NORMANDEAU ASSOCIATES
Environmental Consultants

Review of Land Use and Local and Regional Planning
The Seacoast Reliability Project

July 2018 Update

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1.0 Introduction

Public Service Company of New Hampshire d/b/a Eversource Energy ("Eversource" or "the Applicant") has applied to the New Hampshire Site Evaluation Committee ("SEC") for a Certificate of Site and Facility to construct, operate, maintain and connect a 115 kilovolt ("kV") electric transmission line from a substation in Madbury, New Hampshire to a substation in Portsmouth, New Hampshire, a distance of approximately 12.9 miles. The Seacoast Reliability Project ("SRP" or the "Project") route primarily follows an existing electric line right-of-way ("ROW") within Madbury, Durham, Newington, and Portsmouth, including four sections of underground and undersea cable. These sections consist of an underground segment which crosses under Main Street in Durham (2,100 feet), an underwater cable crossing between Durham and Newington under Little Bay (5,750 feet), an underground segment through the Gundalow Landing and Flynn Pit Town Forest areas (1,800 feet), and an underground segment across the Newington Center Historic District and Hannah Lane residential neighborhood (2,680 feet) to a point west of Fox Point Road in Newington. Almost all of the route is within or along an existing electric line and/or transportation corridor.

This report examines the impacts of the construction and operation of the Project on prevailing land use. The assessment demonstrates that the impacts of construction and operation of the facility on local land use are limited. The ROW corridor has been in existence for decades, and has contained electric utility infrastructure for many years. The presence and regular maintenance of the utility corridor and associated structures has not impacted growth and development adjacent to the ROW. In addition, some segments of the Project will be located underground, and a portion of the existing distribution system will be relocated.

Land uses adjacent to the Project corridor include forests, agriculture, residential, commercial/industrial, transportation and utilities, recreation, conservation and open space, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government. Many of these uses have co-existed with electric lines for many years, and the Project will not result in any changes in prevailing land use. Sound land use and environmental siting principles support locating the proposed electric transmission line within or along the existing ROW because it minimizes impacts to local land uses, regional development and the environment.[1]

As is the case with most utility or transportation projects, construction of the Project may have localized, short-term temporary impacts in some areas along the route. These impacts

[1] For example, see the decision in Merrimack Valley Reliability Project, NHSEC Docket No. 2015-05, *available at* https://www.nhsec.nh.gov/projects/2015-05/index.htm; Portland Natural Gas Transmission System Maritimes & Northeast Pipeline Company, NH SEC, Docket No. 96-01 and Docket No. 96-03 (July 16th, 1997), *available at* http://www.nhsec.nh.gov/projects/1996/index.htm; Findings of the Bulk Power Facility Site Evaluation Committee, NH SEC DSF 850-155 (September 16th, 1986), *available at* http://www.nhsec.nh.gov/projects/1990.htm.

can be avoided, and minimized by implementing traffic management and public outreach plans, complying with terms of negotiated Memoranda of Understanding (MOU) with municipalities and other parties, and by complying with permit conditions.

Regional plans, and municipal master plans and zoning ordinances were also examined and are presented as part of this assessment.

2.0 Report Methodology

This report examines prevailing land uses in each community along the corridor in order to estimate impacts to local land use. Normandeau obtained land use data and trends, local master plans and zoning ordinances, and other land use information from regional planning commissions, state agencies, NH GRANIT, local communities, and other sources.[2]

From these sources, we compiled detailed summaries of existing land use, zoning, master plans, and other long range plans for each community where the Project is located. The master plans of communities of abutting Project host municipalities also are summarized in a separate document (see Appendix 46, *Review of Master Plans in Abutting Municipalities*). Recently completed regional plans were obtained from the two regional planning commissions that serve the four communities along the Project corridor. All of the goals, objectives and recommendations in the local and regional long-range plans were reviewed, summarized and evaluated. With the exception of the town of Newington, these plans did not directly address the construction or operation of the proposed facility. In many cases, the plans expressed general land use planning policies, goals and objectives such as protecting rural character, which would be implemented by encouraging development in already developed areas and protecting open space.

In addition to document review, we conducted site visits along the corridor and met with representatives of the regional planning commissions and local planners to discuss existing land use and plans for future development.

Distances from the edge of the right-of-way to structures outside the corridor were also reviewed. These measurements, which are approximate, were determined using aerial photography and are found in the land use descriptions in Appendix A.

In addition to considering prevailing land use, we also considered the effect of the Project on community services and facilities, and tourism and recreation. Detailed information about tourism and recreation can be found in *Review of Recreation Facilities and Tourist Destinations*, filed with the NHSEC as Supplemental Testimony of Robert W. Varney, Attachment B, on July 27, 2018.

In this report, "Project Area" refers to the four communities of Madbury, Durham, Newington and Portsmouth, and "Project corridor" or "corridor" refers to the existing and proposed electric ROW.

[2] This report contains information as of May, 2018.

3.0 Project Description

The proposed energy facility is a new, 115 kV AC electric power transmission line to be owned and operated by Eversource, running a total of approximately 12.9 miles from the Madbury Substation in Madbury, New Hampshire, through the Towns of Durham and Newington, New Hampshire, to the Portsmouth Substation in Portsmouth, New Hampshire. The proposed energy facility, referred to hereafter as the Seacoast Reliability Project ("SRP" or "Project") will also include new line terminal additions at each of these substations, which will also be owned and operated by Eversource. The new transmission line will be designated Line F 107. It will be primarily located in an existing electric corridor, 12.0 miles of which will be a new transmission route along an existing electric utility ROW; 0.9 miles will be in an existing transmission corridor.

The new line leaving the Madbury Substation will be located overhead on Eversource fee property and new Eversource easements and then in a portion of a Pan Am Railroad active railway corridor under a license agreement with the Railroad for approximately 1.4 miles. The line will then transition to underground within the A-Lot parking lot on the University of New Hampshire ("UNH") campus in Durham. The line will pass under Main Street in Durham and continue underground past the athletic facilities on the UNH campus to a point near Colovos Road, approximately 2,100 feet. Eversource has an agreement with UNH to purchase additional easement rights for this section. The line will then transition back to an overhead design in an existing ROW corridor owned either in fee or under permanent easements by Eversource for approximately 1.7 miles to the Packers Falls Substation. The line then turns east and runs approximately 4.0 miles to the westerly shoreline of the Little Bay portion of Great Bay in Durham, where it will transition to underground.

After transitioning to underground, the line will continue via buried submarine cable across Little Bay within a designated utility cable corridor, to the easterly shoreline of Little Bay in Newington, a distance of approximately 1.1 miles. After crossing the bay, the Project will continue approximately 1,800 feet underground in Newington through Gundalow Landing, crossing under Little Bay Road, circumventing a pond in the Flynn Pit Town Forest. The line will then transition to an overhead design in the existing electric utility corridor until reaching the boundary of the Newington Center Historic District where it transitions underground. The line will then continue underground for approximately 2,680 feet under the Darius Frink Farm, the Newington Center District and Hannah Lane residential neighborhood to a point west of Fox Point Road. The line will transition back to an overhead design until it terminates at the Portsmouth Substation. The Project will require work at each of the terminal substations, including structural bracing modification to the existing terminal structure, installation of a new circuit breaker and new coupling capacitor voltage transformers ("CCVT") at Madbury Substation and a new terminal structure, control enclosure expansion, bus extension, circuit breaker, and new CCVTs at Portsmouth Substation. The work conducted at both substations will be constructed within the existing substation footprints.

4.0 Prevailing Land Use

The general landscape characteristic of the region is that it has relatively flat, level terrain and has been one of the most rapidly-growing areas of New Hampshire. Land uses are a mixture of densely developed and less developed areas and alternate between urban and suburban development, including compact town centers in Portsmouth and Durham; suburban residential development in Madbury, Durham and Newington; commercial and industrial areas in Newington and Portsmouth which include large malls, power plants, shipping terminals, and an airport; forested lands; agricultural fields; and the Great Bay Estuary. Due to the nature of development in the area, both underground and overhead utility corridors are common throughout the region, especially along existing ROWs and roadways.

For the purposes of this report, existing land uses are classified as: forests, agriculture, residential, commercial/industrial, transportation and utilities, recreation, conservation and open space, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government.[3]

These general land use categories were derived from the existing land uses described in local and regional master plans in the Project area.

Land Use Background

The Project's land use classification is a utility. Under New Hampshire law, large energy transmission projects are permitted after obtaining a Certificate of Site and Facility from the NH Site Evaluation Committee. The Applicant proposes to site a 115 kV transmission line to be located primarily within or along the existing electric utility ROW between two existing substations in Madbury and Portsmouth. The Project includes overhead sections as well as underground segments located under Main Street in Durham, a portion of the UNH campus, under Little Bay, and under Gundalow Landing, the Newington Center Historic District and Hannah Lane residential neighborhood in Newington.

The Project route is approximately 12.9 miles long and covers a combined total of about 152 acres in the four Project communities. The Project corridor is well below 1% of the total land area in each municipality. Aside from the cable houses along Little Bay that date back to 1902, most of the rights to the corridor were originally obtained in the mid-20th century by

[3] Most modern land use classifications are based on the 1965 *Standard Land Use Coding Manual* (SLUCM) produced by the Urban Renewal Administration of the Housing and Home Finance Authority, which established a consistent system for identifying and coding land use activities. In the 1990's, the American Planning Association (APA) joined with the Federal Highway Administration (FHWA) and several other federal agencies to develop the Land-Based Classification Standards (LBCS) to update the SLUCM. This model assigns land classifications based on activity, function, structure, site and ownership. There are other land use classification models, but they all consistently define existing land uses by observable activity on the site such as: residential, commercial, industrial, institutional, public infrastructure and utilities, transportation, recreation, natural resources, and undeveloped.

the New Hampshire Electric Company, which was later acquired by Eversource. The corridor contains electric lines and structures which have been actively maintained for decades.

The land uses currently adjacent to the Project corridor include forests, agriculture, residential, commercial/industrial, transportation and utilities, recreation, conservation and open space, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government. All of these land uses include the presence of the existing utility ROW. Sound land use and environmental siting principles support locating the proposed electric transmission line within or along an existing ROW because it minimizes impacts to regional development, local land uses and the environment and is consistent with existing local development patterns.

The following sections provide a description of the prevailing land uses within and adjacent to the Project corridor and evaluate the consistency of the proposed facility with such land uses. Overall, the Project is generally consistent with these uses and will not have an adverse impact on land use along the corridor.

4.1 Forests

According to the USDA Forest Service and the NH Division of Forests and Lands, New Hampshire is the second-most forested state in the nation, following Maine. Forested land near the Project corridor is primarily composed of mixed forest beech-oak and hemlock-hardwood-pine. Areas of wet meadow/shrub wetland, peatlands, floodplain forest, grasslands, and salt marsh are also located along the corridor.

From west to east, forested land uses contain an electric utility line ROW that emerges from the Madbury substation in a wooded area. The Project crosses into Durham and runs parallel to an active railroad line located along the eastern edge of the Old Reservoir parcel. As detailed in Section 4.3, the Project team secured an additional easement from UNH to widen the ROW and decrease the structure heights in this area, reducing the visibility of the Project. Other forested areas near the Project corridor include the southeastern edge of College Woods and the western edge of East Foss Farm, which are primarily forested parcels owned by UNH and managed for timber harvesting, wildlife, recreation, research, teaching and other uses. These lands already have the presence of the rail and electric utility corridor and are described in Section 4.7 below.

Beyond East Foss Farm, the powerline corridor traverses other areas of forested land across the Town of Durham. The area between Sandy Brook Drive and Durham Point Road is identified in the visual assessment as a "densely wooded area with low visibility" (see Appendix 32, *Visual Assessment for the Seacoast Reliability Project*, Exhibit 19). Several forested areas along the route are permanently protected by UNH, Durham, NH Fish and Game ("NHF&G"), and The Nature Conservancy ("TNC").

The forested areas in Newington that the Project corridor crosses include the town-owned Flynn Pit, a small area between the end of Hannah Lane and Fox Point Road, and a small portion of the Pease Development Authority property before it reaches the Spaulding Turnpike.

The Project will not interfere with the management or timber harvesting of forested areas and will not cause a change in existing prevailing land use. Forested land uses include the

existing powerline corridor in which routine maintenance of the lines and the ROW occurs according to established management practices. The Applicant does not propose clearing outside the ROW except for access ways and emergency tree removal (according to easements and landowner permission), and will coordinate with abutting parcel owners and the towns prior to construction.

4.2 Agriculture

There are a few agricultural lands in the vicinity of the Project route within the towns of Madbury, Durham and Newington. These lands are generally used for hay, pasture or corn. In Madbury, the nearest agricultural parcel is located approximately 220 feet east of the corridor, and there is a cut-your-own Christmas Tree farm located just north of the Project corridor on Miles Lane. There are no agricultural lands near the Project corridor in Portsmouth.

UNH has a number of agricultural facilities, none of which is along the Project corridor. Some are on the UNH campus and some are in other locations. They include:

- Fairchild Dairy Teaching and Research Center on O'Kane Road, with about 160 cows. The facility is open to the public seven days per week, from 8 – 6pm. The facility is on the west edge of campus, north of the intersection of Route 4 and Main Street. Access will not be affected by construction.
- Kingman Research Farm, a 360-acre property on Route 155 across from the Madbury Police and Fire Station, about 3 miles from the UNH campus. The property also includes the UNH composting facilities and several popular trails.
- MacFarlane Research Greenhouses, primarily a research and teaching facility, are located just west of A-Lot. Access is from Mast Road Extension. The annual UNH Greenhouse Open House is held on Friday and Saturday March 23-24, 2018 with the second day coinciding with the annual Home and Garden Show held March 24-25. Construction of the Project will not affect access to the Greenhouses.
- Organic Dairy Research Farm, a 275-acre property in Lee, has 100 registered Jersey cows and hosts some visitors and field trips. It is about seven miles from the UNH campus.
- The Woodman Horticultural Research Farm, a 155-acre property off Spinney Road on the western edge of campus, also hosts some visitors. Access is from Mast Road Extension, far away from the Project corridor.
- UNH also has Moore Field, a 90-acre property with woodlands and tilled land, which is located on Route 155-A, towards Lee, and the 205-acre Thompson Farm, which has hayfields and tillable land for forage and corn silage.

