July 16, 2018

12970.00

Sudbury Conservation Commission
275 Old Lancaster Road
Sudbury, MA 01776

Re: MADEP File No. 301-1231
February 26, 2018 Hearing - Response to Comments
Subsurface Investigation Notice of Intent
Sudbury-Hudson Transmission Reliability Project

Dear Chairman Friedlander and Commission Members:

The Sudbury Conservation Commission (the Commission) held a public hearing for the Sudbury-Hudson Transmission Reliability Project Subsurface Investigation Notice of Intent (NOI) on February 26, 2018. This letter is a response to comments and questions received from the Commission during the hearing and written comments received from Nover-Armstrong Associates, Inc. in a letter dated May 24, 2018. In addition to the February hearing and the comments from Sudbury and Nover-Armstrong, a site visit was held on June 21, 2018 in Hudson with Hudson's Conservation Agent and third-party reviewer; members of the Sudbury Conservation Commission, their agent, and third-party reviewers; VHB; and Eversource. The site visit was held at the request of Sudbury so they could observe the subsurface investigation activities that were being advanced in Hudson.

Below is a list of comments and questions issued by the Commission and Nover-Armstrong with a written response provided by Eversource and/or VHB.

<u>Sudbury Conservation Commission Comments</u>

1. **The Commission stated that the subsurface investigation activities are not necessary because EFSB has not issued a certificate yet.**

   It is typical for Eversource to continue to perform activities related to the Preferred Project prior to the receipt of a certificate from EFSB for the project. This is necessary to maintain the project schedule for the required planned in-service date for each project.

   The subsurface investigations proposed at this time are planning and design activities that will collect data on various subsurface parameters. This data will be used to advance the overall Project to final construction details and plans. These planning activities are minor in nature and are defined as such in the Massachusetts Wetlands Protection Act (MWPA), the 401 Water Quality Regulations, and in the Massachusetts Endangered Species Act (MESA). These activities are planned to be executed to minimize disturbance along the project corridor to the extent possible to safely complete the work. To minimize vegetation removal, the ROW was walked with the drilling contractor who will be performing the work to identify access routes and adjust activity locations as necessary. This includes removal of 36 trees within the Commission's jurisdiction, which are interspersed along the approximate 4.2-mile section in Sudbury.

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2. **The Commission requested that supplemental information clarifying what is within the Commission's jurisdiction by submitted.**

   The Project will result in 56 subsurface activities and 36 tree removals within the Commission's jurisdiction. Shrub and sapling removals will also occur throughout jurisdictional areas. Below is a table summarizing regulated activities per sheet.

**Table 1 Summary of activities within the Commission's jurisdiction**

| Sheet | Subsurface Activities | Tree Removals | Shrub/Sapling Removal | Sheet | Subsurface Activities | Tree Removals | Shrub/Sapling Removal |
|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | No | 22 | 1 | 0 | No |
| 2 | 0 | 0 | No | 23 | 0 | 0 | No |
| 3 | 0 | 0 | No | 24 | 0 | 3 | Yes |
| 4 | 0 | 1 | Yes | 25 | 1 | 0 | No |
| 5 | 0 | 0 | No | 26 | 2 | 0 | No |
| 6 | 0 | 0 | No | 27 | 2 | 0 | No |
| 7 | 0 | 0 | No | 28 | 5 | 0 | No |
| 8 | 1 | 0 | No | 29 | 4 | 7 | Yes |
| 9 | 0 | 0 | No | 30 | 6 | 5 | Yes |
| 10 | 1 | 1 | Yes | 31 | 3 | 1 | Yes |
| 11 | 0 | 0 | Yes | 32 | 2 | 1 | Yes |
| 12 | 0 | 0 | No | 33 | 6 | 5 | Yes |
| 13 | 0 | 0 | No | 34 | 8 | 2 | Yes |
| 14 | 0 | 0 | No | 35 | 3 | 1 | Yes |
| 15 | 0 | 4 | Yes | 36 | 1 | 0 | Yes |
| 16 | 3 | 4 | Yes | 37 | 1 | 0 | Yes |
| 17 | 1 | 0 | No | 38 | 1 | 0 | Yes |
| 18 | 0 | 0 | No | 39 | 2 | 1 | Yes |
| 19 | 0 | 0 | No | 40 | 1 | 0 | Yes |
| 20 | 0 | 0 | No | 41 | 1 | 0 | No |
| 21 | 0 | 0 | No | | | | |

Notes:

1. Certain subsurface investigation activities are on two sheets due to the match lines. Where this occurs, it was accounted for on the first sheet it is on to avoid counting it twice
2. The test holes are located within existing paved roadways.

3. **The Commission expressed concerns regarding impacts to migratory and breeding species throughout the entire project corridor, not just in estimated and priority habitat.**

   The subsurface activities will occur during a short period of time and will begin after the Order of Conditions is issued. Each activity location will take approximately three (3) to four (4) hours to complete, depending on the depth (e.g. a 10-foot deep activity will generally take less time than a 20-foot deep activity). Because of the limited time spent at each location, minimal increase in noise during drilling operations, and the linear nature of the Project, the advancement of the subsurface investigation activities will not result in adverse impacts to migratory and breeding species.

