



**NHDES Alteration of Terrain Permit
Application**

Northumberland to Whitefield Rebuild
Project (D142)
Whitefield, Lancaster, and
Northumberland, New Hampshire

June 2, 2021

Prepared for:

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Project Background and Purpose
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1.0 PROJECT BACKGROUND AND PURPOSE

Public Service Company of New Hampshire d/b/a Eversource Energy (Eversource) owns and maintains the D142 electrical transmission line (D142 line; Project) in Whitefield, Lancaster, and Northumberland, New Hampshire. The D142 line was constructed in 1948 and runs within an existing right-of-way (ROW) between the Whitefield Substation off Route 3 in Whitefield and the Lost Nation Substation off Lost Nation Road in Northumberland. Eversource has identified that all wooden structures will need to be replaced within the ROW due to age, cracking, leaning, and/or woodpecker damage. The existing wooden structures will be replaced with new, steel structures to provide more reliable electrical infrastructure. Once the structures are replaced, Eversource also plans on replacing the overhead static wires with optical ground wire (OPGW) and replacing the conductor wires. Natural resource impacts have been minimized and avoided to the greatest extent practicable through careful siting of access roads and work pads.

The project requires approximately 2,424,549 square feet (sf; 55.7 acres) of total ground area, including 949,519 sf (21.8 acres) of temporary wetland matting and 1,475,030 sf (33.9 acres) of ground disturbance. Six separate portions of the proposed replacement project are subject to the Alteration of Terrain (AoT) disturbance threshold (Env-Wq 1500 and RSA 485-A:17), as identified below (See Figure 4 – Alteration of Terrain Permitting Plans and Appendix A – Alteration of Terrain Application Form).

1. Area A (Whitefield): approximately 300,590 sf of work pad grading and associated access improvements between structures 153 to 180.
2. Area B (Whitefield and Lancaster): approximately 287,602 sf of work pad grading and associated access improvements between structures 115 to 151.
3. Area C (Lancaster): approximately 187,249 sf of work pad grading and associated access improvements between structures 66 to 89.
4. Area D (Lancaster and Northumberland): approximately 179,947 sf of work pad grading and associated access improvements between structures 48 to 65.
5. Area E (Northumberland): approximately 311,131 sf of work pad grading and associated access improvements between structures 19 to 47.
6. Area F (Northumberland): approximately 208,510 sf of work pad grading and associated access improvements between structures 1 to 18.

Areas A through F will collectively be referred to hereinafter as the AoT project area.



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2.0 SITE INFORMATION

2.1 SITE LOCATION AND DESCRIPTION

The AoT project area includes portions of the D142 line ROW in Whitefield, Lancaster, and Northumberland. The D142 line ROW is approximately 18.1 miles in length and is approximately 175 to 275 feet (ft) in width. Of the 18.1 miles, 14.3 miles are part of the AoT project area.

The AoT project area crosses 18 streams including 10 perennial streams, seven intermittent streams, and one ephemeral stream (See Figure 4 – Alteration of Terrain Permitting Plans). There are 64 wetlands located within the AoT project area. The AoT project area does not cross public roads, though it is accessed from seven public roads and two private roads located in the towns of Whitefield, Lancaster, and Northumberland. The ground disturbance resulting from the project is associated with establishment of access roads and work pads within uplands.

2.2 TAX MAP AND LOT INFORMATION

Eversource holds easements for all parcels located within the AoT project area (See Figure 4).

There are 62 abutting properties that contain pre-existing Eversource easements for the ROW within the AoT project area. Within the AoT project area, the ROW is considered the “subject property” because Eversource is the applicant/owner and only has control over the easement area. AoT project area abutters have been identified and are listed in Appendix B.

2.3 IDENTIFICATION OF NATURAL AND CULTURAL RESOURCES

Stantec Consulting Services Inc. (Stantec) has been retained by Eversource to provide professional services related to natural and cultural resource identification and assessment for this project. Stantec is also preparing permit applications for natural resource impacts required to complete the project. Stantec has conducted and coordinated field evaluations and has corresponded with appropriate agencies to identify natural and cultural resources present within the vicinity of the AoT project area as well as the entire D142 line ROW.

2.3.1 Identification of Cultural and Historical Resources

The project does not anticipate any adverse effects to cultural resources and is currently in consultation with the New Hampshire Division of Historical Resources (NHDHR) to identify and mitigate any such impacts. The transmission line corridor from the Whitefield Substation to the Lost Nation Substation was previously surveyed for archaeological resources during the Northern Pass Transmission Project. Only one significant archaeological resource was identified in proximity to current Project activities, and all impacts will be avoided through avoidance/protective measures including matting and high-visibility fencing. A Request for Project Review was sent to the NHDHR on March 15, 2021, and a determination



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of No Adverse Effect response was provided by NHDHR on March 22, 2021. The NHDHR response is included in Appendix C.