None of these facilities will be adversely affected by the Project. Construction on the UNH campus will be carefully controlled and coordinated with UNH and the town of Durham.

In Durham, other nearby agricultural lands are located west of the rail line, north of Main Street; west of the intersection of Durham Point Road and Colony Cove Road; and east of Durham Point Road, along Langley Road. An active farm is located west of the railroad tracks and Packers Falls substation, and another is located on Longmarsh Road, south of the Project corridor. One professional gardener on Longmarsh Road has property located

within and along the ROW, and the Project team is working her with to address potential impacts to the business. There are no other major agricultural lands that abut the Project ROW in Durham.

There are two agricultural fields along the ROW in the Town of Newington: part of the Frink Farm on Nimble Hill Road and a field between Fox Point Road and the Spaulding Turnpike. To address concerns from the town of Newington and abutting property owners about potential visual impacts to the Frink Farm, Eversource secured additional easements to locate the Project underground. This involved securing approvals from the underlying property owners, the Town of Newington, and the Rockingham County Conservation District (RCCD), the New Hampshire Department of Justice, and the United States Natural Resources Conservation Service (NRCS).

The Project team also collaborated with the RCCD and the Frink family to identify appropriate work methods and fund improvements to the Frink Farm. The work methods include specific soil handling practices to minimize disturbance to farm soils. The Applicant committed to retaining a mutually agreed-upon outside expert to monitor the construction work across the Frink Farm and to ensure the protection of the soils (see testimony of Kenneth Bowes, March 29, 2017, p.6-7).

The Applicant also agreed to fund improvements to the Frink Farm and enhance its future viability as a working farm. These improvements include, but are not limited to, the seeding of agricultural fields, improvement of fields and replacement of fencing. Improvements to the farm will be managed and monitored by the RCCD. The Applicant has agreed to compensate the Frink Farm for lost crops during the construction process. The underground rights negotiated with the Frink family reduce the amount of area encumbered by the easement, which reduces future impact on the agricultural uses of the farm. In addition, the RCCD determined that the underground location of the Project will not back up groundwater or surface water onto the agricultural fields from the Knight's Brook tributary.

Another concern raised by the Frink family was that construction may or might disturb soils contaminated by perfluorinated compounds (e.g., PFOA and PFOS), increasing the amount of contamination. Eversource agreed to remove and dispose of all excess soil generated from construction activities and recover and dispose of contaminated groundwater from excavation areas, if necessary. This issue is also addressed in the final NHDES permit.

Following those discussions and the Amendment, the Applicant proposed a *Soil and Groundwater Management Plan*, prepared by GEI Consultants, to the Frink family and RCCD, which was reviewed by the NHDES and signed by the RCCD in December 2017 through a MOU. The Plan presents the requirements and procedures that will be taken by Eversource personnel or hired contractors for soil excavations, groundwater, and surface water during installation of the Project through the property.

In addition to locating the Project underground, the existing distribution line crossing the Darius Frink Farm will be removed and relocated so that the net effect is that no poles or lines will be visible except for one structure at the far west end of the property near the tree line, restoring the historic 19th century view and landscape to the Newington Center Historic District.

The Applicant has demonstrated a commitment to work with the Frink Family and accommodate requests since July 2015, and has committed to work with them through the completion of the Project, if approved.

The other area identified as agricultural in Newington is the open field between Nimble Hill Road and Fox Point Road. At the request of the property owner, the Project design team redesigned a section of the line to eliminate a structure from the open field, reducing the visibility of the Project. The Addendum to the LandWorks Visual Assessment dated June 29, 2018 concluded that "the view towards the line is not a visually sensitive area – in fact, a smokestack is in the view along with the existing 34.5kV line. There are intervening trees, parking lots and buildings when viewed from the Nimble Hill roadside – all contributing to a pleasant effect, but not one that most people would consider out of the ordinary or particularly scenic in and of itself."

The Project will not have an adverse impact on the continuation of agricultural uses and will not interfere with ongoing operations. The Applicant has demonstrated it will work with agricultural landowners to minimize and/or mitigate any temporary impacts during construction.

Aquaculture

Aquaculture is a method of commercially producing food and other products in an aquatic environment. Marine shellfish farming includes "seeding" small shellfish on the seafloor or by growing them in sinking or floating cages. Marine fish farming is typically done in net pens in the water or in tanks on land (see the National Oceanic and Atmospheric Administration (NOAA) website for more information).

The NH Fish & Game has jurisdiction to issue marine aquaculture licenses. Potential sites for shellfish aquaculture are assessed for a number of factors including: benthic substrate; other fisheries uses in the area; typical wildlife and aquatic plants; location of channel, navigational aids, moorings; recreational, commercial, or other activities being conducted in the area; tidal information such as flow rate, height or direction; and location of other aquaculture activities within one mile of the proposed site. Prior to issuing a license, the NHF&G holds a public hearing for comments on the proposed Project. After the public hearing, the NHF&G executive director reviews all of the information and must make a determination whether the proposed aquaculture operation would pose any unacceptable risk, would conflict with or negatively impact any recreational, commercial or other use currently being conducted in the area in and around the proposed Project area, or would adversely impact the value or use of private property in and around the projected area. If the proposal meets those criteria, NHF&G issues a license that entitles the licensee to operate in a specified area.

Aquaculture farmers face a complex set of regulations and need to work with a number of agencies on an ongoing basis including NH Division of Public Health Services (Shellfish Inspection & Licensing), NH DES Wetlands Program, NH Port Authority, US Coast Guard, USACE, NHF&G Marine Fisheries Division.

The natural oyster population in the Great Bay system has declined significantly since 1993 and this trend has been related to disease, overharvesting and poor water quality. Because the ability of oysters to improve water quality through their filter feeding activities has been

demonstrated in other estuaries, restoration of oyster reef habitat is one of the major goals of the Piscataqua Region Estuaries Partnership (PREP).

The shellfish aquaculture industry is small but expanding in New Hampshire. A 2012 study by the NH DES, UNH and other agencies, Diversifying Shellfish Aquaculture in Coastal New Hampshire, analyzed the potential for oyster farming in the Great Bay Estuary. The study found that there is suitable area for oyster aquaculture in Little Bay, but that regulatory and societal factors were issues that need to be addressed. The study mapped the licensed shellfish farms, of which there were only two in 2009 and by 2012, there were seven. According to the 2018 State of Our Estuaries Report, the number of licenses increased to 22 in 2016. According to NHF&G, over 180,000 oysters were harvested from aquaculture activities in 2016.

Construction of the Project may result in short term, temporary impacts to the area. Jet plowing will take place on three separate days in the fall. This activity will mobilize some sediments along its path and result in a short-term sediment plume. The location of the plume will be governed by the tides and position of the jet plow along the route. Predictive modeling indicates that the densest portion of the plume will remain near the jet plow route and that the concentrations of suspended sediments nearing any existing aquaculture operations will be within the naturally occurring range and below levels that would be deleterious to oysters. *See* Revised Modeling Sediment Dispersion from Cable Burial for Seacoast Reliability Project, Upper Little Bay, New Hampshire, June 27, 2017.

The model also predicts that sediments suspended by the jet plow will be redeposited primarily near the jet plow route and redeposition will be negligible near the oyster farms. Sediments will also be suspended during hand jetting cable burial operations near the shorelines in areas too shallow to accommodate the jet plow. This activity will continue daily during slack tides for a month or so. Most of the sediments suspended by hand jetting will be contained by silt curtains although there is one section just west of Welch Cove where tidal currents are too strong to allow use of silt curtains.

It is anticipated that a limited number of licensed aquaculture sites may be impacted but that concentrations will be within the natural variability observed in the estuary. Sediment sampling conducted along the cable route indicates there are no contaminants at levels of concern in the Project area.

The Project is located in the area designated as the "cable crossing area" in Little Bay. NHF&G prohibits shellfish harvesting within the Cable Area.

4.3 Residential

Residential development in the four communities along the corridor is typical of seacoast New Hampshire: low density single family homes scattered along existing road frontages, moderate density suburban single family neighborhoods built around cul-de-sac roads and other newer roadways and some areas with more dense development. This is reflective of the type of residential pattern of development that seacoast New Hampshire experienced between the late 1970's and mid-2000's. In addition, the University of New Hampshire has constructed some college dormitories near the active railroad and utility corridor, north and south of Main Street in Durham. The prevailing residential land uses described below include the presence of an existing electric utility line corridor.

The Project team met with the towns, UNH and neighboring residential property owners numerous times to discuss potential impacts to residential uses and consider avoidance, minimization, and mitigation options; as a result of those meetings, a number of design changes have been made. These include relocating structures, purchasing additional property and easements to widen the ROW to reduce structure heights, reconfiguring the line design from monopole to side by side design, and eliminating structures. Some specific examples of the design changes made to the Project in response to comments are noted below. In each case, the proposed design changes avoid, minimize, and/or mitigate potential impacts to land use and aesthetics.

In Madbury, there is one house located adjacent to the ROW on Madbury Road, north of Route 4. Eversource purchased an easement from this property owner, and purchased the parcel next to it, enabling the Project to be located off of the railroad ROW, reducing the number of structures, reducing structure heights and visibility of the Project.

Entering Durham, the Project ROW runs adjacent to the western side of the railroad corridor. As noted above in Section 4.1, in response to the residents in the Scotland Road/Hampshire Avenue neighborhood about potential views of the structures , Eversource purchased additional ROW easement from UNH, reduced structure heights by 10-15', and reduced the number of structures, reducing visibility of the Project.

The Gables, a multi-story student apartment complex constructed by UNH adjacent to the pre-existing ROW and active railroad corridor, is also located in this area. Other student residence halls near the Project corridor, located to the east of the railroad tracks and south of McDaniel Drive, in the "Timbers" area of campus include: Haaland Hall, Handler Hall, HubbardHall, Forest Park, Peterson Hall, the Minis-Marston House, the Minis-Hall House, the Minis-Eaton House, Christensen Hall, and Williamson Hall.

After crossing Mill Road, the Project runs parallel to the eastern side of the railroad tracks. The Project team worked with property owners near Foss Farm Road to relocate structures and changed the structure type to reduce visibility of the structures and equipment in the area.

The Project turns east at the Packers Falls Substation, and traverses an area that is mostly forested except for a small concentration of residential development north of Longmarsh Road, in the Timberbrook Lane/ Cutts Road/ Ffrost Drive / Sandy Brook Drive neighborhoods. Several houses, including some within 100 feet of the ROW, were constructed near the existing electric line corridor. The Project team consulted with the abutting residential owners in this area to discuss options for different line designs. The Project design was adjusted based on the feedback received from the neighbors, including relocating structures to reduce the view from a number of residential properties.

The Project team also consulted with some residential owners on the eastern segment of Longmarsh Road and Durham Point Road and as a result relocated structures and revised the line design, from a double circuited monopole to a side by side construction, to reduce the visibility of the Project. Continuing east, the Applicant purchased property to place the line underground and relocated the transition structure inland by approximately 360' from the original location at the edge of Little Bay near the Cable House, reducing visibility of the structures from the bay.

After crossing under Little Bay into Newington, the line continues underground through Gundalow Landing, a residential neighborhood with no existing overhead electric lines. The Project team met with abutting residents and as a result the Project was shifted to move the underground construction farther away from homes and yards. The Applicant secured additional rights from the town and adjacent landowners to re-route the underground construction along the edge Gundalow Landing instead of directly in the roadway.

The Project emerges overhead after circumventing a pond in the Flynn Pit Town Forest east of Little Bay Road. Based on the town of Newington's concerns about visibility of the transition structure from Little Bay Road, the Applicant secured additional rights from the town to relocate the transition structure further away from the roadway, reducing the visibility of the structure from the roadway.

The line then continues east overhead. The structure and line design were reconfigured along the tree line in this area to reduce structure heights to 65' and 70', reducing visibility of the Project. The Project team has proposed to plant fast-growing vegetative buffer in the along the ROW to reduce visibility from the residences, and will work with adjacent landowners regarding plans and placement.

As detailed in Section 4.2, after reaching the Darius Frink Farm the Project transitions underground through the Frink Farm, under Nimble Hill Road, and past the Hannah Lane neighborhood eliminating views of the Project.

In addition to locating the Project underground, the Project team proposed to move the existing distribution line from the Frink Farm to enhance the view of the historic area, and to remove the existing distribution line near Hannah Lane, enhancing the view in that area. Other Project design changes include relocating the overhead transition structure farther away from the last home on Hannah Lane to reduce the visibility of the structure. After Hannah Lane, the line emerges at a point west of Fox Point Road, where there are two houses along the corridor. The line continues through an open field north of Fox Point Road. As noted in section 4.2 to reduce potential visibility of the Project from Nimble Hill Road, the Project removed an existing structure and created a longer span to reduce the visibility of the Project.

In Portsmouth, the Project is located about 500 feet east of the Oriental Gardens manufactured home park, which has a good wooded buffer between the development and the existing corridor.

Further descriptions of these residential areas along the Project corridor are included in the land use summaries in Appendix A.

Overall, there are relatively few homes in close proximity or adjacent to the electric utility ROW. In almost all cases, the electric line corridor pre-dates the construction of these houses. As noted above, the Applicant has had numerous meetings with the towns, UNH, and abutting property owners to address their concerns, and a number of changes in the Project design have been made in response. The Applicant has committed to continuing to work with property owners prior to, during, and after construction.

4.4 Commercial/Industrial

A few segments of the transmission line are located within or along existing or proposed commercial or industrial areas. In Durham there are almost no commercial or industrial

businesses near the Project corridor, however, the Amtrak Station/Dairy Bar/UNH A-Lot parking area, is mentioned in the UNH Master Plan as a potential location for future mixed use development with structural parking and a potential new road underpass of the railroad and electric lines. The town of Durham and UNH expressed concern about the visual impact of the Project on Main Street, which is considered an important gateway for the town and UNH. The Project team worked with UNH and the Town to locate the Project under Main Street, greatly reducing the visual impact of the Project on Main Street. In addition, Eversource has agreed to pay for and install and additional electrical duct bank for UNH under Main Street, which will provide a long term benefit to Durham and UNH. The Project will also be underground as it passes the Amtrak Station/UNH Dairy Bar and athletic facilities. A gardening business is also located on Longmarsh Road within the ROW; the Applicant has been coordinating with the gardening business owner to address the business concerns and minimize potential impacts.