   To prevent impacts during traveling from one location to another, an environmental monitor will be onsite during all drilling activities and will conduct sweeps ahead of the drill rig to ensure that migratory and breeding species are not injured during drilling activities. In addition, except for invasive species which will be removed from the ROW, the interspersed, selective vegetation that will be cut to facilitate the drilling will be left onsite, which will provide wildlife habitat. Brush piles can provide nesting and resting habitat, concealment and protection from predators, and cover and protection from the weather. Brush piles can also result in a collection of leaf litter, which is beneficial to species that live on or rely on the leaf layer for food and habitat, including overwintering habitat.

   VHB also submitted information to the Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife (the Division). The Division determined that under the MPWA, the subsurface investigation activities will not affect the actual resource area habitat of state-protected wildlife species, and that the Project meets the state-listed performance standard for the issuance of an Order of Conditions. The Division also determined that the Project is exempt under the MESA pursuant to 321 CMR 10.14 and issued a conditional exception letter. The Division's letter is attached to this supplemental submission.

4. **The Commission expressed concerns about the potential release of contaminants into an aquifer by borings penetrating a clay layer in the area around Route 20.**

   To date, VHB has conducted a groundwater hydrology assessment throughout Sudbury, which included a review of all files, maps, reports, and data for the Sudbury water system that were available from the MADEP. The project corridor is located within the Raymond Road Aquifer (occasionally referred to as the Landham Brook Aquifer), which is a semi-confined, stratified sand and gravel aquifer of glacial origins. The aquifer is considered semi-confined because portions of the aquifer are confined by impermeable geologic layers such as clay, whereas in other locations no impermeable geologic layers are present. Within this aquifer, there is one Zone II Wellhead Protection Area that bisects and is within the immediate vicinity of the ROW.

   This aquifer supplies five wells (Raymond Road 2A, Warrens Road Well 4, Raymond Road Well 6, Nobscot Well No. 7, and Raymond Road No. 9) that produce potable water. Available drilling logs were reviewed for the Raymond Road wells to identify the subsurface conditions of the well and the surrounding area, including the depth of any confining layer. Drilling logs were not available for the Warrens Road or Nobscot wells.

- Raymond Road Well 2A has unconfined conditions with sand and gravel from the surface down to at least 70-feet
- Raymond Road Well 6 has confined conditions, with clay reported from seven to 70-feet below the ground surface
- Raymond Road Well 9 has confined conditions with silty clay and gravelly clay from approximately four to 28 feet below the ground surface

There are five (5) subsurface activity locations within the aquifer, two (2) of which are within the Zone II Wellhead Protection Area (MP29 and SB48 on sheet 26). Locations B34, TH41, and TH42 are on sheet 11 and are not within a Zone II. The depths of the activities are as follows:

B34 – 10 Feet

TH 41 – Top of Utility

TH42 – Top of Utility

SB48 – 8 Feet

MP29 – 15 Feet

The closest well is Raymond Road Well 2A, which is approximately 2,720 linear feet to the southeast of SB48 (the closest activity location), and does not have a confining layer down to at least 70-feet. This boring location is also approximately 1,745 linear feet from Boston Post Road. Raymond Road 9, which has confined conditions of silty clay and gravelly clay from four to 28 feet below the ground surface, is to the south of Well 2A and is approximately 3,300 linear feet to the southeast of SB48. Raymond Road Well 6, which has clay reported from seven to 70-feet below the ground surface, is approximately 4,770 linear feet to the southeast of SB48.

Because of the distance of the known confining layer to the subsurface activities and the shallow depth of the activities, penetration of a confining layer is not anticipated. However, if a confining layer is encountered, it will be backfilled with an impermeable bentonite slurry, which is the industry standard procedure.

5. **The Commission asked about the designation of vernal pools and Outstanding Resource Waters.**

There are 20 vernal pools within or adjacent to the MBTA ROW within Sudbury, including the presumed vernal pools to the north of the Sudbury Substation. As stated within Section 2.4 of the submitted NOI, the MA Surface Water Quality Standards (CMR 314.400) considers vernal pools as Class B Outstanding Resource Waters (ORWs). As such, the 16 vernal pools are considered ORWs. It is important to note that there are no impacts (i.e. subsurface investigation activities, access routes, work areas) within any vernal pools/ORWs and appropriate erosion control barriers will be installed when drilling activities occur in the immediate vicinity of a vernal pool. There are two (2) borings, B34 and B52, that will be advanced and two (2) wetland wells, WW15 and WW16, that will be installed within the 100-foot vernal pool buffer. However, it is important to note that B34 is located on the opposite side of the railroad tracks from Vernal Pool 10. There are also nine (9) tree removals and shrub/sapling removals that will occur within the 100-foot vernal pool buffers. Below is a table summarizing activities within the venal pool buffers.

