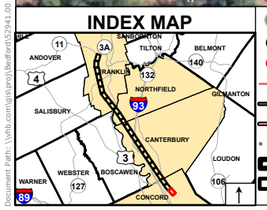


INDEX MAP



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0 50 100 200 Feet

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EVERSOURCE ENERGY

V182 & F139 Lines Structure Replacement Alteration of Terrain Permitting Plans

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Appendix C – FEMA Floodplain Map

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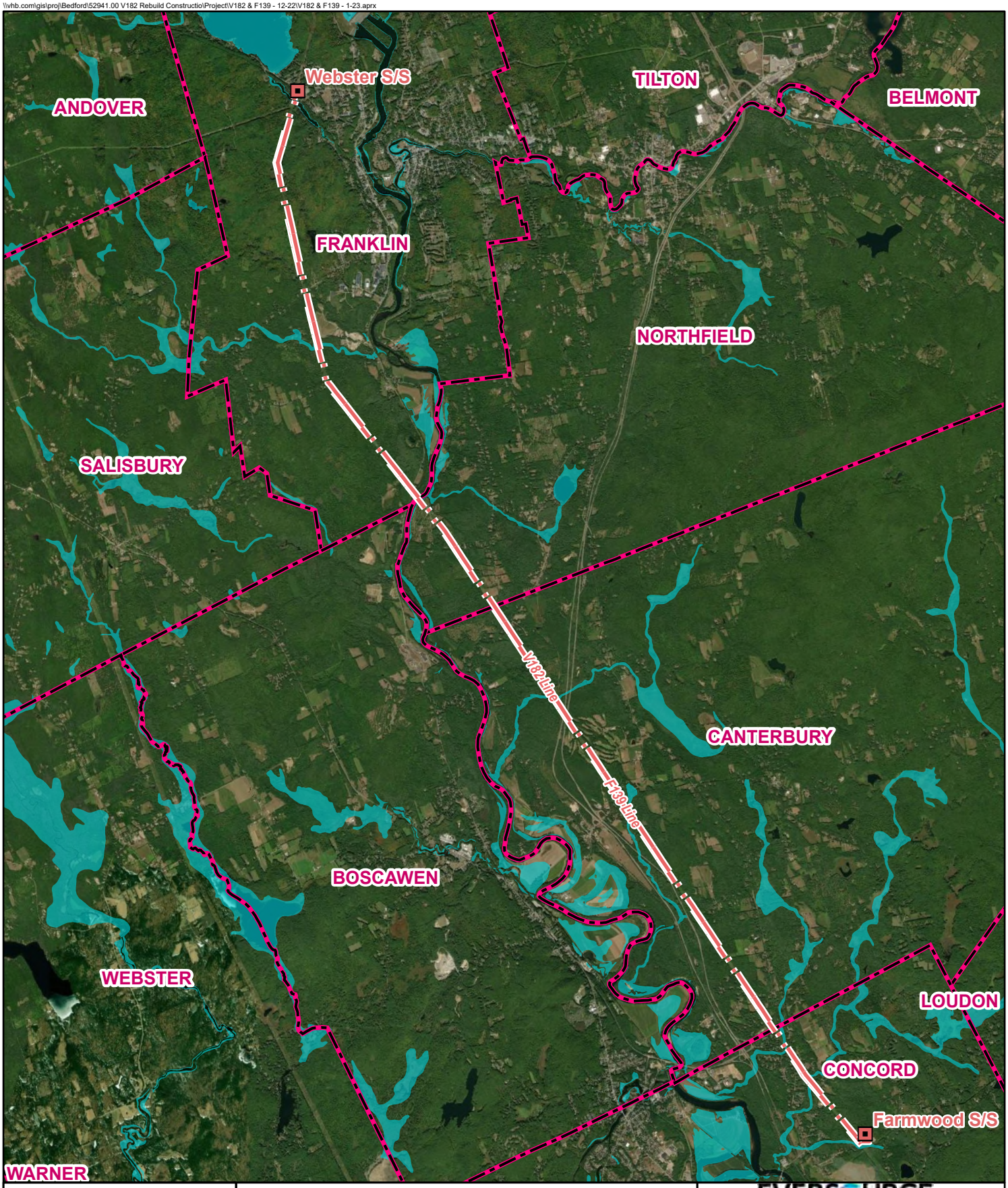
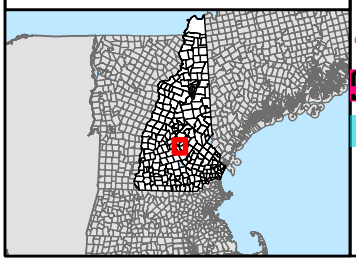


INDEX MAP



- SUBSTATIONS
- OVERHEAD EVERSOURCE LINE
- MUNICIPAL BOUNDARY
- FEMA 100-YEAR FLOOD ZONE

N

0 4,000 8,000 Feet

EVERSOURCE ENERGY

F139 and V182 Lines Rebuild Project
Floodplain Map
Canterbury, Concord, Franklin
and Northfield, New Hampshire

Date: February 28, 2023

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