In Newington and Portsmouth, the ROW is within commercial/industrial areas east of the Spaulding Turnpike, in an area with existing overhead lines, signs, traffic lights, parking lots, many commercial and industrial uses, including two power plants to the east.

In Newington, the Project will cross the Spaulding Turnpike and to the parking lot near the area that includes PetSmart, Kohl's, Dick's, and then joins the existing transmission ROW at The Crossings, an open air mall with national big box merchants, restaurants, a large cinema and ample, free parking. The Project team has been coordinating with The Crossings. Design changes made by the Project in this area include repositioning structures within the parking lot islands to avoid infringing on mall parking spaces, and redesigning the line to accommodate areas where mall light poles encroach on the ROW, thereby avoiding the removal of existing lighting structures in the western parking lot. In addition, construction of the Project will be timed to avoid the peak holiday shopping seasons. The Project team will continue to coordinate with The Crossings and other businesses in the area, and will conduct additional pre-construction meetings to ensure that the traffic control plan accommodates access, circulation and parking needs throughout construction.

The Project team met with area Chambers of Commerce including the Chamber Collaborative of Greater Portsmouth (Portsmouth Chamber), Greater Rochester Chamber, Greater Dover Chamber, and Dover Rotary Club. The Greater Rochester and the Greater Dover Chambers of Commerce provided letters of support for the Project citing the economic benefits of long-term property revenues for local communities, creation of jobs during construction, the need for reliable delivery of electric power to meet the region's current demand, and to support the region's future economic growth.

The Applicant has worked with the municipalities, UNH and businesses to develop outreach and construction plans which coordinate construction activities and to avoid and minimize any temporary, short-term impacts from the construction process. The Applicant has also redesigned portions of the Project in response to input from adjacent property owners to ensure that potential impacts from the operation of the Project are minimized. The operation of the Project will not interfere with ongoing commercial or industrial uses present near the existing ROW. Although the Applicant recognizes that locating projects such as this along an existing corridor does not in and of itself mean that the Project will not interfere with adjacent land uses in every case, the Project team in this case has worked diligently to ensure that any potential interference will be minimized and/or avoided.

4.5 Transportation and Utilities

Rail, Airport and Transit Facilities

A portion of the Project ROW is located along an active railroad corridor (passenger and freight) that runs from Madbury through the UNH campus and conservation lands to the Packers Falls substation, a distance of approximately 3.6 miles. The Applicant has coordinated with Pan Am Railways, Amtrak, UNH and the New Hampshire Department of Transportation ("NHDOT") to ensure that the Project meets all applicable requirements and will not affect railroad operations.

According to the 2012 NH State Rail Plan, there are five rail lines in the seacoast area (Main Line –West; Main Line – East; Portsmouth Branch; Newington Branch; and Conway Branch). Except for the Conway Branch, the seacoast region is served by Pan Am Railways. The Main Line – West branch is regionally important as it hosts the Amtrak Downeaster passenger service between Boston and Maine, and is also used for daily freight service.

The Downeaster Amtrak Station is located in Durham on the UNH campus. There are five daily trips southbound and seven daily trips northbound that depart from the station. The UNH Dairy Bar Restaurant is located in the historic train station. There is a ticket office, accessible platform, and indoor waiting area on site. Many passengers are dropped off and picked up at the station, however, parking is available in the town-operated Depot Street Lot and free parking is located in designated UNH faculty/staff and commuter lots on weekends and weeknights. Improvements to the platform area of the station include a 150' platform extension to expand passenger boarding capacity, improved access to the site and parking areas, loading areas, walkways, and an intermodal bus accommodation.

The Project team will coordinate with the Northern New England Passenger Rail Authority (NNEPRA), which is the public transportation authority that operates passenger rail service between Boston and Maine, and points within Maine to ensure that construction activities will not impact passenger rail operations.

Freight rail branches near the Project corridor include the Portsmouth Branch, which consists of ten miles of active FRA Class 1 track between Portsmouth and Newfields, connecting the Main Line West with the Main Line East (Hampton Branch) and the Newington Branch. The Portsmouth branch passes over three bridges and 12 grade crossings. The Newington Branch which is 3.5 miles long, running between Newington and the Portsmouth Branch in Portsmouth. The line is maintained to FRA Class 1 standards and includes one bridge and 13 at-grade crossings (Chapter 2, p. 42-44).

The Applicant will coordinate with the NHDOT and Pan Am Railways to ensure that the Project does not affect current or future railroad operations or improvements, including a proposed future rail line near the Nimble Hill Road and Spaulding Turnpike intersection, which is discussed in the Newington Master Plan.

The Portsmouth International Airport is located within the Pease International Tradeport. The airport shares its runway with the Pease Air National Guard Base. Allegiant Air provides a limited number of flights between Pease and Florida locations. The Applicant consulted with the Federal Aviation Administration ("FAA") and the Pease Development Authority to ensure that the Project does not affect current and future airport operations and meets all applicable federal and state requirements. The FAA issued a "Determination of No

Hazard to Air Navigation" for the Project. The aeronautical study revealed that the structures do not exceed obstruction standards and would not be a hazard to air navigation, and that marking and lighting the structures are not necessary for aviation safety. Based on this, the transmission line will not have adverse impacts on airport operations at Pease.

Public bus service in the Project area is provided by Wildcat Transit (UNH), the Cooperative Alliance for Seacoast Transportation ("COAST") and C&J Bus Lines. The Project has begun to coordinate with these entities about construction activities and traffic management plans which will seek to avoid and minimize impacts on transit services.

State and Municipal Roadways

New Hampshire Ten-Year Transportation Improvement Plan (2019-2028)

The State of New Hampshire follows a process every two years to prepare a comprehensive transportation improvement plan for future highway, bridge, bicycle, pedestrian, railroad, transit and airport projects. The plan includes projects in various stages of planning, engineering design, right-of-way acquisitions or construction. The process is established in state law and involves the work and involvement of the nine regional planning agencies (RPC's), the NH DOT, the Governor's Advisory Commission on Intermodal Transportation (which consists of the five NH Executive Councilors and the NH DOT Commissioner), the Governor's Office and ultimately the State Legislature.

The 2019 – 2028 Draft Plan was developed in 2017 and 2018. In 2017, 23 public hearings were held throughout the state to solicit public comments and suggestions on transportation needs and funding options. This input was used by the Governor's Advisory Commission on Intermodal Transportation to develop a draft plan which was then presented to the Governor in late 2017/early 2018. The Governor, in turn, reviewed the plan, revised it as necessary, and submitted the Ten Year Plan to the state legislature.

In the final step of the process, the state legislature reviewed and modified the plan during the 2018 legislative session, and the final revision of the Plan was enacted by the legislature and signed by the Governor on July 2, 2018 (Chapter 358).

The following is a list of transportation projects included in the 2018 plan that are within SRP communities for the period 2019-2028.

Community	Location	Scope	Year	Dist from SRP
Durham/UNH	Main Street	Construct sidewalks, crosswalks, lighting and landscaping along Main Street in Durham on UNH Campus (between the Field House and rotary)	2019	Main Street
Durham	US Route 4	Bridge replacement for bridge carrying US 4 over Bunker Creek	2019	1 mi N
Durham	US 4/ NH 108	Signalize intersection of US 4 westbound off Ramp with NH 108	2019-2020	1.3 mi E

Community	Location	Scope	Year	Dist from SRP
Durham	Bennett Road	Address the red list bridge carrying Bennett Road over PAR (Pan Am Railroad) in the Town of Durham	2024-2028	0.1 mi S
Durham/UNH	UNH	Transit facility improvement at the UNH-Durham Rail Station to increase passenger ridership	2019-2020	Adjacent
Madbury	Nute Road over Bellamy River	Bridge replacement-Nute Road over Bellamy River Bridge # 056/072	2021	2.9 mi N
Madbury	Madbury Road	Planning Study to identify potential intersection safety improvements to the NH155/Madbury Road	2028	0.4 mi N
Newington-Dover	NH 16, US 4 & Spaulding Turnpike	Reconstruct Spaulding Turnpike from LBB to Dover toll booth and Exit 6 Interchange (including new soundwalls)	2019-2021	0.6-1.8 mi N/NW
Newington-Dover	Spaulding Turnpike/Little Bay Bridges	Remove the superstructure of the General Sullivan bridge and provide the most cost effective bicycle/pedestrian connection.	2020 – 2023	N/NW
Newington	NH 16	Highway and bridge maintenance facility construction between Exit 3 and 4 along NH 16	2019-2021	0.1 mi W
Portsmouth-Kittery	US 1 Bypass	Bridge replacement, US 1 bypass over Piscataqua River (Sarah Mildred Long Bridge) (Red List)	2019	1.4 mi E
Portsmouth-Kittery	I-95	Rehabilitation of bridge over Piscataqua River (high level bridge)	2019-2021	1 mi E
Portsmouth	US 1	US 1 Improvements (1 mi) from Constitution Drive to Wilson Road and from Ocean Road to White Cedar Drive	2019-2022	3.7 S-4.6 mi S
Portsmouth	Portsmouth International Airport at Pease	Preservation, modernization, and/or expansion of airport facilities; planning studies	2019-2028	0.3 mi S from edge of runway
Portsmouth	Maplewood Avenue	Complete streets improvements on Maplewood Avenue from Congress Street to Vaughan Street	2020-2025	1.6 mi S
Portsmouth	Market Street-RR	Railroad crossing upgrade on Market Street	2023-2026	1.5 mi S/SE
Portsmouth	N/A	Add a multi-use path for Bike/Ped along Elwyn Road extending from Route 1 to Harding Road	2019-2020	3.6 mi S

Source: NH DOT

Most Ten Year Plan projects will not be affected because they are not located near the Project, or will be constructed after the Project has been completed. Those in the vicinity of

the Project and within a year of construction include: Durham Main Street (UNH Campus between Field House and Rotary); improvements to the Amtrak station; turnpike improvements in Newington; and planning studies at Portsmouth International Airport at Pease. The Applicant is coordinating with the NHDOT, the municipalities, and UNH to ensure that construction will not interfere with these projects.

State Road Crossings

In April, 2016, the Applicant submitted a petition to the NHDOT for licenses and permissions to install the seven aerial road crossings over state-maintained highways which include Madbury Road in Madbury, NH Routes 4 and 108 in Durham, the two newly-constructed access ramps to the Spaulding Turnpike and the Spaulding Turnpike Mainline in Newington, and Woodbury Avenue in Newington.

The Applicant made changes to the overhead design to accommodate comments made by the NHDOT in their progress report submitted to the SEC on November 21, 2016, and subsequently filed an amended petition to the NHDOT on March 15, 2017 reflecting the changes requested by the NHDOT and communities. These changes include minor structure shifts and changes in height and configuration. Specifically, near Madbury Road and Route 4 in Madbury and Durham, the Applicant moved the alignment approximately ten feet west, within the originally proposed corridor, to increase spacing from the existing bridge abutments at those crossings. At the Madbury Road crossing, two H-frame structures were modified to be single pole structures. These changes provide additional clearance to the bridges and abutments to allow for future bridge maintenance and construction at the request of NHDOT. In addition, the Applicant relocated two structures near Gosling Road in Newington to accommodate a new road easement for the Shattuck Way extension.

State-Designated Scenic Roads

The NH Scenic and Cultural Byways System was enacted to "provide the opportunity for residents and visitors to travel a system of byways which feature the scenic and cultural qualities of the state within the existing highway system, promote retention of rural and urban scenic byways, support the cultural, recreational and historic attributes along these byways and expose the unique elements of the state's beauty, culture and history" (NH RSA 238:19). The NHDOT administers the Scenic and Cultural Byways Program. New Hampshire has 21 official routes which cover 1,000 miles of designated scenic and cultural byways.

It should be noted that designation of a state or local road or highway as a scenic and cultural byway "shall not affect the operation, maintenance and expansion of existing public utility lines and facilities, or be construed to require any public utility to install any of its lines or facilities underground" (NH RSA 238:22, II).

The Project includes one crossing (Route 108) of the state-designated Mills Scenic Byway (see Section 5.3 for details) within the existing electric line ROW. The NH DOT is currently constructing 4-foot bike shoulders and making safety improvements along the length of this roadway between the Oyster River Bridge in Durham and Bay Road in Newmarket (3.4 miles). The Project team worked with the NHDOT and the town of Durham to modify the line design and type of structure at the Route 108 crossing to reduce the structure heights,

and reduce visibility of the Project from the roadway. In the November 21, 2016 Progress Report, NHDOT stated it had no concerns with the proposed aerial crossing of Route 108.

Municipal Road Crossings

The Project corridor includes ten aerial and four underground crossings of municipally maintained highways, which are detailed in *Overhead and Underground Municipal Highway Crossings*, Appendix 18 and Appendix 18(a) of the application. This document provides detailed traffic control plans for local roadways impacted by construction.

Aerial crossings in Durham include Mill Road; Timber Brook Lane; Cutts Road; Ffrost Drive; Sandy Brook Drive (twice); Longmarsh Road; and Durham Point Road. Aerial crossings in Newington include Fox Point Road and Gosling Road. Underground Crossings include Main Street in Durham; and Little Bay Road, Gundalow Landing, and Nimble Hill Road in Newington. All of these crossings are within or along the existing electric line ROW which has existed for many years.

Town of Newington and the Applicant signed a MOU to ensure that the Project is constructed in a manner that minimizes impacts to the environment and disruption to the public, and provides reasonable assurance to the town that construction impacts from the Project will be avoided, minimized and mitigated. The agreement sets forth how the roadways will be used, inspected and monitored during construction, and provides for a financial guarantee for damage due to weight limits, excavation and restoration of the roadways. In addition, the MOU covers road construction and restoration for the underground segments of the Project, as well as traffic control and access during construction operations.

The Applicant is in the process of negotiating a similar MOU with the Town of Durham and UNH which covers construction on campus (see section 4.11 for details).