**Table 2 Summary of activities within vernal pool buffers**

| Vernal Pool | Sheet Number | Subsurface Activities | Tree Removals | Shrub/Sapling Removals | Comments |
|---|---|---|---|---|---|
| Presumed Vernal Pools | 40-43 | 0 | 0 | 0 | These are located to the north of the Sudbury Substation and are presumed to be vernal pools under the Sudbury Bylaw only |
| Vernal Pool 1 | 39, 40 | WW15 and WW16 | 0 | Yes | The two proposed wetland wells are adjacent to Wetland 4 and are on the opposite side of the railroad embankment from the vernal pool |
| Vernal Pools 2, 3, and 4 | 36-37 | B52 | 0 | Yes | Several vernal pool buffers are combined on sheets 36 and 37 |
| Vernal Pool 5 | 27-28 | 0 | 0 | Yes | This vernal pool is to the north of the ROW |
| Vernal Pool 6 | 21 | 0 | 0 | 0 | The vernal pool buffer is not entered |
| Vernal Pool 7 | 16 | 0 | 3 | Yes | No comments |
| Vernal Pool 8 and Approximate Potential Vernal Pool | 15 | 0 | 4 | Yes | The approximate potential vernal pool is located to the south of the ROW and was not field verified. |
| Vernal Pools 9, 10, 11, 12, and 13 | 9-11 | B34 | 1 | Yes | Several vernal pool buffers are combined on sheets 9-11. B34 is associated with Vernal Pool 10 and is located on the opposite side of the railroad tracks from that vernal pool. |
| Approximate Vernal Pool Per Sudbury Bylaw | 4 | 0 | 1 | 0 | This vernal pool is located to the north of the ROW |
| Approximate Vernal Pool Per Sudbury Bylaw | 3 | 0 | 0 | 0 | This vernal pool is located to the north of the ROW |

6. **The Commission stated that the application must demonstrate that the Project overcomes the presumption of impacts to AURA.**

   Section 8.1.4.1 in the NOI application addresses the performance standards and design criteria for AURA. To expand upon the information submitted within the NOI, please see below:

Bylaw Section 7.2.1 – Character of Work or Activities Proposed and Alternatives

*The applicant shall carry the burden of proof for demonstrating to the Commission's satisfaction that the proposed work or activities in the adjacent upland resource area are necessary and that reasonable alternatives, including reducing the scale and scope of the project, do not exist.*

The subsurface activities are necessary to complete the final engineering design phase for the Project. The location and number of subsurface activities is required to collect a variety of data such as location of existing underground utilities, presence or absence of oil and/or hazardous materials, soil stability and characteristics, soil thermal resistivity, location of ledge/bedrock, and depth of water table.

An alternatives analysis was conducted while siting the locations of subsurface activities and access paths. The analysis included walking the length of the ROW with the drilling contractor to adjust activity locations and access paths to avoid and minimize vegetation disturbance. An example of an avoidance and minimization strategy is moving an activity location from one side of the railroad tracks to the other to avoid cutting trees and/or shrubs and saplings.

The machinery was also evaluated and the smallest machinery that could accomplish the Project was selected. The drill rig that was selected is maneuverable and is track mounted, which allows it to weave between vegetation and move from one side of the track to the other. The drilling contractor will also use a Gator HPX 4x4 as the support vehicle in place of a larger truck to minimize the required access path and vegetation clearing.

In addition, certain subsurface activity locations will be advanced to collect data for multiple reasons (e.g. geotechnical boring and well installation). These locations are shown on the plans as MP for multi-purpose. By utilizing one location to collect multiple data, the total number of subsurface activity locations was minimized.

By adjusting the location of the subsurface activities and access paths, utilizing existing paved roads for ingress and egress, selecting the smallest and least invasive machinery possible, and minimizing the number of activity locations, this alternative has minimized impacts to the greatest extent practicable.

Bylaw Section 7.2.2 Setting Disturbance Restrictions

*Temporary Disturbance Area (7.2.2.2). This is an area in the adjacent upland resource area where temporary disturbance for a limited period of time is permitted, such as for regrading or travel by heavy machinery. Once the activity is completed, however, the area will be allowed to return to a natural vegetation and function.*

The activities associated with the subsurface investigations are considered "temporary disturbance areas." The vegetation clearing is required to allow access (i.e. travel) by the drill rig and associated machinery (e.g. gator), and once the borings are completed, the area will be allowed to return to its natural vegetation and function.

Bylaw Section 7.2.3 Values and Functions of the Resource Area

*Values and Functions of the Resource Area (7.2.3). The quantity and quality of resource values and functions should be considered explicitly in placing conditions on adjacent upland resource area work.*

There are 15 separate AURAs throughout the Project ROW in Sudbury. The quantity and quality of each of the AURA's resource values and functions were considered when selecting boring locations and access routes. This evaluation included reviewing aerial imagery and the 2005 Land Use MassGIS shapefile to determine land uses within the AURAs that are adjacent to and within the ROW, and documenting current (e.g. recreational use) and past use of the limit of disturbance within the AURA.

Land uses within the AURAs include powerline/utility, open land, non-forested wetland, forested wetland, forest, commercial, industrial, low density residential, medium density residential, and cropland/agriculture. Land use was then evaluated relative to its associated resource area, the amount of current disturbance (e.g. recreational use), history, and past disturbance (i.e. active rail line).

Except for the wetland monitoring wells that will be installed next to bordering vegetated wetlands, the AURA that is within the Project limits for the subsurface investigations is on the elevated rail bed, which was historically disturbed from its use as an active rail line. In addition to the rail line, the ROW is heavily used for recreational uses including dog walking, mountain biking, horseback riding, cross country skiing, and all-terrain vehicles. Instances of dumping were also observed along the ROW.