2.3.2 Identification of Jurisdictional Wetlands and Vernal Pools

Wetland boundaries were delineated by Stantec in September 2020 using the technical criteria described in the United States Army Corps of Engineers (Corps) *Corps of Engineers Wetlands Delineation Manual*¹ and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2)*.² Wetland communities were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States*.³ Wetland delineations were originally conducted along the line as part of other survey efforts in 2010 and 2016. In September 2020, Stantec wetland scientists verified the wetland and watercourse boundaries and adjusted as necessary to accurately map the boundaries. During the verification and delineation in 2020, the functions and values of each wetland were also documented. The results of the wetland delineation verification and functional assessment were led in the field by New Hampshire Certified Wetland Scientist (NHCWS), Chuck Ferris (#279) and overseen by NHCWS Tom Tetreau (#283) and are documented in Exhibit B, Wetland and Watercourse Delineation Report.

A vernal pool evaluation was conducted concurrently with the habitat assessment (see Section 2.3.5) in April 2021 and was based on the characteristics outlined in the *Identifying and Documenting Vernal Pools in New Hampshire*.⁴ Stantec wetland scientists identified 16 vernal pools within the AoT project area. All vernal pools are located in unnatural ruts or excavations within the existing ATV or equipment trails on the ROW. The Project design will avoid all vernal pools.

2.3.3 Identification of Surface Waters

Jurisdictional limits of surface waters of the State of New Hampshire were delineated and confirmed by Stantec in accordance with their definition in RSA 485-A:2 XIV, 482-A:4 II and rule Env-Wt 104.33. Surface waters included wherever freshwater flows or stands and tidal waters. This includes, but is not limited to, rivers, perennial and intermittent streams, lakes, ponds, intertidal zones, and tidal waters. The limits of jurisdiction for surface waters were delineated as the top of bank (where a natural bank occurs) or its ordinary high-water mark (where a natural bank is not present). Surface waters within the AoT project area include two named perennial riverine systems (Dean Brook and Roaring Brook), eight unnamed perennial streams, and eight unnamed intermittent or ephemeral streams.

¹ Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

² U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

³ Federal Geographic Data Committee. 2013. *Classification of Wetlands and Deepwater Habitats of the United States*. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.

⁴ Marchand, M. 2016. *Identifying and Documenting Vernal Pools in New Hampshire*. Third Edition, New Hampshire Fish and Game Department, Nongame and Endangered Wildlife Program.



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2.3.4 Natural Heritage Bureau Results

A review completed by the Natural Heritage Bureau (NHB) through their Datacheck Tool determined that state-listed plant and animal species are present in the vicinity of the Project. The identified species and avoidance and minimization measures recommended by NHB and New Hampshire Fish and Game Department (NHFGD) are described below. The NHB Datacheck results letters, species specific survey reports, and NHB and NHFGD correspondence are included in the habitat assessment report in Appendix D. No recorded occurrences for sensitive species were identified in Whitefield (NHB21-0368). The results for protected plant species from the NHB Datacheck Tool for Lancaster (NHB21-0369) and Northumberland (NHB21-0371) are described below. Animal species identified in the NHB Datacheck results and associated avoidance and minimization measures are described in the habitat assessment report in Appendix D and summarized in Section 2.3.5.

2.3.4.1 Lindley's American-Aster

Lindley's American-aster (*Symphotrichum cilioatum*), a state threatened species, was historically identified at Week's State Park in Lancaster. Lindley's American-aster is a generalist species that can be found along forest edges or in meadows and fields. It is possible that it could be found within or along the edge of the ROW. Since no tree clearing or habitat conversion is proposed for the Project, the ROW will continue to maintain potential habitat for this species (if present) following construction. NHB indicated it is unlikely for the species to occur within the Project area but recommended a field sweep for the species in the vicinity of its historic location in Week's State Park prior to construction, between mid-July and September when the plant is most easily identifiable. If found, Stantec and Eversource will communicate the findings to NHB and discuss avoidance and minimization measures for the identified locations. The sweep is anticipated to occur approximately between structures 111 and 122 in the section of ROW closest to the historic occurrence.

2.3.4.2 Sessile-Fruited Arrowhead

NHB indicated that sessile-fruited arrowhead (*Sagittaria rigida*), a state endangered species, occurs in floodplain habitats of the Israel River west of the Project area and recommended field surveys to evaluate its presence where the Project area intersects the Israel River and associated floodplains. On September 25, 2020, Stantec performed a field survey for sessile-fruited arrowhead and did not observe the species within the Project area. Sessile-fruited arrowhead is an emergent aquatic species that occurs in frequently to semi-permanently inundated habitats. The floodplain areas near the Israel River are disturbed by active pastureland and do not provide suitable habitat for the species. The area around the Israel River is not within the AoT project area. NHB correspondence and the field survey report can be provided upon request.

2.3.4.3 Vasey's Pondweed

Vasey's pondweed (*Potamogeton vaseyi*), a state-endangered species, was documented historically from an aquatic habitat in Lancaster. Correspondence with NHB indicated that it is unlikely that Vasey's