Locally Designated Scenic Roads

RSA 231:157 allows municipalities to designate certain roads as scenic. Each town is required to maintain and make available to the public a list of all roads or highways, or portions thereof, within the towns which have been designated as scenic.

Locally-designated scenic roads within the Project area communities are summarized in Table 1 below.

Table 1 Locally-Designated Scenic Roads in Project Communities

Community	Road	Project Crossings
Madbury	Nute Road and Cherry Lane	None
Durham	Durham Point Road, Bennett Road, Bay Road, Packers Falls Road.	1. Durham Point Road.
Newington	All Class V town roads west of the Spaulding Turnpike, and town roads north of the Newington/Greenland town line.*	1. Gundalow Landing (UG); 2. Little Bay Road (UG); 3. Old Post Road; (UG) 4. Nimble Hill Road; (UG) 5. Fox Point Road; and 6. Gosling Road*.
Portsmouth	None	None

Designated scenic roads in accordance with RSA 231:157-158
UG indicates the Project is located underground at the road crossing.
Source: Town master plans and regulations; Strafford and Rockingham Regional Planning Commissions.
*Newington's Master Plan states that all Class V Town Roads are designated as scenic roads, however, Article IV, Section 9 of the Zoning Ordinance states that all Town of Newington roads west of the Spaulding Turnpike and north of the Newington/Greenland town line are scenic. Gosling Road is east of the Turnpike.

The Project does not cross a local scenic road in Madbury or Portsmouth. It crosses one scenic road in Durham. There are six local scenic road crossings in Newington with four of the crossings underground, and two overhead. One of the overhead crossings is east of the Spaulding Turnpike within a commercial/industrial area.

In Durham, the Project team worked with the town and abutting property owners on Durham Point Road to reduce visibility of the Project by revising the line design, relocating structures, and purchasing property to place the line underground and relocate the transition structure further back from the original location on Little Bay.

In Newington, there are no new crossings of local scenic roadways, and there are only a few locations where the Project is potentially visible from designated scenic roads. The crossings of Gundalow Landing Road, Little Bay Road, and Nimble Hill Road are proposed to be underground.

After crossing the Bay, the Project will make landfall on property where the Applicant has contracted to purchase a new easement. The line will leave the ROW at Gundalow Landing and continue underground crossing the roadway twice, and utilizing a portion of three private properties until reaching Little Bay Road. Eversource has contracted with the residents in this area to acquire new easement rights for this section. After crossing under Little Bay Road, the Project will continue underground across property owned by the Town of Newington, for approximately 440 feet where the Project will transition back to overhead on the northeast side of the existing ROW and rejoining the existing ROW in an overhead design. The Applicant has contracted with the Town of Newington to acquire new easement rights for this section, in the area commonly referred to as the Flynn Pit. Where the Project transitions to overhead design near the Flynn Pit, the Applicant, at the Town's request, redesigned the transition structure lowering the height to approximately 70', and

secured additional easements to relocate the transition structure approximately 460' away from Little Bay Road, further reducing the visibility of the structure.

The Project then travels overhead in the existing ROW for 2,820 feet. According to the testimony of the Applicant's visual consultant, David Raphael, the Project will be minimally visible from Little Bay Road, where the Project runs parallel to the road, due to the existing hedgerows which block most of the views and the ROW corridor is "not noticeable unless one is looking for it through an opening in the hedgerow at driveways" (p. 14).

At the Frink Farm in the Newington Center Historic District, the line will transition to an underground design. The Project will continue underground within the existing ROW across the Frink Farm property, crossing Nimble Hill Road underground and continuing in the existing ROW through the Hannah Lane residential neighborhood for a total distance of approximately 2,680 feet, where the Project will transition back to an overhead design.

Where the Project crosses Fox Point Road overhead within an existing ROW, the Project worked to redesign the structures and eliminate an existing structure through the field north of Fox Point Road to reduce potential visibility from Nimble Hill Road. A visual assessment was conducted by LandWorks in this area and concluded that "Over the length of Nimble Hill Road, which is slightly more than a mile and a half in length, the potential views of any overhead structures would be quite brief" and that "the view towards the line is not a visually sensitive area – in fact, a smokestack is in the view along with the existing 34.5kV line. There are intervening trees, parking lots and buildings when viewed from the Nimble Hill roadside – all contributing to a pleasant effect, but not one that most people would consider out of the ordinary or particularly scenic in and of itself." *See* Addendum to LandWorks Visual Assessment, June 29, 2018, p. 2.

The MOU with the town of Newington governs the removal of vegetation, construction and restoration of landscaping along these roadways.

The Applicant has negotiated MOUs with the town of Newington (and is negotiating similar MOUs with UNH and the town of Durham) and agreed to terms for construction on local roadways, including locally designated scenic roads. The Applicant also will coordinate with the municipalities and groups that hold special events, such as running and bicycle races, along locally designated scenic roads and other roadways, to avoid and minimize impacts.

Bicycle Routes

The NHDOT publishes seven regional bicycle maps with bicycle routes for New Hampshire, including recommended paved and unpaved roads, "advanced skill" routes, recreational loops and improved and unimproved rail trails.

The NHDOT bicycle maps list Madbury Road, Route 4, Main Street, and Route 108 in Durham, and Nimble Hill Road and Fox Point Road in Newington as bicycle routes; the crossings of these roads are within the existing ROW. The Seacoast Region Bicycle map shows a recreation bicycle loop in Durham and Newmarket which crosses under the existing transmission line corridor on Mill Road and Durham Point Road. The Project will cross these roads within the existing ROW and will not have adverse impacts on these bicycle routes. Temporary impacts from construction will be minimized by coordinating with the NHDOT, the municipalities, and bicycle clubs such as the Granite State Wheelmen,

Seacoast Area Bicycle Riders (SABR) and the UNH Cycling Team, and using best management practices.

The Town of Durham is considering, at a conceptual level, creating bicycle trails in some areas of the ROW sometime in the future after construction of the Project has been completed.

Utilities

The Project is located adjacent to or crosses a number of other electric lines, underground utility systems, including water and sewer lines, natural gas transmission, and steam pipes. These are detailed in the engineering drawings submitted with the application.

At the Madbury substation, the Project crosses a number of electric lines as they enter the substation. As the Project crosses into Durham, there is an underground biogas line along Route 4. UNH operates both steam pipes and a gas pipeline. Large above ground steam pipes are visible between the railroad tracks and the Fieldhouse. The gas pipeline, constructed by UNH in 2007, extends approximately 12.5 miles from the Turnkey Recycling and Environmental Enterprise (TREE) facility in Rochester to the UNH power plant which is immediately east to the railroad tracks. The Project crosses the gas line twice.

The Project crosses a UNH underground water line south of Gables Way, as well as a town of Durham sewer line. Just prior to going underground near Main Street in Durham, the Project crosses UNH Circuit 16. Through the underground section under Main Street, the Project crosses water lines, telephone lines, underground electric lines, sewer lines, gas line, and drainage systems. The Project transitions to overhead design after Covolos Road, crossing a Durham sewer line and additional water lines along Waterworks Road. After crossing the railroad tracks, the Project is near a few electric lines as they converge near Mill Road. The Project crosses electric lines near Route 108/Newmarket Road, and near Timber Brook Lane. The existing distribution line is proposed to be removed at Cutts Road and fFrost Drive. The Project crosses distribution lines at Sandy Brook Drive, Longmarsh Road and Durahm Point Road. At Longmarsh Road, the Project crosses a private underground water line.

The Project transitions underground at the western edge of Little Bay, and crosses underwater, near inactive underground cables. Upon reaching the eastern side of Little Bay in Newington, the Project continues underground, crossing Gundalow Landing twice and running along the roadway to Little Bay Road. The Project crosses water main and underground electric utilities as it crosses Gundalow Landing and Little Bay Road. The Newington Master Plan also includes a "Water Distribution Map" on page 19 of the "Public Utilities" chapter. The Project crosses water distribution pipes that range in size from eight inches to 16 or 24 inches.

After the pond located at Flynn Pit, the Project transitions to an overhead design and continues overhead until reaching the Darius Frink Farm, where it transitions underground through the farm, under Nimble Hill Road, and along the Hannah Lane neighborhood. The existing electric distribution structures are proposed to be removed from this section, as well as along Hannah Lane.

After Hannah Lane, the Project transitions to an overhead design and crosses Fox Point Road, an underground water line, and an existing electric distribution line. At the Spaulding Turnpike, the Project crosses an underground gas line, and a water line.

The Newington Master Plan indicates the Portland Natural Gas Transmission System easement extends from the Piscataqua River toward Pease International Tradeport, crossing the Project corridor. One four-inch natural gas distribution line runs up Nimble Hill Road to the Police Station, Elementary School, and Fire Station.

As it runs along the Spaulding Turnpike, the Project crosses underground water lines, an underground gas line, and existing overhead electric lines. The City of Portsmouth maintains water system facilities in the area. The water line runs from the reservoir in Madbury, through Durham, crosses Little Bay from Wagon Hill in Durham to Newington. The system also includes a water tank and facilities on the west side of the Turnpike. After crossing the Turnpike, the Project crosses a number of existing electric lines, an underground gas line, where the Project terminates at the Portsmouth Substation.

The Applicant will coordinate with UNH, Pease International Tradeport, municipalities, and other utilities to ensure that construction of the Project does not affect any of these utilities.

4.6 Recreation Facilities

Recreation facilities include local indoor and outdoor facilities that offer active and passive recreational opportunities for residents and the public (trails are covered in section 4.7 below). Some facilities are adjacent to the Project corridor in Madbury, Durham and Newington. There are no recreation facilities located near the Project corridor in Portsmouth. We also have identified some recreation facilities that are within a mile of the existing corridor but are not adjacent to the ROW.

For information on regional recreation facilities, see the *Review of Tourism and Regional Recreation Seacoast Reliability Project, July 2018*.

Madbury

There are no recreation facilities adjacent to the Project corridor in Madbury. Demerritt Park is located .44 miles north of the Project, and the Tibbetts soccer fields are located .9 miles northwest of the Project.

The Project will not affect these facilities. In addition, the Project team will coordinate with the town to ensure that efficient traffic flow is maintained during construction.

UNH

There are several UNH recreation facilities adjacent to or in the general vicinity of the existing Project corridor. While serving UNH primarily, they are sometimes used for local and regional youth programs and high school events. These include:

- The Whittemore Center Arena, located near the Project corridor on Main Street, is a 6,500-seat hockey arena on the UNH campus that opened in 1995. Although its primary use is for hockey, the facility is occasionally used for special events such as ceremonies, concerts, and trade shows. Memorial Field, which has synthetic turf, is

located in front of the Whittemore Center. Visitors to the Whittemore Center can arrive by foot, bicycle, bus, car, or rail. Although limited parking is available in nearby locations such as the Edgewood Visitor Lot, Alumni Center Lot, Woodside Lot and Town Lot, most Whittemore Center visitors park in A-Lot, a multi-use paved parking lot on the west side of the railroad tracks which is used by faculty/staff and commuters during the school day and by visitors to sporting and other special events at the Whittemore Center, and Field House/Wildcat Stadium during the evening and on weekends.

- UNH Hamel Recreation Center (formerly Snively Arena), located near the Project corridor on Edgewood Road near Main Street in Durham, includes: 5 Basketball/Volleyball courts; 3 Badminton courts; 2 Floor Hockey/Indoor Soccer courts; 4 Racquetball courts; International Squash court; 3 Lane suspended Indoor Track; Bouldering Wall; lounge with Flat screen TV; classroom; bathrooms; locker rooms; and parking area.
- Wildcat Stadium and Fieldhouse, located near the Project corridor on Main Street in Durham, include: Bremner Soccer Field; Cowell Football & Lacrosse Stadium & Field; Lundholm Basketball, Gymnastic, & Volleyball Gymnasium; Memorial Field; Hockey Field; Paul Sweet Track & Field Oval; Reggie F. Atkins Track & Field outdoor facility; Swasey Indoor Pool.

The Project team has met with Durham and UNH to consider and address potential impacts to these facilities and is currently negotiating a MOU with UNH designed to avoid, minimize and mitigate short term construction impacts. The MOU is proposed to include topics such as daily and weekly meetings; the ability to stop construction on campus if there are any construction concerns; the hours and days for construction; time of year restrictions for excavation; installation of an electrical duct bank crossing under Main Street which will be constructed and funded by Eversource for UNH; avoiding impacts on UNH playing fields and surrounding utility systems; identification of access routes to certain overhead structures; use of weathered steel structures in wooded sections and galvanized steel for some structures as requested by UNH staff; procedures for tree removal, relocation and disposal; conformance with state and federal rules for blasting; vegetative screening and plantings; and repair and/or replacement of any existing utility systems impacted during construction.

Durham

The town of Durham website lists a number of outdoor recreation opportunities including bird watching, boating, cross country skiing, fishing, historical sites, horseback riding, ice skating, mountain biking, open field games, playgrounds, picnicking, scenic views, tennis and basketball, and walking and jogging. Recreational facilities near or in the vicinity of the Project corridor include:

- Adams Point Wildlife Management Area, located between Little Bay and Great Bay, is operated by the New Hampshire Fish & Game. The 70.5-acre tract at the mouth of

Great Bay is the site of UNH Jackson Estuarine Lab. There is also a boat ramp (tide dependent) with limited parking and a short hiking trail.

- Cedar Point, near the Semmel Bridge off Route 4, has a small boat ramp with a few parking spaces at the end of Cedar Point Road.
- The Courthouse, located about a mile from the Project corridor, is the former Town Courthouse and Town Hall which is now home to both the Durham Historic Association Museum and the Durham Parks and Recreation Department offices.
- Doe Farm, located off Bennett Road and west and south of the Project corridor, is an 80 acre site with fresh water river, woodlands, and wetlands. There is a short trail from the class VI entrance road and two miles of additional trails. Boating is limited to canoes and rowboats. A small off-road parking area is located on the south side of Bennett Road. The site includes Moat Island to the southeast in the Lamprey River.
- Jackson's Landing, located about a mile and a half from the Project corridor, is a 4.5 acre waterfront site with tidal river and marshland near the intersection of Route 4 and Route 108. There is a boat ramp which is tide-dependent for motorized boats. The boat house and dock are shared by the Town and UNH. There is a picnic table and benches and a playground. The site is also home to Churchill Rink.
- Wagon Hill Farm, located about a mile from the Project corridor, is a 139 acre site with woodlands, fields, tidal marsh and bay. The main area is south of Route 4, and an undeveloped "40 Acre" portion lies north of Route 4. Although there is no boat ramp, there is a carry-in launch access at the beach, which is about half a mile from the parking lot.