The historic and present use of the ROW has resulted in the introduction of invasive species and defined trails that lack vegetation. In addition, a variety of land uses including residential, commercial, industrial, and agricultural are present starting from Dutton Road heading east towards the Sudbury Substation. Taking these factors into consideration, the functions and values of these AURAs are less than what can be expected from undisturbed habitat, although still providing benefits to the wetland resource areas they are buffered from. This, coupled with the minimal, sporadic vegetation removal (see Table 2 below) and temporary nature of the subsurface investigation activities, will result in negligible impacts to the functions and values of the AURAs.

Once the borings are completed, disturbed areas will be allowed to naturally revegetate. In addition, if the overall Project is not selected by EFSB, this NOI can be conditioned such that Eversource will prepare a mitigation and restoration plan for these disturbed areas.

**Table 3 Summary of impacts to Adjacent Upland Resource Areas**

| AURA | Sheet No. | Associated Resource | Tree Removals | Shrub Removal | Machinery Travel | Subsurface Activity | Comments |
|---|---|---|---|---|---|---|---|
| 1 | 3 | Wetland 45/Approximate Vernal Pool | 0 | No | Yes | 0 | No vegetation removal or subsurface activities; the drill rig will travel through the AURA |
| 2 | 4 | Approximate Vernal Pool | 1 | Yes | Yes | 0 | No subsurface activities; the drill rig will travel through the AURA |
| 3 | 8, 9 | Wetland 44/Hop Brook | 0 | No | Yes | B32 | The Project will enter the RFA associated with Hop Brook to advance boring B32; vegetation removal is not required |
| 4 | 9, 10, 11 | Wetland 43/Vernal Pool 13; Wetland 41/Vernal Pool 12; Wetland 42/Vernal Pool 11; Wetland 40/Vernal Pool 10; Wetland 39/Vernal Pool 9; Off-ROW Wetland | 1 | Yes | Yes | B34 | AURA is associated with several wetland resource areas including one that is beyond the limits of the ROW |
| 5 | 14, 15 | Wetland 36; Wetland 37/ Off-ROW Wetland/LUWW | 0 | Yes | Yes | 0 | Drill rig will travel through a very small portion of the AURA |

| AURA | Sheet No. | Associated Resource | Tree Removals | Shrub Removal | Machinery Travel | Subsurface Activity | Comments |
|---|---|---|---|---|---|---|---|
| 6 | 15, 16 | Wetland 35/Vernal Pool 8; Wetland 34/Vernal Pool 7/LUWW; Wetland 33/LUWW/Approximate Vernal Pool | 8 | Yes | Yes | B38, TH43, TH44 | Two of the subsurface activities (TH43 and TH44) and a portion of the AURA are within Peakham Road |
| 7 | 17, 18, 19 | Wetland 32; Wetland 30/LUWW (Dudley Brook); Wetland 31/LUWW | 0 | No | Yes | B39 | Only a small portion of the AURA/RFA on sheet 17 will be entered to advance B39 |
| 8 | 21, 22 | Wetland 29/LUWW; Stream 6; Wetland 28; Wetland 27/Vernal Pool 6/LUWW; | 0 | No | Yes | B42 | The AURA on Sheet 21 is not entered; only a short portion of the AURA on Sheet 22 is entered in order to access and advance B42; no vegetation will be removed within the AURA |
| 9 | 24, 25 | Wetland 25; Wetland 26 | 3 | Yes | Yes | MP28 | |
| 10 | 26, 27, 28 | Wetland 24; Wetland 24A/Vernal Pool 5; LUWW | 0 | Yes | Yes | MP29, SB48, SB34, MP30 | No trees will be removed within the AURA |

| AURA | Sheet No. | Associated Resource | Tree Removals | Shrub Removal | Machinery Travel | Subsurface Activity | Comments |
|---|---|---|---|---|---|---|---|
| 11 | 28, 29, 30 | LUWW (ditch along Station Road) | 12 | Yes | Yes | TH47, TH48, TH49, MP32, GB5, WW8, MP33, SB49, MP34, SB42, TH50, TH51 | This AURA is associated with a ditch next to Station Road |
| 12 | 30-38 | Wetland 18; Wetland 19; Wetland 17; Wetland 16; Wetland 15; LUWW (Hop Brook); Wetland 14; Wetland 13; Wetland 12; Wetland 11; Wetland 10; Wetland 9/Vernal Pool 3; Wetland 8/Vernal pool 4, Wetland 7, Wetland 6/LUWW; Wetland 5/Vernal Pool 2/LUWW | 10 | Yes | Yes | TH52, TH53, WW10, WW9, SB40, MP35, SB51, BB5, BB6, SS1, SS2, MP36, WW11, WW12, WW13, GB17, GB18, GB19, GB20, SB51, GB21, SB51, B51, SB50, B52, SB37, SB38, MP38 | This is a long AURA associated with several resource areas |

| AURA | Sheet No. | Associated Resource | Tree Removals | Shrub Removal | Machinery Travel | Subsurface Activity | Comments |
|---|---|---|---|---|---|---|---|
| 13 | 39, 40 | Wetland 3A, Wetland 3/Vernal Pool 1; Wetland 4 | 1 | Yes | Yes | WW16, WW15, WW14 | Three wetland monitoring wells will be installed within the AURA |
| 14 | 40, 41, 42 | Wetland 1/Vernal Pools | 0 | No | Yes | 0 | This AURA is associated with the wetlands and vernal pools to the north of the substation. The AURA will be crossed on the existing dirt road from Boston Post Road. |
| 15 | 43 | Wetland Replication Area | 0 | No | Yes | B55 | This AURA will be crossed through the existing dirt road from Boston Post Road. B55 is located inside the existing substation. |

Bylaw Section 7.2.4 – Pre-Project Characteristics of the Site

*Ground slope, soil conditions, vegetation, and prior disturbance are just a few of the site-specific characteristics that shall be considered in setting conditions for work in the adjacent upland resource.*

The characteristics of the ROW were taken into consideration when selecting the location of the subsurface activities and access routes. All of the subsurface activities, except for the wetland wells, were placed on the elevated railroad bed to limit travel of the machinery down a previously disturbed area (i.e. the elevated railroad bed or existing trail) to avoid bordering and isolated wetlands, and to minimize vegetation clearing. In addition, the data that will be collected from the subsurface activities will be used to analyze site conditions such as soils for design and water table levels for wetland replication areas.

Bylaw Section 7.2.5 – Wildlife Habitat and Rare Species

*Where significant wildlife habitat values and functions are present, delineation of non-disturbance areas within the adjacent upland resource area shall, as is reasonable, minimize the length of perimeter to area left undisturbed; exclude fingers, island, or other projects or indentations of the non-disturbance zone; and in general, avoid delineating oddly shaped non-disturbed areas.*

The subsurface investigations and associated clearing will not adversely affect wildlife habitat values and functions. Although limited vegetation clearing will occur, the overall structure and composition of vegetation will not be altered onsite. Furthermore, the activities are limited and once the borings are completed, the MBTA ROW will function as it is in its current state and will continue to provide the same level of wildlife habitat, including foraging, resting, breeding, and nesting functions and values.

*The potential presence of rare or endangered species and their specific habitat to adjacent upland resource activity shall be considered in determining adjacent upland resource restrictions. Evidence of the presence of such species or evidence of likely habitat shall be considered by the Conservation Commission.*

There is estimated/priority habitat located from the Sudbury/Hudson town line to the eastern side of the western Hop Brook crossing. Within this habitat, only one (1) subsurface activity (B32) will be advanced and one (1) tree will be removed within an AURA, which should be accomplished in one (1) day, limiting activities within this area. Furthermore, the NHESP determined that the Project will not adversely affect the resource area habitat of state-protected wildlife species under the MWPA and is exempt under MESA (NHESP Tracking No. 15-34327); a copy of the NHESP letter is attached.

There are no other areas of rare or endangered species or their habitat along the ROW corridor.

7. **The Commission requested information on potential impacts to wildlife habitat (Section 7.3 of the Sudbury Bylaw).**

Section 7.3 of Sudbury's Bylaw states that "*no project may have a significant adverse project/site-specific impact or an adverse cumulative impact on wildlife habitat for more than two growing seasons.* It defines a significant adverse project-specific impact as *"an impact caused by work or*

*other activities in a resource area that would, under reasonable assumptions (a) result in a measurable decrease in the capacity of the site to provide wildlife habitat functions such as (but not limited to) food, shelter, breeding space, or inter-habitat/intra-habitat movements, or (b) impair, damage, destroy, or reduce in value for wildlife purposes certain specific habitat features. Examples of habitat features that shall be protected include (but are not limited to):*

- *Large cavity trees;*
- *Turtle nesting areas;*
- *Existing nest trees for birds that reuse nests (e.g. great blue herons, osprey);*
- *Beaver dams, dens, and lodges;*
- *Mink or otter dens;*
- *Vernal pools;*
- *Vertical sandy banks;*
- *Movement corridors that provide connectivity between wildlife habitats; and*
- *Sphagnum hummocks and pools suitable to serve as nesting habitat for four-toed salamanders.*

Each subsurface activity is temporary and will take approximately three to four hours to complete and will be backfilled once the sample is collected. The drill rig will then continue down the ROW to the next location. Although 36 trees will be removed within the Commission's jurisdiction, these locations are sporadic and are interspersed throughout the entire length of the ROW within Sudbury (+/-4.2 miles). The temporary disturbances from the subsurface activities and the minimal, interspersed vegetation removal will not result in a measurable decrease of the capacity of the site to provide wildlife habitat functions.

In addition, the subsurface activities and associated vegetation removal will not impair, damage, destroy, or reduce in value for wildlife purposes specific habitat features, including those listed within the Sudbury Bylaw and Appendix A of MADEP's *Wildlife Habitat Protection Guidance for Inland Wetlands*. Specifically, there are no large diameter trees with cavities that will be removed, turtle nesting areas, vertical sandy banks, or nests for birds that reuse nests, and the temporary drilling activities will not disturb or impact movement corridors. The subsurface activities also will not impact wetlands or land under water, with the exception of the two grab samples within Hop Brook. Consequently, it will not impact beaver dams, dens, and lodges; mink or otter dens; vernal pools; or sphagnum hummocks and pools suitable to serve as nesting habitat for four-toed salamanders.