The operation of the Project will not affect the continued use and enjoyment of these recreational facilities. The Project will not be visible from most of these facilities. The Visual Impact Analysis reviewed potential visibility from Adams Point WMA, Cedar Point, Longmarsh Preserve, and Wagon Hill Farm and determined that the Project would not have a negative visual impact on any of these sites.

Newington and Portsmouth

There are a few recreational facilities located near or in the vicinity of the Project corridor in Newington and Portsmouth, including:

- Newington Public School, located on Nimble Hill Road .17 mile from the Project corridor, has recreational facilities near the property which include a baseball field, playground, a multi-purpose court, and tennis courts.
- A playground and playing field are located approximately .30 mile behind the Old Town Hall and Langdon Public Library on Nimble Hill Road.
- A privately-owned indoor facility, USA Training Centers, is located on Gosling Road east of Woodbury Avenue, is a baseball and softball training facility that provides training sessions for youth throughout the winter, and holds camps and clinics

during school vacations and summer breaks. The existing transmission line corridor runs behind this building. Another indoor facility, the Atlantic Gymnastics Training Center, is located on the other side of the street at 150 Gosling Road in Portsmouth. The existing corridor runs by the east side of this building.

Construction of the Project will not affect the use of these facilities.

4.7 Conservation Lands, Open Space and Trails

There are some conservation and open space parcels in the vicinity of the Project corridor, most of which are located in Durham and Newington. While Madbury and Portsmouth both offer many conservation, open space areas and trails, none are located adjacent to the Project ROW.

Although portions of some trails will need to be closed temporarily during construction to ensure public safety, the Project will not have a significant adverse impact on the continued management and use of conservation lands and trails. These areas are summarized below by community.

Madbury

There are no conservation lands, open space, or trails adjacent to the Project corridor in Madbury. Pudding Hill Town Forest is located about a half mile north of the Project corridor. The Madbury Town Hall, located three quarters of a mile north of the Project, is part of a network of trails that connect with UNH's Kingman Farm and extend to the Bellamy River. The trail network is a joint effort of the Madbury Conservation Commission and the UNH Office of Woodlands and Natural Areas. Parking for the trails is at the Town Hall and on Route 155 near Kingman Farm House. There is no visibility of the Project from these lands and trails.

Durham

The Town of Durham lists several conservation and open space parcels which are accessible to the public. The existing corridor is near or is part of some of these lands as well as other conservation and open space sites in Durham. They include:

- UNH Horticulture Farm (Old Reservoir): This 155-acre forested parcel is owned by UNH and includes managed woodlands, a freshwater pond and marsh with a one-mile trail between the rear of the Gables and Spinney Road. A forested area of the parcel abuts the railroad tracks and Project corridor, north of the Gables parking lot.
- College Woods: This 240-acre UNH-owned parcel includes woodlands, a segment of the Oyster River, which is a water supply reservoir created by a dam on the river and approximately 3-4 miles of well-maintained trails. There are no picnicking facilities on site, and no formal parking area other than a few spaces near the UNH Police Station and a couple of pull-off areas on Mill Road. About 60 acres within the center of College Woods is designated as a Natural Area. It is about 740 feet west of the ROW. The Project corridor runs parallel to the railroad tracks on the far eastern end of College Woods, just north of Mill Road.

- East Foss Farm: This 165-acre forested site, owned by UNH, is located just south of Mill Road and east of the active railroad line. The site includes a 1.7-mile trail, one small segment of which crosses the power line (Yellow Trail). The other trails are not near the corridor. East and West Foss Farms are used for timber harvesting, non-motorized recreation, teaching and research. The property also is being managed to create early successional habitat for the New England cottontail. The Project runs along the existing corridor on the western edge of East Foss Farm. The Applicant has indicated that maintenance of the power line ROW will be conducted in a manner consistent with New England cottontail management efforts.
- West Foss Farm, located on the west side of the active railroad line, is a 93 acre site with woodland and pasture. There is a two mile loop trail with an entrance off Mill Road, and a 1.3 mile trail that connects with Thompson Farm. Parking is limited.
- Thompson Farm, located a quarter-mile from the Project corridor, is a 219 acre site with woodlands and fields and a one mile trail connects with West Foss Farm.
- LaRoche and Woodman Brook: This 134-acre parcel, managed by NHF&G as a Wildlife Management Area ("WMA"), acts to create early successional habitat for the New England cottontail. The ROW is in the southern portion of the parcel. Eversource has indicated that it will continue to maintain its ROW consistent with New England cottontail management efforts.
- Surry Lane Open Space: This 8.5-acre privately-owned parcel is located within the Sandy Brook Drive neighborhood. This parcel includes about 930 feet of the existing ROW.
- Kitfield Tract: This 64-acre parcel, owned by NHF&G as a WMA, hosts a pedestrian trail that starts at the small parking lot on Longmarsh Road, runs north through upland forest, across the utility ROW, and then drops down onto the town transfer station property near the outlet to the Horsehide Creek wetland. The Kitfield trail is part of a network of trails highlighted by the Great Bay National Estuarine Research Reserve, as part of a geocache "passport to Great Bay." The parcel includes about 1,970 feet of the existing powerline corridor.
- Longmarsh Preserve, adjacent to the Project corridor, consists of three contiguous parcels: the Langmaid Farm, Colby Marsh, and Horsehide Creek. It is bisected by the class VI portion of Longmarsh Road. Parking for a few cars is available at the end of the class V portion of the road. There is a local loop trail off of Longmarsh Road that crosses the existing powerline corridor. The Sweet Trail runs along Longmarsh Road jointly from west to east, then turns south and Longmarsh Road continues to the east. The Project does not cross the main stem of the trail, and there is no visibility of the Project on the Sweet Trail. The Colby Marsh Tract is a 15 acre site with a Beaver Pond and wildlife area that abuts Langmaid Farm. The Sweet Trail/Longmarsh Road runs along the northern boundary of this parcel. The Horsehide Creek Tract is a 50 acre is

located north of the Longmaid Farm Tract, and borders the Town Landfill. The existing electric corridor crosses this parcel.

- Chase Preserve: This 78.3-acre parcel is owned by TNC and is part of the Durham Point Sedge Meadow Preserve; the conservation easement is held by the Great Bay Resource Protection Partnership. The west side of the parcel includes about 1,765 feet pf the existing power line corridor before the ROW exits the conservation land, and re-enters the eastern side of the parcel for about 1,000 feet.
- Rollins III: This 56.6-acre privately owned parcel is protected by Conservation Easements held by the TNC, within the Crommet Creek Conservation area. The parcel is bordered by Rollins II conservation land to the south and east, Durham Point Road to the west, and forested area to the north. The parcel includes about 950 feet of the existing powerline ROW.

Newington

In the Town of Newington, the Project corridor passes through two conservation parcels. The Flynn Pit is a 19-acre, town-owned property east of Little Bay Road, across from the entrance to Gundalow Landing. The parcel is mostly forested and wetlands, including a small pond. The Project will be located underground around the pond and then will transition to an overhead design. The Project Team worked with the town to secure additional rights to be able to relocate the transition structure further away from Little Bay Road, reducing the visibility of the structure from the roadway.

The Darius Frink Farm Parcel is protected by a conservation easement. The 38-acre historic property includes a 2 ½ story brick house, a clapboarded garage, open field and a tree line near Old Post Road. Located near the intersections of Nimble Hill Road with Old Post Road and Little Bay Road, the parcel includes about 1,400 feet of the existing electric utility ROW.

The Project team successfully worked with the town, landowner, county, state and federal agencies to obtain an easement within the existing ROW to locate the line underground through the Frink Farm, and to remove and reroute the existing overhead line and structures to the roadway, eliminating the view of the Project through this parcel. The Project, by removing the existing distribution line, will enhance the conservation features at the Darius Frink Farm. See section 4.2 for other details about improvements proposed for the Darius Frink Farm.

Although not adjacent to the existing electric line corridor, the Newington Town Forest is located approximately .30 miles south of ROW, and has bridle and walking paths which are not marked or maintained. In addition, there is a bicycle and pedestrian connection at the end of Fox Point Road to Arboretum Drive, which is approximately 850 feet from the existing ROW.

Portsmouth

The small segment of ROW in Portsmouth is within a commercial/industrial area. There are no conservation lands or trails in the vicinity of the ROW.

Overall, the Project is not expected to have an adverse impact on conservation or open space land; it is located within or along an established utility ROW that in many cases pre-dates the conservation designations. New overhead structures will be located within an existing power line corridor where overhead lines already exist, and in some areas the line will be placed underground.

The Visual Impact Assessment concluded that the Project has overall limited visibility due to the extensive tree cover and flat topography, and in locations where the Project is visible at crossings, the area can absorb a visual change in a reasonable manner because utility infrastructure is part of the everyday landscape in this part of the State. In addition, the area "is better suited to accommodate a transmission line upgrade within an existing corridor than a more rural, undeveloped landscape without an existing corridor" (see Visual Impact Assessment, p. 93-95). The Project team has worked with the towns and land owners to reduce potential visibility of the Project in key locations, and the Project will not impact the on-going management of these properties. The Applicant will work with parcel owners to minimize potential temporary impacts from construction.

4.8 Historical/Archaeological Resources

Historic and archeological resource consultants have identified historical and archaeological resources along the Project corridor to assess potential impacts to those resources in consultation with the State Historic Preservation Office (SHPO) which is within the NH Department of Cultural Affairs.

The Project team consulted with the NH Division of Historical Resources (DHR), USACE, the Durham Historic Association, the towns, and consulting parties as part of the Project review. The DHR determined that no significant archaeological sites will be affected by the Project, but identified four historic resources that would be adversely affected by the proposed Project including Newmarket and Bennett Roads Farms Historic District; Durham Point Historic District; Little Bay Underwater Cable Terminal Houses Historic District; (which were designated by the Durham Historic Overlay District ordinance) and the Alfred Pickering Farm in Newington (see letter from DHR to USACE dated June 20, 2017).

The Project team proposed avoidance, minimization and mitigation measures for potential impacts to stonewalls crossed by the Project in the Newmarket and Bennett Roads Farms Historic District and the Durham Point Historic District. These measures include techniques such as rerouting access points, using existing openings in stone walls for access, or using timber mats to protect the stone walls. In addition, the Project reduced the visibility of the Project by reducing structure heights, using weathering steel H-frame structures and adjusting the structure locations.

For the impacts to the Little Bay Underwater Cable Terminal House in Durham, the Project proposed to fund and oversee the stabilization and relocation of the cable terminal house to a new foundation outside of the tidal zone, which will increase the longevity of the historic structure and allow for the restoration of the intertidal habitat. The cable terminal house will be rehabilitated to the Secretary of Interior Standards for the Treatment of Historic Properties, overseen by a qualified architectural historian.

In addition, the Project will develop interpretive displays for both Durham and Newington exhibiting examples of the historical and new underwater cable, explaining the differences in the technology and summarizing the history of the cable terminal houses. Each town's historic commission will choose a publicly accessible venue where the displays will be placed. The Project will also fund and oversee the development of an interpretive panel about the Little Bay Underwater Cable Terminal Houses Historic District and the engineering significance of the historic underwater cable, which will be placed at Fox Point in Newington.

For the Alfred Pickering Farm, the Project proposed design changes in structure height and materials to reduce the visibility, and proposed to plant tall-growing vegetative screening along the southern edge of the corridor to block the view of the Project from the property. In addition to design changes, the Applicant proposed two chimney restoration projects as mitigation for the visual effects of the Project on the Alfred Pickering Farm. These include chimneys for the Old Parsonage and the Meeting House, both of which are contributing elements to the Newington Center Historic District.

The Project will be located underground through the Frink Farm property which is a part of the Newington Center National Register Historic District. In addition to locating the Project underground through the property, the existing overhead line across the farm will be removed and relocated to existing poles on the street, restoring the historic landscape and view of the area. The DHR found no adverse effect for this area.

The review process has been conducted in conformance with the requirements of Section 106 of the Historic Preservation Act. These studies are covered in other consultant reports see Appendix 10, NH DHR Project Area Form, Appendix 11, SRP Preliminary Report Historic Resources, and additional Project Area Forms submitted May 27, 2016.

The NHDHR issued a final report on August 1, 2017 summarizing the process to date, and stating that they anticipate concluding negotiations to minimize and mitigate potential adverse impacts to historic properties. The agreements will be codified in a Memorandum of Agreement (MOA) with Applicant and the USACE and in a Memorandum of Understanding (MOU) with NHDHR. The NHDHR proposes four conditions of approval should the SEC approve the application for the Certificate of Site and Facility. These include incorporating the mitigation agreements; changes to the design would require consultation with the DHR/SHPO to resolve any issues; if any unanticipated archaeological, cultural or historic resources are discovered, the Applicant shall consult with the DHR/SHPO and resolve any issues if necessary; and authorizing the DHR/SHOP to specify the use of any appropriate technique, methodology, practice or procedure associated with the archaeological, historical, or other cultural resources affected by the Project.

4.9 Wetlands/Water Resources

There are two designated rivers within Project communities, the Oyster River and the Lamprey River Watershed. The Project crosses the Oyster River within an already developed corridor, and does not cross the Lamprey River. The Project team met with the Oyster River and Lamprey River Advisory Committees and NHDES prior to submission of the SEC application. In response to feedback from the town of Durham, the Project team secured additional easements from UNH to reroute the access for construction in order to

avoid the originally proposed Oyster River crossing, avoiding potential construction access impacts at the Oyster River crossing.

The Project was granted a license from the NH Public Utilities Commission (NHPUC) to construct and maintain electric lines, neutral wire and fiber optic cable over and across the public waters of the Oyster River and Little Bay in the Town of Durham, and Little Bay and Pickering Brook in the Town of Newington (see NHPUC DE 16-441, Order No. 25,998 issued March 10, 2017).