In consideration of indirect impacts, the Commission also prohibits work within resource areas that are within 100-feet of existing beaver, mink, or otter dens, or within 200-feet of existing osprey or great blue heron nests. The Commission also considers significant cumulative impacts, which it determines "*occurs when work or other activities in a resource area would under reasonable assumptions (a) result in a measurable decrease in the collective capacity of the site, the*

*neighborhood, the town, or the watershed (collectively known as the vicinity) to provide wildlife habitat functions such as (but not limited to) food, shelter, breeding space, or inter-habitat/intra-habitat movement, or (b) impair, damage, destroy, or reduce in value for wildlife purposes certain specific habitat features.*

As per an assessment made by a qualified biologist from VHB, the subsurface activities will not take place within 100-feet of existing beaver, mink or otter dens, or within 200-feet of osprey or great blue heron nests, nor will they result in significant cumulative impacts to wildlife habitat functions or features.

8. **The Commission requested that the trees within the Commission's jurisdiction be flagged prior to the site visit.**

   All trees that are within the Commission's jurisdiction will be marked prior to the Commission's site visit.

9. **The Commission asked about cutting invasive species and what would be done with them after they were cut.**

   There are invasive species within portions of the ROW, with the majority being concentrated in the section from the Sudbury Substation to approximately halfway between Landham Road and the eastern side of the eastern Hop Brook crossing. Invasive species are primarily glossy buckthorn (*Frangula alnus*), honeysuckles (*Lonicera* spp.), and Asiatic bittersweet (*Celastrus orbiculatus*). Any invasive species that are cut to allow access and safe work areas for the drilling crews will removed from the ROW; no cut invasive species will be left onsite.

<u>Nover-Armstrong Comments</u>

1. **Nover-Armstrong recommended that stationing be shown on the project plans and that the stationing system is consistent.**

   Stationing was added to the plans and was submitted to the Commission on March 30, 2018.

2. **Nover-Armstrong recommended that the Commission require a description of how the work areas will be prepared, including removal of vegetation (if any), be provided.**

   Prior to submission of the NOI, VHB walked the entire ROW with the driller to identify access routes and vegetation removal. All potential vegetation removal is shown on the NOI plans including the work areas; no additional vegetation is anticipated to be removed. A description of the proposed subsurface investigation activities is provided in Section 5 of the submitted NOI application. The overall progression of activities will generally proceed as follows:

   1. Flagging of access routes and tree removals;
   2. Removal of vegetation along the access path and work area for each boring, as required;
   3. Installation of soil erosion and sediment control measures, where applicable;
   4. Advancement of boring and sample collection; and

5. Backfilling of the borehole with native material.

As witnessed during the June 21, 2018 site visit to the Hudson ROW to observe drilling activities, little to no preparation of the work area is required. The drill rig will maneuver down the ROW by following the access path (all vegetation will be cleared prior to the start of drilling) until it reaches the boring location. Once it is at the boring location, the drilling crew will set up and advance the boring. Once it is completed, the boring will be backfilled, any excess soil will be contained and disposed of properly, and the drill rig will maneuver to its next location.

3. **Nover-Armstrong stated that a description of where the equipment will travel should be provided with respect to the railroad tracks, ties, and railroad platform shoulders.**

   The drill rig is very maneuverable and is remote-controlled, and the access paths were selected to minimize environmental impacts, including vegetation removal and traveling through resource areas. Depending on the specific location, the drill rig will either move down the railroad tracks by straddling the tracks (i.e. one of its tracks on the outside of the tracks and the other on the inside) or it will travel down either side of the tracks. In situations where the grade differential is too high to accommodate the drill rig, cribbing/blocking (e.g. the 6"x6" boards that were observed during the Hudson site visit) will be used to provide a surface that can be traveled. There are no proposed areas where the drill rig will travel down the side slopes of the elevated rail bed.

4. **Nover-Armstrong recommended that the Commission require that the equipment turning requirements and associated impacts, as well as proposed mitigation from said impacts, be provided.**

   There are no anticipated impacts from the turning radius of the drill rig, which is 7' 4" wide. The rig is remote-controlled and can move forwards and backwards, eliminating the need for the drill rig to turn around. It is not anticipated that the 4x4 Gator or the 3520 Utility Tractor will be used on the ROW. However, the 60G Excavator may potentially be used to remove any large stands of trees that have fallen across the tracks/access path. The excavator is 6" 7" wide, which is narrower than the drill rig, and can also move backwards and forwards, eliminating the need for it to turn around.

5. **Nover-Armstrong recommended that the Commission require that the trees to be removed be flagged in the field using double painted marks for review during the NOI process.**

   The trees that will be removed will have double painted marks for review during the NOI process.

6. **Nover-Armstrong stated that the erosion controls depicted around B39 and TH49 do not adequately encompass the work areas and should be revised.**

   The erosion controls around B39 (sheet 17) and TH49 (sheet 28) were revised.