The Towns of Madbury and Durham have not identified or designated prime wetlands. The City of Portsmouth and the Town of Newington have designated prime wetlands. Consultants have identified wetland and water resources along the Project corridor to assess potential impacts to those resources. These studies and regulatory permits are covered in other consultant reports (see Appendix 7, Natural Resource Existing Conditions Report and Appendix 7a, Amended Natural Resource Existing Conditions Report; Appendix 13, Joint NHDES USACE Wetlands Permit Application and Appendix 13a Amended Wetlands Permit Application; Appendix 14, NHDES Application for Water Quality Certification and 14a Amended NHDES Application for Water Quality Certification; Appendix 15, NHDES Shoreland Permit Application and Appendix 15a Amended NHDES Shoreland Permit Application; and Appendix 34, Natural Resource Impact Assessment and 34a Amended Natural Resource Impact Report).

Construction of the Project will be subject to all permits and approvals issued by state and federal environmental agencies.

Little Bay

Little Bay is a part of the Great Bay estuary system which includes several tributaries (Winnicut River, Exeter/Squamscott River, Lamprey River, Oyster River, Bellamy River, Cocheco River, Salmon Falls River, and Great Works River); Great Bay; Little Bay; Piscataqua River; and Portsmouth Harbor. The Great Bay estuary covers 1,023 square miles: 776 square miles are located within New Hampshire and 247 square miles are located in Maine. Great Bay has a 144-mile shoreline made up of steep wooded banks with rock outcroppings, cobble and shale beaches, and fringing saltmarsh (see Piscataqua Region Estuaries Partnership website for more information).

Little Bay is used for a number of recreation and commercial purposes by residents, members of the public, and a few local companies. Boating is a popular activity in the area, which includes a number of public and private boat and land access sites. In Durham these sites include: Oyster River Landing, Jackson's Landing, Wagon Hill on Route 4, Cedar Point Launch, and Adams Point. Sites in Newington include Great Bay Marine, the Bloody Point shoreline at the end of Bloody Point Road on the Piscataqua River, the Great Bay National Wildlife Refuge, and Fox Point, which is limited to local residents. There are a few companies that offer kayaking tours throughout the area, and companies such as the Gundalow Company and Portsmouth Harbor Cruises that also offer boat tours of the area. The Project team has briefed these two companies about the Project and will coordinate with them once permitting is completed and a construction schedule is established. This will enable them to anticipate sailing routes to avoid the Project construction zone on Little Bay

and adjust their schedules if necessary, as they did during demolition and construction of the recently completed Sarah Long Bridge on the Piscataqua River.

In addition to boating, Little Bay is used for picnicking, fishing (for individuals and sometimes commercial charters), recreational shell fishing (for in-state residents only), and leased oyster farm areas. Other outdoor activities that occur in the Little Bay area include hiking/walking trails, cycling, and running (see Sections 4.6 and 4.7 above). For more details about the recreation and tourism uses around Great Bay and Little Bay, see *Review of Tourism and Regional Recreation Seacoast Reliability Project, July 2018.*

The Project will cross Little Bay within an existing dedicated cable corridor that is clearly depicted on navigational charts. The crossing has been the subject of many comments, including from the Town of Durham, which has expressed concern regarding the potential environmental impacts of the construction method proposed for the installation of the underwater cable; and Fat Dog Shell Fish, a leased oyster farm area, which expressed concerns about the impact on the oyster farm located approximately 1,000 meters north of the cable crossing easement.

The Project team has met many times with the various stakeholders including the municipalities, federal and state agencies, NHF&G, NHDES, USACE, and National Marine Fisheries Service (NMFS), UNH and oyster farmers, to hear and address their concerns, and have conducted a number of further analyses to provide additional information regarding potential risks to the environment. A number of design changes and additional studies have been made to the Project in response to these concerns and comments.

Construction activities include mobilization of cable laying equipment; removal of existing cables; clearing channel route of debris; constructing shoreline trenches; installing cables via jet plow; burying nearshore cable sections; installing concrete mattresses as needed; and test and commission cable (see pre-filed testimony of William F. Wall, dated March 29, 2017 for specific details).

Three methods are proposed for the installation of three submarine cables under the bay floor: jet plow, hand jet, and trench. These methods are commonly used for similar marine projects across the U.S. The jet plow guides the cable into the sea floor to bury it at the prescribed depth (3.5 feet in the shallows, 5 feet in the channel), while towed from a barge. The installation of the three cables via jet plow would occur over approximately three weeks. Actual installation of each cable would take less than a day, but each cable will also require several days of set-up before installation and connecting to land cables after installation. Work would occur in autumn to minimize impact to organisms in Little Bay and summer recreation.

Hand jetting is cable burial by divers near shore, where the jet plow cannot access areas near either shoreline. Divers use seawater pumped through a hose to a handheld nozzle to remove sediment from under the cable, to allow it to sink to 3.5 feet deep. The sediment then resettles over and around the cable. This part of the cable installation will occur for a few hours per day for approximately 30 days, because it can only be performed in low currents and ample water depths (high slack tide).

Trenching includes an excavator on shore, which will dig a trench where the submarine cables will be laid at 3.5 feet deep. The trenches will be 5-8 feet wide. On the Durham side, the trench for the submarine cable would extend onto the land to a transition structure,

where the line would continue overhead. On the Newington side, the trench would end at an underground manhole, where the line would continue underground, just past Little Bay Road, and then change to overhead at the transition structure.

The installation of the underwater cable will also include the installation of concrete mattresses to protect the cables near the shore on both sides of Little Bay. These mattresses are precast concrete forms that conform to the bottom of the seafloor. The July 2017 Addendum to the Visual Assessment concluded that "the concrete mattresses will not draw the eye to any great extent, and they will not be a substantive intrusion into the visual landscape. Due to their limited size, their minimal visual presence and the fact that they will readily fade into and become part of the surrounding shoreline and waterscape, the concrete mattresses will be a very minor feature of the landscape and will only minimally affect the viewer's experience of the water, the bay, and the views to the shoreline."

The NHDES recommended that the Alteration of Terrain, Wetlands, Water Quality Certification, Shoreland Protection Program permit applications be approved with a number of conditions (see NHDES Final Recommendations dated February 28, 2018).

The PUC found that the proposed crossing is "necessary for Eversource to meet the reasonable requirements of reliable service to the public" and that the license "may be exercised without substantially affecting the public rights in the affected public waters." The PUC granted the license to construct and maintain electric lines, neutral wire, and fiber optic cable under Little Bay on March 10, 2017 (see NHPUC DE 16-441, Order No. 25,998, p. 6).

The submarine cables will be under the bay and will not be visible, the transition structure on the Newington side will not be visible, and the concrete mattresses will not have an adverse impact. The visual assessment concluded that the transition structures to the underwater cable section in Durham will be visible from the water, but are over 2,000 feet from the active boat channel in Little Bay. The Project purchased additional property on the west shore to move the structure 360' back from its original location at the shoreline. The visual assessment concluded that visibility from the water would be "transitory and mitigated by the fact that the surrounding vegetation was as high if not higher than the structures themselves" (see pre-filed direct testimony of David Raphael, p. 15). In addition, the view of the Project from Great Bay and the National Wildlife Refuge will be limited because the "structures will be barely visible above the tree line and will not be prominent, or draw the eye. The intactness of the landscape and shoreline will not be compromised by the presence of the Project" (ibid).

4.10 Wildlife Habitat

Utility corridors are known to provide suitable habitat for a variety of wildlife species, including mammals, birds, reptiles, amphibians, and invertebrates. Species with small home range requirements may use a portion of a ROW as their primary habitats. Species with larger home ranges may use a ROW as a part of their overall home range, or as a travel/dispersal corridor. These corridors also may provide intrinsic habitat value as a relatively undeveloped habitat area in locations where the surrounding land use consists of commercial, institutional, and residential development.

The ROW abuts conservation areas in the central part of Durham that are being managed to provide shrubland habitat for the State Endangered New England cottontail. Portions of

UNH's Foss Farm are slated for shrubland creation while habitat management has already been implemented by NHF&G on the LaRoche Brook tract. Eversource is an active participant in the habitat management for New England cottontails in this portion of the ROW.

The Project also considered fish, shellfish, and oyster species in Little Bay, and migrating birds such as Canada geese, ducks, shorebirds, seabirds, bald eagles and osprey.

Wildlife consultants have assessed potential impacts in the Project corridor. These studies are covered in other consultant reports (see Appendix 7, Natural Resource Existing Conditions Report, and Appendix 7a, Amended Natural Resource Existing Conditions Report; Appendix 34, Natural Resource Impact Assessment and 34a Amended Natural Resource Impact Report; Appendix 37, Rare, Threatened and Endangered Species and Exemplary Natural Community Report; Appendix 38, Essential Fish Habitat Assessment; and Appendix 39, Biological Assessment for the Northern Long-Eared Bat). The Project is not expected to adversely impact wildlife resources (see testimony of Sarah Allen, April 12, 2016.)

Since it is primarily located within an existing powerline corridor, the Project will not have a significant impact on wildlife, and construction work across land and Little Bay will be subject to all federal and state permits and conditions.

4.11 Institutional/Government

UNH

The Project passes through a portion of the UNH campus along the existing railroad and electric line ROW. Between Route 4 and Main Street, the Gables student housing complex and several parking lots are located just west of the tracks. The Whittemore Center, parking lots and the Amtrak Station/Dairy Bar are east of the rail line.

The Project will extend underground on the edge of the UNH A-Lot parking area, cross under Main Street and daylight west of Waterworks Road and east of the Gregg Hall parking area.

The UNH Fieldhouse and Wildcat Stadium are located to the west of the underground line. A new soccer and lacrosse field is being constructed between Wildcat Stadium and the railroad and existing Project corridor ROW. On the east side of the tracks, UNH has a fire station, a combined heat and power plant, a few academic buildings, and student dorms. All of the dorms were constructed over the past 20 years. West of the ROW, Gregg Hall and, the UNH Police Department, and UNH operation/maintenance facilities are located along Waterworks Road. The combined heat and power plant is visible from several locations.

The Applicant has consulted with UNH and the town of Durham on the siting of the line along the proposed corridor. The Project team met with Durham and UNH numerous times to address issues and concerns to ensure that the Project will avoid, minimize and mitigate potential impacts to the environment and disruption to the public. To that end, the Applicant and UNH are negotiating a MOU that includes agreement on daily and weekly meetings, with the ability to stop construction on campus if there are any construction concerns; the hours and days for construction, time of year restrictions for excavation (after May graduation through the summer); installation of an electrical duct bank crossing under

Main Street which will be constructed and funded by Eversource for UNH; avoiding impacts on UNH playing fields and surrounding drainage systems; identification of access routes to certain overhead structures; use of weathered steel structures in wooded sections and galvanized steel for some structures as requested by UNH staff; procedures for tree removal, relocation and disposal; conformance with state and federal rules for blasting; vegetative screening and plantings, and repair and/or replacement of any existing utility systems impacted during construction.

When this agreement is in place, UNH and the Applicant will have taken all reasonable steps to avoid and minimize potential impacts during construction, especially with respect to the Whittemore Center, Memorial Field, Dairy Bar/Amtrak Station, A-Lot parking areas, the crossing of Main Street, Field House/Wildcat Stadium area, the site of the new soccer-lacrosse field and other adjacent uses. Once constructed, the Applicant will work with UNH to further mitigate any potential impacts, including the development of planting plans.

The visual assessment concluded that the visual effect of the Project on the UNH campus is "mitigated by the context and presence of surrounding elements – the existing corridor is adjacent to several large parking lots, local distribution lines, and more utilitarian campus uses such as physical plant and utility buildings and yards, can thus accommodate new structures" (see pre-filed direct testimony of David Raphael, p. 15). As discussed above, the Project is located under Main Street, avoiding and minimizing the visual impact on this valued community resource.

Pease Development Authority

The Project team met with staff from the Pease Development Authority prior to submitting the application to the NHSEC and have briefed them on the progress of the Project. The Project team has been coordinating with PDA's environmental compliance staff regarding the PFAS issues (see section 4.2 Agriculture) and will rely on NHDES to ensure that the soils and groundwater are managed according to NHDES requirements and guidance.

Great Bay National Estuarine Research Reserve

Great Bay National Estuarine Research Reserve (GBNERR) is part of a national network of protected areas and promotes long-term research, education, and stewardship throughout the Great Bay estuary. The Reserve begins at the General Sullivan Bridge at Dover Point, seven miles from the mouth of the Piscataqua River and Gulf of Maine. It covers 10, 235 acres, of which 7, 3000 acres is comprised of open water and wetlands. The Reserve boundary includes all of Great Bay and Little Bay as well as the tidal portions of the Bellamy, Oyster, Lamprey, Squamscott and Winnicut Rivers.

The Project crosses Little Bay within a designated cable crossing (see section 4.9). Construction of the Project will meet all state and federal permitting requirements and the Project team will coordinate construction activities with the US Coast Guard, Marine Patrol, NH Port Authority, NH Fish & Game, and fishing and boating interests.

4.12 Consistency with Prevailing Land Uses

The Project is generally consistent and reasonably compatible with prevailing land uses. It is located in and along an existing utility ROW and will not change land uses along the

corridor. The electric transmission system in New Hampshire was developed beginning in the early 1900's and is part of the fabric of development patterns in the state. The ROW contains electric lines constructed at different times, which are regularly upgraded and maintained as utility corridors to meet the needs of the region.

Siting a new transmission line—that will deliver reliable electricity directly to the communities the Project will pass through as well as numerous other abutting communities—along already developed corridors is a sound planning and environmental principle because it reinforces regional and local patterns of development and minimizes environmental impacts. The prevailing land uses along the corridor include the existing electric ROW which traverses across forests, agriculture, residential, commercial/industrial, transportation and utilities, conservation, historical and archaeological, wetlands and water resources, wildlife habitat, and institutional/ government. These uses have co-existed with the electric utility corridor as a part of the fabric of local development, and there will be no changes to the continuation of these uses as a result of the Project.

The addition of the Project to the existing ROW will not change the character of the corridor or the adjacent land uses. Most of the current ROW already contains existing overhead powerlines and over 3.5 miles of the route has active passenger and freight rail traffic adjacent to the ROW. In addition, about 2 miles of the Project is located underground. The SRP is a 115 kV overhead, underground and underwater transmission Project.[4]

As detailed in Section 5.0, the SRP is a project selected by the ISO-NE to meet the Seacoast Region's current needs for system stability and electric reliability. Another recently approved and constructed reliability project in New Hampshire is the Merrimack Valley Reliability Project ("MVRP") which was approved by the New Hampshire Site Evaluation Committee ("SEC"), on October 4, 2106 and completed in 2017. The MVRP is a higher-voltage 345 kV electric transmission line that was constructed within an existing ROW corridor through four municipalities in Southern NH (Pelham, Windham, Hudson, and Londonderry). The MVRP's structures were similar in average height to SRP at approximately 80 to 90 feet above grade.

The SEC found that the context of the project and siting it in an already existing ROW was consistent with the orderly development of the region, and that the project was consistent with Master Plans and ordinances of affected communities, and would not unduly interfere with the orderly development of the region. In addition, the SEC stated that "Our consideration of the impact of the Project on the orderly development of the region is informed by the fact that this Project is a reliability project that has been determined by ISO-NE to be necessary to assure continued system stability and reliability to the region" (see NHSEC Docket No. 2015-05 Decision and Order Granting Application for Certificate of Site and Facility, October 4, 2016, p. 58).

[4] See http://www.minnelectrans.com/transmission-system.html for an overview of typical transmission line structures and systems.

The SRP Project team has worked with the host communities and landowners to reduce potential visibility and aesthetic impacts. The flat topography combined with tree cover and woodland landscapes (with tree heights ranging from 55 – 65 feet) limits visibility of the Project. Where the Project is located underground there is no visibility, avoiding visual impacts. Typical overhead visibility of the Project will be at crossing points on local roads and state highways, a short section of the UNH campus, and crossing points on a few local trails, open fields and parking lots. There will be limited visibility from Little Bay (see *Visual Assessment for the Seacoast Reliability Project, April 2016* filed with the NHSEC application as Appendix 32 and *Addendum to the LandWorks Visual Assessment*, Appendix 32a).

As noted in the sections above, the Project made numerous design changes in these locations to address the concerns of municipalities, UNH, landowners and the NHDOT. A good example of this is in the Durham neighborhoods north of Longmarsh Road, where the design was changed to a two structure configuration, keeping the 115kV circuit and 34,5 kV circuit separate and the structures at or below the surrounding treelines and wooded areas, except where the NHDOT required variations at state road crossings. A summary of all the design changes that were made in collaboration with Project host communities, UNH, and residents can be found in the Pre-filed Direct and Amended Testimony of Kenneth Bowes, dated March 29, 2017 (pages 5-8).

Of the four Project host communities, Newington raised concerns about the compatibility of the Project with adjacent land uses. After redesigning the Project to locate it underground through key sections of residential and historic areas in town, there are only two overhead sections through residential areas: one section that runs parallel to Little Bay Road before it transitions underground (through the Darius Frink Farm and the historic district), and one section that crosses Fox Point Road and runs toward the highway before turning and running through Pease Development Authority land parallel to the Spaulding Turnpike.

For the section along Little Bay Road, the structure and line design were reconfigured along the tree line to reduce structure heights to 65' and 70', reducing visibility of the Project from Little Bay Road. The visual assessment concluded that visibility from Little Bay Road in this area will be limited due to the existing hedgerows that grow along the sides of the roadway which block most of the views of the corridor, so the Project is "not noticeable unless one is looking for it through the opening in the hedgerow at driveways" (see testimony of David Raphael, April 16, 2015, p. 14).

The Project design team also redesigned a section of the line that could be seen from Nimble Hill Road near the school, eliminating a structure from the open field and creating a longer span reducing the visibility of the Project. A visual assessment was conducted by LandWorks in this area and concluded that "Over the length of Nimble Hill Road, which is slightly more than a mile and a half in length, the potential views of any overhead structures would be quite brief" and that "the view towards the line is not a visually sensitive area – in fact, a smokestack is in the view along with the existing 34.5kV line. There are intervening trees, parking lots and buildings when viewed from the Nimble Hill roadside – all contributing to a pleasant effect, but not one that most people would consider out of the ordinary or particularly scenic in and of itself." *See* Addendum to LandWorks Visual Assessment, June 29, 2018, p. 2.

The visual assessment concluded that, overall, the measures employed by the Project team to avoid, minimize and mitigate potential impacts to aesthetics render the Project "reasonably compatible with existing conditions and will not create unreasonable adverse effects on aesthetics" (see pre-filed direct testimony of David Raphael, p. 16).

Potential Impacts of Construction on Land Uses

Construction impacts of the Project will be temporary in nature, and the construction process will be closely coordinated with the UNH, communities, nearby residents, businesses, and other stakeholders to avoid or minimize disruptions. The Project will be constructed utilizing conventional overhead, underwater and underground electric transmission line construction techniques. Construction activities include the establishment of marshalling yards and lay down areas; surveying and flagging of boundaries and resources; vegetation removal and corridor mowing in advance of construction; installation of soil erosion and sedimentation controls; construction of access roads and work pads; relocation of existing utility infrastructure; installation of foundations; installation of new structures; installation of conductor and shield wire; installation of underground cable; installation of submarine cable; substation construction; restoration of corridor; and testing and commissioning (see Application for Certificate of Site and Facility, dated April 12, 2016, pages 21-37).

Construction activities will be conducted in accordance with best management practices and limited to what is necessary to provide access to proposed structure locations, facilitate safe equipment passage, provide safe work sites, and maintain safe clearances. Potential temporary construction impacts include traffic delays or rerouting, short-term closure of some trails for safety, and management of construction-related noise, dust, runoff and sediments.

The Applicant has negotiated a MOU with the Town of Newington (including a an Addendum MOU to address blasting, if needed) and is in the process of finalizing MOUs with UNH and the Town of Durham. The MOUs address, or will address, the construction hours, general scheduling and establish lines of communication for the duration of construction. Provisions of the MOUs include protocols for daily and weekly meetings; abilities to stop construction; use of public roadways; road construction and restoration standards; financial guarantees for damage; the hours and days for construction; time of year restrictions for excavation; identification of access routes to certain overhead structures; use of weathered steel structures in wooded sections and galvanized steel for some structures; procedures for tree removal, relocation and disposal; conformance with state and federal rules for blasting; vegetative screening and plantings and repair and/or replacement of any existing utility systems impacted during construction.

Specific provisions for the Town of Newington include wildlife protection and monitoring, landscape restoration, and using the Town's engineering firm for construction monitoring, inspection and approval. Proposed provisions for UNH include installation of an electrical duct bank crossing under Main Street which will be constructed and funded by Eversource, and avoiding impacts to UNH playing fields and surrounding utilities.

The Project team also conducted meetings and site visits with officials from the Town of Madbury and the City of Portsmouth to discuss construction processes, identify any potential issues and to establish and maintain lines of communication. Construction of the

Project has been carefully designed to address local issues and to avoid and minimize potential impacts to adjacent land uses.

5.0 Local and Regional Planning

The Seacoast Region

The Seacoast region is one of the fastest growing areas in New Hampshire. The two counties that comprise the Seacoast region, Strafford and Rockingham Counties, are two of the fastest growing counties in New Hampshire, experiencing gains over the state as a whole in key measures of economic growth: population and employment.

From 2007 to 2017, New Hampshire's overall population grew by just 2 percent, substantially lagging the US population growth (8 percent) and also slightly trailing the overall Northeast region growth rate. However, within New Hampshire, Stafford County and Rockingham County experienced the highest population growth rates, with Strafford at 5 percent and Rockingham at 3.5 percent, exceeding the overall population growth in the Northeast over the ten-year period. [5]

The Durham Master Plan Demographics and Housing Chapter provides growth projections for the time period between 2010 to 2040 that show Durham growing by approximately 17%, nearly twice what is projected for the State, and the Strafford region is expected to grow approximately 13% for the same period. The Portsmouth Housing Existing Conditions Report notes that although Portsmouth itself is expected to see marginal growth in the coming decade, other communities in the region are expected to experience substantial growth.

Employment growth in the Seacoast region of New Hampshire also substantially outpaced the state as a whole. Over the ten-year period from 2006 to 2016, employment increased by 2.9 percent statewide. Strafford County, at 8.8 percent, saw the highest growth rate in employment for any county during the ten-year period. Rockingham County, at 6.2 percent employment growth during the ten-year period, tied for the second fastest rate. [6]

Recognizing this growth and the strain that it has placed on reliability, the Project was selected by ISO-New England (ISO-NE) as an important electricity reliability project for the Seacoast region of New Hampshire. [7] As part of its responsibilities, the ISO-NE plans for

[5] United States Census Bureau, Total Population, American Community Survey 1-Year Estimates, 2007 – 2009; United States Census Bureau, Annual Estimates of the Resident Population, April 1, 2010 – July 1, 2017; and New Hampshire Office of Strategic Initiatives, Population Estimates.

[6] New Hampshire Employment Security, Economic + Labor Market Information Bureau (ELMI), New Hampshire Community Profiles, Labor Force, Annual Average 2006 – 2016, January 2018.

[7] ISO New England Inc. (ISO) is the not-for-profit corporation responsible for the reliable and economical operation of New England's electric power system. It also administers the region's wholesale electricity markets and manages the comprehensive planning of the regional power system (see *2017 Regional System Plan*, November 2017).

reliability transmission upgrades that are necessary to ensure the continued reliability of the New England transmission system. The ISO-NE identified the Seacoast region as an area where additional transmission capacity is needed to support the reliable delivery of electric power to meet the Region's current demand and future increased demand.

The most recent ISO Regional System Plan, released in November, 2017, discusses the electric transmission system in New England which consists of mostly 115 kV, 230 kV, and 345 kV transmission lines. In northern New England, these lines generally are longer and fewer in number than in southern New England (ISO-NE *2017 Regional System Plan*, p.68).

The testimony of Robert Andrew, submitted with the application on April 12, 2016 provides additional information about the 115 kV SRP, which is part of a suite of projects that are needed for the stability and reliability of the regional system. *See also* Supplemental Pre-Filed Testimony of Robert Andrew discussing direct benefits to the Seacoast Area.

Local and Regional Plans

Site 301.09 requires that each application provide information regarding master plans of affected communities, and zoning ordinances of host municipalities. This section provides a description of the long range plans developed by host municipalities and regional entities that address the land use topics examined in Section 4.0 of this report. Information about plans of municipalities which abut host communities is located in Appendix 46. The policies and goals expressed in these long range plans are aspirational and are intended to help guide future development. They are not intended to apply to any specific project or proposal.

The Project is located in four towns within the purview of two regional planning commissions: Strafford Regional Planning Commission (SRPC – Madbury and Durham) and the Rockingham Planning Commission (RPC – Newington and Portsmouth). Each region's long-range planning documents were thoroughly reviewed to understand regional development goals and policies. Local master plans were also reviewed and evaluated with respect to land use and future development. Input from regional planning commission staff, as well as local planners, assisted in understanding the conditions present in each region and the goals for future development.

The Project is generally consistent with the broad land use policies, goals and strategies of local and regional plans, and will not interfere with their implementation. The Project follows existing corridors so as to have the least amount of impact on local land use patterns and to help ensure it is consistent with the orderly development of the region.

The Project will also serve the region by increasing stability and reliability and avoiding disruptions of the power supply in the region, providing an increase to the local and State tax base, and by creating job opportunities during the construction phase of the Project.

The Project team has considered the views of local municipalities, abutters, and the region, and made many changes to the Project design which will help to avoid, minimize and mitigate potential impacts of construction and operation of the Project on the environment, historic sites, aesthetics, and private property while meeting the electric reliability needs of citizens, businesses, and institutions in the region.

5.1 Regional Plans

Regional Planning Commissions ("RPC's") have a duty to prepare a coordinated plan for the development of a region, taking into account present and future needs with a view toward encouraging the most appropriate use of land, such as for agriculture, forestry, industry, commerce, and housing; the facilitation of transportation and communication; the proper and economic location of public utilities and services; the development of adequate recreational areas; the promotion of good civic design; and the wise and efficient expenditure of public funds (RSA 36:45-48). Each regional planning commission is tasked with working with local communities and seeking direct input from citizens when developing the regional plan.

All of the nine RPC's in New Hampshire recently updated their regional plans as part of a statewide effort called "A Granite State Future," which was funded by a grant from the U.S. Department of Housing and Urban Development ("HUD") and administered by the Nashua Regional Planning Commission. These plans are intended to serve as advisory documents that provide a broad range of demographic and other planning data for municipalities in each region to use as a resource when updating their own plans, as well as for a host of other purposes, such as for economic development or conservation initiatives.

Strafford Regional Planning Commission ("SRPC")

The SRPC, based in Rochester, is the regional planning agency for 18 communities which include portions of Strafford, Rockingham, and Carroll Counties, including Project area communities Madbury and Durham. SRPC also serves as the Metropolitan Planning Organization ("MPO") for the region and is responsible for long-range transportation planning and programming of federal funding for transportation projects.

The Strafford Regional Planning Commission adopted a regional plan in January, 2015, called "Local Solutions for the Strafford Region." The plan examines topics such as quality of life; water infrastructure; housing; economic development; transportation; environment, recreation and land use; energy efficiency; climate change impacts and adaptations; emergency management; and an integration matrix. The energy efficiency executive summary notes that reliable sources of energy are critical for the economic stability of communities.

The plan does not make any recommendations directly applicable to the Project. The Project is consistent with the regional plan as it seeks to protect and reinforce existing land use development patterns, and provides benefits to the region in terms of regional reliability of the electric grid, supplying stable electrical capacity to the rapidly growing companies in the region, and supporting future economic growth. Additional positive impacts to the local economy include new construction jobs, long-term property tax revenues, support for public safety and the region's overall quality of life. In addition, a number of design changes have been made to the Project based on meetings with the communities, UNH and property owners to address concerns about the project and to avoid, minimize and mitigate potential impacts.