7. **Nover-Armstrong recommended that the Commission require that the existing and proposed tree lines are shown on the plans to accurately depict the area of clearing.**

   The tree removals required for the subsurface investigation activities is limited and interspersed along the entire ROW. The required clearing will not result in clearing the canopy in any large

sections of the ROW and as such, will insignificantly change the existing tree line. Therefore a proposed tree line is not provided.

8. **Nover-Armstrong recommended that the trees, saplings, and shrubs should be cut flush to the ground to protect public health and safety for recreational users.**

   Vegetation to be removed will be cut as close to the ground as possible. However, to minimize ground disturbance, the Project does not propose any stumping or grinding of stumps.

9. **Nover-Armstrong stated that impacts to resource areas from vegetation clearing have not been quantified and impacts have not been analyzed with respect to the Riverfront Area performance standards. They recommended that the Commission require the area impacts to resource areas include vegetation removal.**

   According to the MWPA at 310 CMR 10.02(2)(b)2(g), subsurface borings qualify as "minor activities" if they are temporary in nature, have negligible impacts, and are necessary for planning and design purposes. In accordance with 310 CMR 10.02(2)(a) and (b), activities that meet the definition of "minor activities," including those located within the 100-foot buffer zone or RFA, are exempt from filing a Notice of Intent. The amount of vegetation clearing was minimized to the greatest extent practicable. As witnessed during the June 21 site visit to observe the Hudson subsurface boring program, very limited vegetation was removed and overall impacts are very minor. Due to the sporadic and minimal vegetation removal associated with the subsurface investigation activities, vegetation removal cannot be quantified.

10. **Nover-Armstrong stated that the vegetation removal process should be described in detail and the equipment to be used should be specified.**

    Prior to the start of work, selective vegetation clearing within the MBTA ROW will be required along the existing edges of the elevated railroad tracks/ballast and at subsurface activity locations to provide safe access and work conditions for the drill rig and crews. The ROW was walked and assessed to identify access routes that would minimize clearing to the greatest extent possible. Trees were identified using the USACE definition, which is woody plants of three (3) inches or more in diameter at breast height (DBH) regardless of height. A total of 36 trees were identified for removal within the Commission's jurisdiction. In addition to trees, shrubs and saplings under three-inches DBH will be removed in some areas as indicated on the plans. However, as witnessed within the Hudson boring program, where possible, smaller shrubs were not cut and rebounded after the drill rig traveled over them (see attached photos), and it is anticipated that, similarly the smaller vegetation in Sudbury will not be cut and will rebound. In addition, selective limb and branch trimming will occur to provide the required clearance for the drill rig.

    The driller will remove trees with a chainsaw and smaller vegetation such as saplings and shrubs with a handsaw. No stumping or grubbing will occur. Except for invasive species which will be removed from the ROW, all vegetation that will be cut down will be left onsite on either side of the tracks. Clearing will be selective and minor in nature, and as such, is not anticipated to have an adverse impact on resource areas.

11. **Nover-Armstrong stated that the use of the excavator and tractor should be described and what method of boring they would be required to support.**

    The John Deere 60G excavator and 3520 utility tractor were included in the NOI application as potential support equipment in the event that larger objects such as fallen trees have to be removed from the access path.

12. **Nover-Armstrong stated that a detailed description of the streambed sample collection methodology should be provided, including the list of tools for sampling, the diameter of the bore-hole, and whether turbidity controls are required.**

    The streambed samples will be manually collected from either bank using hand tools. It is likely that a hand auger with extensions will be utilized to obtain each sample. If necessary, a manual "clam shell" type sediment sampler could be utilized. If this type of sampler is necessary due to water depth, velocity or access issues, it will be manually deployed and retrieved from the existing structure or banks of the water body. In no instance will machinery be utilized. Sediment disturbance will be minimal, as such, turbidity controls are not deemed necessary for this one-time short duration sampling event.

13. **Nover-Armstrong requested the diameter of the "soft dig" borings (test holes).**

    The "soft dig" borings (test holes) are excavated using a vacuum truck. The test holes require an approximate 1'x1' square to be cut and the underground utility line is located with a 4-inch diameter vacuum tube.


Representative photo showing a test hole after it was excavated and the pavement was repaired

14. **Nover-Armstrong stated that the diameter of the drive-and-wash borings should be provided and that the methodology for advancing the bridge borings at Bridge #127 should be provided. The methodology should include possible impacts, a containment plan for the drilling fluid to prevent direct discharges to Hop Brook, a sediment removal plan, all required machinery including support vehicles, BMPs required for this method, the proposed water source, and the proposed plan for drilling fluid disposal and/or discharge.**

    The standard outside diameter of drive-and-wash casing is 4-inches, which is driven utilizing a hammer typically weighing 140 pounds. To advance the borings, the only machinery that will be used is the rubber tracked drilling rig previously referenced. Recirculated water (stored in a tank on the drilling rig) is utilized to flush the inside of the casing to clean out sediment within the casing after it is advanced. This water, typically less than 100 gallons, is contained in an open top plastic or metal "wash tub" and is re-used in a closed loop system.

    Rarely, water loss can occur at the mouth of the casing at depth or at the interface of the casing and ground surface. Water loss occurs gradually and can be observed and addressed during drilling operations. Should water loss occur at the ground surface, two rows of wattles will be proactively deployed around the work area prior to initiating the drilling, encompassing the casing and wash tub. Given that only water will be used, the primary concern to resource areas is the loss of sediment entrained in water at the ground surface, which will be filtered by the wattles as is standard practice for any potential construction related runoff. Minimal water loss at depth is not a concern given that only water will be utilized and minimal quantities (<100 gallons) injected at depth at low pressures over time should pose no additional hazard to resource areas.

    Any drilling solids or remaining water in the wash tub at the end of drilling operations will be contained in 55-gallon capacity drums, removed from the site at the conclusion of each borehole, and stored at Eversource's Sudbury Substation property pending proper off-site disposal.

Should you have any questions concerning this supplemental submission or require additional information, please contact me at 617.607.2157 or kkinsella@vhb.com.

Sincerely,

Katie Kinsella

Senior Environmental Scientist

CC: Denise Bartone - Eversource Energy
Jill Provencal - MA DEP (Northern Regional Office)

Attachments: NHESP Letter
Representative Photos from Hudson Site Visit


A before picture of a soil boring prior to advancement in Hudson

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| | **Proposed 115 kV Line Sudbury Substation 342 to Hudson Municipal Substation 384**<br><br>Representative Subsurface Investigation Photographs from Hudson Program | EVERSOURCE ENERGY<br><br>vhb |

An after picture of the same soil boring after advancement and backfilling in Hudson

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|---|---|---|
| | **Proposed 115 kV Line Sudbury Substation 342 to Hudson Municipal Substation 384**<br><br>Representative Subsurface Investigation Photographs from Hudson Program | EVERSOURCE ENERGY<br>vhb |

Representative photo of a boring in Hudson after it was advanced and backfilled

Representative photo of vegetation remaining after the drill rig traveled in and out of the area. The shrubby vegetation was not removed and rebounded.

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|---|---|---|
| | **Proposed 115 kV Line Sudbury Substation 342 to Hudson Municipal Substation 384**<br><br>Representative Subsurface Investigation Photographs from Hudson Program | EVERSOURCE ENERGY<br>vhb |

Representative photo of the drill rig maneuvering down the ROW

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|---|---|---|
| | **Proposed 115 kV Line Sudbury Substation 342 to Hudson Municipal Substation 384**<br><br>Representative Subsurface Investigation Photographs from Hudson Program | EVERSOURCE ENERGY<br><br>vhb |

Representative photo of the drill rig advancing a boring

| | | |
|---|---|---|
| | **Proposed 115 kV Line Sudbury Substation 342 to Hudson Municipal Substation 384**<br><br>Representative Subsurface Investigation Photographs from Hudson Program | EVERSOURCE ENERGY<br><br>vhb |

MASSWILDLIFE

DIVISION OF
**FISHERIES & WILDLIFE**

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
**MASS.GOV/MASSWILDLIFE**

Jack Buckley, *Director*

March 16, 2018

Hudson Conservation Commission
78 Main St.
Hudson MA 01749

Sudbury Conservation Commission
275 Old Lancaster Road
Sudbury MA 01776

Denise Bartone
NSTAR Electric dba Eversource Energy
247 Station Dr, SE270
Westwood MA 02090

RE: Applicant: Denise Bartone
Project Location: Sudbury to Hudson Corridor
Project Description: Eversource Subsurface Investigations
DEP Wetlands File No.: Not assigned
**NHESP Tracking No.: 15-34327**

Dear Commissioners & Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received two Notices of Intent with site plans (Sudbury plans dated 2/5/18 & Hudson plans dated 2/14/18) in compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.59).

**MA WETLANDS PROTECTION ACT (WPA)**

Based on a review of the information that was provided and the information that is currently contained in our database, the Division has determined that this project, as currently proposed, will **not** adversely affect the actual Resource Area Habitat of state-protected rare wildlife species. Therefore, it is our opinion that this project meets the state-listed species performance standard for the issuance of an Order of Conditions.

Please note that this determination addresses only the matter of **rare** wildlife habitat and does not pertain to other wildlife habitat issues that may be pertinent to the proposed project.

**MA ENDANGERED SPECIES ACT (MESA)**

Based on a review of the information that was provided, the Division has determined that this project, as currently proposed, appears to be exempt from MESA review pursuant to 321 CMR 10.14 which states: "[t]he following Projects and Activities shall be exempt from the requirements of 321 CMR 10.18 through 10.23…"

(14) performance of customary land surveying activities, wetland resource area delineations, percolation tests, environmental assessments and investigations performed in accordance with M.G.L. c. 21E, and other customary preliminary site investigations or customary property due diligence activities, provided that vegetation clearing and soil alteration are avoided or minimized to the maximum extent practicable;

Any changes to the proposed project or any additional work beyond that provided may require a filing with the Division pursuant to the MESA regulations.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions about this letter, please contact Melany Cheeseman, Endangered Species Review Assistant, at (508) 389-6357.

Sincerely,

Thomas W. French, Ph.D.
Assistant Director

cc: MA DEP Central Region
MA DEP Northeast Region
Katie Kinsella, Vanasse Hangen Brustlin, Inc.
Massachusetts Bay Transportation Authority