The Project team met with SRPC Executive Director Cynthia Copeland and a few staff members in 2015 prior to the application filing. Issues identified by the discussion included potential impacts to conservation land, the need to present solid facts and documentation in

reporting, and on-going development of the draft Durham Master Plan. The staff had questions regarding alternative routes considered, structure heights, projected tax revenue, and crossing Main Street in Durham. The staff recommended that the Applicant meet with UNH to discuss any campus-related issues, and in response were advsed that meetings with the towns and UNH were already occurring.

Director Copeland submitted a letter dated January 3, 2017 to the NHSEC regarding the importance of preserving the environmental health of the Great Bay Estuary which includes Great Bay and Little Bay. The letter references a report, *How People Benefit from New Hampshire's Great Bay Estuary*, produced by the NHDES Coastal Program, which is the result of an Ecosystem Services Assessment conducted by the National Oceanic and Atmospheric Administration (NOAA) and Easter Research Group. Copeland noted that activities such as dredging can be a stressor that "may have a negative impact on key habitats due to suspended sediments, though the modeling does not specifically calculate the impacts from individual dredging and underwater transmission line projects."

As detailed in Section 4.9 above, the Applicant recognizes the importance of Great Bay and has been working with its consultants, regulatory agencies, and others to ensure that potential impacts to Little Bay from the cable crossing are conducted in an environmentally responsible manner using best management practices.

Normandeau recently discussed the Project with SRPC's new Executive Director, Jennifer Czysz, to provide an update on the Project. Director Czysz agreed to reach out to the Project team should the SRPC identify any additional issues that should be addressed. SRPC has not taken position with regard to the Project.

Rockingham Planning Commission ("RPC")

The RPC is based in Exeter and is the regional planning agency for 27 municipalities in Rockingham County, including Project area communities Newington and Portsmouth. RPC also serves as the MPO for the region and is responsible for long-range transportation planning and programming of federal funding for transportation projects.

The Rockingham Planning Commission adopted the 2015 Regional Master Plan for The Rockingham Planning Commission Region in the spring of 2015. It includes a regional overview, vision statement and goals, and chapters on land use, transportation, economic development, housing, natural resources, natural hazards, historic resources, energy, climate change, and an implementation strategy. The plan also examines potential growth and economic scenarios. The regional vision statement is as follows: "the southeastern New Hampshire region enjoys a high quality of life represented by a strong regional economy, distinct community character, and outstanding natural and recreational resources. This has been achieved through careful planning, wise stewardship of natural resources, infrastructure investment, and increasing regional cooperation on shared issues." The goal of the region is to "promote efficient use of land, resources, and infrastructure in southeastern New Hampshire."

The energy chapter discusses grid modernization and the potential benefits including better outage response time and increased reliability, as well as improved efficiencies for

transmission utilities. Anticipated benefits from the Project include increased grid reliability, consistent with the advantages outlined in the RPC energy chapter.

The Project is consistent with the regional plan in that it supports electric grid reliability in the region and will help meet the needs of the region's citizens and businesses and support the regional economy by providing a stable, reliable electric grid.

The Project team met with Executive Director Cliff Sinnott in 2015 prior to the application filing. Issues identified in the discussion included updated land use data for Newington, importance of visual references for structures at key locations, including the Darius Frink Farm in Newington, and other public locations. Questions included cost of underground lines and overhead lines. The Project team made a follow up presentation to the RPC's Regional Impact Committee. RPC did not take a position on the Project and did not submit any comment letters.

Normandeau discussed the Project with the new RPC Executive Director, Tim Roache, on April 24, 2108, to provide an update on the Project since the initial filing. The discussion centered on issues such as locating OH structures on Little Bay far enough away from water so they will not be affected by sea-level rise, and that the Project should coordinate with the Northern New England Passenger Rail Authority and Pan Am railroad to ensure that it would not interfere with railroad operations. Director Roache agreed to reach out to the Project team should the RPC identify any additional issues that should be addressed.

5.2 River Corridor Management Plans

The New Hampshire Rivers Management and Protection Program was created in 1988 to help protect and manage the state's river resources. The program is administered by the New Hampshire Department of Environmental Services (DES) in accordance with RSA 483. Currently there are about 20 designations in New Hampshire, covering over 1,000 miles of rivers, river segments and tributaries.

There are two state-designated rivers with segments in Project area communities: the Oyster River flows through Madbury and Durham, and the Lamprey/Lamprey River Watershed includes a portion of Durham. The proposed electric transmission line crosses the Oyster River in Durham within the existing ROW. The crossing location is west of the railroad and north of Mill Road. The Project does not cross the Lamprey River or the other rivers included in the Lamprey Watershed designation but a small segment of the ROW is within the watershed.

The Project team met with both the Oyster River Local Advisory Committee and the Lamprey River Local Advisory Committee to discuss the Project, and their input has been considered by the Project Team and NHDES as part of the permitting process. In response to concerns about environmental impacts to the Oyster River, the Project team secured an easement with UNH to reroute the access for construction in order to avoid the originally proposed Oyster River crossing.

Oyster River

A 14-mile section of the Oyster River was designated into the NH Rivers Management and Protection Program in 2011. The river flows east from its headwaters in Barrington through

Lee, Madbury, and Durham, before entering Great Bay. The designation does not include the tidal portion of the river below the Mill Pond Dam in Durham.

The Oyster River designation classifies two segments of the river as "rural community": the area from Hall Road in Barrington to Old Mill Road in Lee; and the area from Route 155 in Lee to the Oyster River Dam in Durham, except for a segment in downtown Durham which is classified as a "community river". The segment from Old Mill Road in Lee to Route 155 is classified as "rural". The Project corridor crosses the Oyster River within the "community" segment between the Mill Pond Road Dam and the Oyster River Reservoir Dam.

The most recent river corridor management plan was prepared by the Oyster River Local Advisory Committee in 2014, and addresses topics such as natural resources, management of impoundments and flows, natural and cultural resources, open space, recreation, water quality and quantity, withdrawals and discharges, instream flows, land use and local regulations, priority management issues, goals and implementation strategies. The Plan notes the utility crossing, but does not make any specific recommendations directly related to the Project. The Project is consistent with the river corridor management plan and will not interfere with its implementation because it follows an already developed electric utility corridor, and the Project has adjusted the design to avoid and minimize potential impacts to the river.

Lamprey River

The Lamprey Rivers Management Plan was prepared by the Lamprey Rivers Advisory Committee and adopted in 2013. The river segment in Durham and Lee was designated into the NH Rivers Management and Protection Program in 1990 and in 2011 the designation was expanded to include the entire Lamprey River and five of its tributaries: The Little, North, North Branch, Pawtuckaway and Piscassic Rivers, a total of about 88 miles. A large portion of the Lamprey River in Newmarket, Durham, Lee and Epping is designated as a National Wild and Scenic River, a distance of about 23 miles stretching from the former Bunker Pond Dam in Epping to the confluence with the Piscassic River in Newmarket.

The 2013 plan includes seven focus areas each of which includes goals, accomplishments and recommended future actions. The focus areas include: Enough Clean Water; History and Archeology; Land Protection and Conservation; Outreach and Education; Project Review and Comment; Recreation and Public Enjoyment; and Wildlife and Ecology.

While the Project corridor does not cross the Lamprey River or any of the five tributaries, a small segment of the ROW is located within the watershed. The Project will not interfere with the implementation of the goals of the Management Plan.

5.3 Scenic and Cultural Byways

The New Hampshire Scenic and Cultural Byways Program was established in 1992 under RSA 238:19, "… to provide the opportunity for residents and visitors to travel a system of byways which feature the scenic and cultural qualities of the state within the existing highway system, promote retention of rural and urban scenic byways, support the cultural, recreational and historic attributes along these byways, and expose the unique elements of the state's beauty, culture and history". The administration of the program is through the

NHDOT, Bureau of Planning and Community Assistance. New Hampshire's Scenic and Cultural Byways program is tied directly to the National Scenic Byways Program.

The State of New Hampshire has nearly 20 state-designated scenic byways, totaling over 1,000 miles. There are scenic and cultural byways in every region of New Hampshire.

Designation of a state or local road or highway as a scenic and cultural byway "shall not affect the operation, maintenance and expansion of existing public utility lines and facilities, or be construed to require any public utility to install any of its lines or facilities underground" (NH RSA 238:22, II).

There are three state-designated scenic byways in the seacoast area of New Hampshire, including Independence Way, from Hampton to Exeter; the Coastal Byway along New Hampshire's coastline from Seabrook to Portsmouth; and Mills Scenic Byway from Newmarket to Rollinsford. The Independence Way Byway and the Coastal Byway do not intersect the Project corridor.

The Mills Scenic Byway was designated in 2014 and includes an approximately 12.1-mile route along Route 108 and Route 4 through the towns of Newmarket, Durham, Madbury, and Rollinsford (the segment in Dover is not designated). The Scenic Byway Corridor Management Plan was adopted in September, 2016. The plan recommends that the towns work with local utility companies on design strategies for utilities along the route (Mills Scenic Byway Corridor Management Plan, September 2016, page 42). NH Route 108 is currently under construction by the NH DOT (Project #13080). It was proposed as a Transportation Enhancement project by the NH DOT to construct 4-foot bike shoulders and miscellaneous safety improvements from just south of the Oyster River Bridge in Durham southerly to Bay Road in Newmarket (3.4 miles). Construction on the project began in March, 2017 and is expected to continue through November 2018.

The Project ROW intersects Newmarket Road/Route 108 in Durham near the intersection of Longmarsh Road. In response to concerns raised by the Town about the potential visual impact on Route 108, the Project changed the line design from double circuit monopole to double circuit H-Fame to reduce structure heights, reducing visibility of structures from Bennett Road and the Route 108 crossing. The Applicant also modified the design of the 34.5kV line in this area to reduce wetland impacts and conform to newly completed distribution line and road construction at the transmission line crossing. In the November 21, 2016 Progress Report, NHDOT stated it had no concerns with the proposed aerial crossing of Route 108.

The Project is consistent with the Mills Scenic Byway Corridor Management Plan in that it is located along the existing electric transmission line ROW which predates the designation; there is no new crossing of Route 108, and the Project has consulted with the town and NHDOT, and made changes in line design and reduced structure heights to minimize potential or perceived visual impacts in the area.

5.4 Municipal Plans and Zoning Ordinances

This section summarizes and provides information about the master plans and zoning ordinances in the Project's host communities. The master plans of municipalities abutting Project host communities are located in *Review of Master Plans in Abutting Municipalities*,

Appendix 46, dated February 2018. A review of these documents helps to inform the SEC about land use.

Every planning board in New Hampshire must prepare a master plan to help guide the future development of the municipality (see NH RSA 674:1).

A master plan is required to have two sections: a vision section that contains "a set of guiding principles and priorities," and a land use section that "translates the vision statements into physical terms" (NH RSA 674:2, II). A master plan may also contain optional sections such as transportation, community facilities, economic development, natural resources, natural hazards, recreation, utility and public service, historic and cultural resources, regional concerns, neighborhood plans, community design, housing, implementation, energy and coastal management.

By design, master plans provide the overall vision for future development, and generally do not contain specific regulations or criteria for project evaluation. Many master plans are therefore general in nature and cite aspirational desires such as protecting the unique rural character and preserving the quality of life in the community.

Community character or rural character is generally a difficult concept to articulate, and some plans describe the visual, historic and social qualities of the community that together create the distinct character of each community. When it comes to protecting community character while accommodating for future development, master plans often cite general land use principles to guide new development. These include principles such as guiding new development to occur within or adjacent to already developed areas. This principle also protects open space and minimizes environmental impacts from development. Aspirational goals and objectives within a master plan may conflict with each other, and specific development projects almost always conflict with one or more of these general goals, such as increasing commercial development to increase the tax base, and protecting and preserving natural resources or community character.

In almost all master plans, most of the goals and objectives are not associated with regulatory recommendations. Master plans often include analysis of the status of and future needs for things such as community facilities (including schools), local economic development, recreation, historic and cultural resources, and regional concerns. There are a variety of tools and actions available for communities to these achieve goals and objectives that are not regulatory.

A master plan is adopted by the volunteer planning board. It is not adopted by town meeting or by town council/city council vote and is not a regulatory document. It is not used for siting or land use decisions, but rather, it sets forth aspirational land use and development principles to help guide the board in designing land use regulations such as zoning ordinances, site plan and subdivision regulations, and guides the board in the performance of its other duties (see NH RSA 674:2). It is not uncommon for a planning board to propose an ordinance consistent with the master plan only to have the town meeting reject the proposed regulation.

Master plans are required in order for a municipality to legally adopt a zoning ordinance (see RSA 674:18) and other land use regulations. Zoning ordinances are supposed to implement the general policies of the master plan, and are designed to help regulate the use of land for the purpose of protecting the public health, safety, convenience, and general

welfare, and to promote the orderly growth of communities. Where Master Plans are adopted by the planning board after a public hearing, zoning ordinances are regulatory and must be adopted by the voters at town meeting, or by a city or town council. This higher threshold often makes it much more difficult to implement goals set forth in master plans. For example, proposed zoning and other regulatory changes intended to implement the master plan vision are sometimes voted down by the town. In other cases, regulations are passed which are intended to implement the plan, however, they allow for projects to go through that may appear to be inconsistent with the master plan.

The nature of energy facilities under SEC jurisdiction, especially linear transmission projects, is that they often cross municipal boundaries and multiple zoning districts. The SEC process, therefore, provides for a resolution of issues in an integrated fashion. RSA 162-H and the SEC rules do not require that a project conform to local zoning ordinances. The Committee is required to give due consideration to the views of municipal and regional planning commissions; however, a project before the SEC—specifically one that traverses multiple municipal boundaries and zoning district—is not bound by the specific requirements of each municipality. If there was such a requirement, a project would be subject to a patchwork of inconsistent local municipal regulations that would make it virtually impossible to design and site a single project to comply with the various regulations. In the SEC context, master plans and zoning ordinances should be considered as part of the background to understand land use and development in a community. For example, a review of local master plan and zoning ordinances may show that there is a better route, such as running a gas or electric line along an existing available corridor rather than creating a new one, or that an Applicant should consider avoiding a parcel where the town proposes constructing a new town facility such as a school or library.

Almost all utility corridors in New Hampshire cross a number of zoning districts as they pass through communities. In many cases, zoning ordinances were established after the electric line ROW, and the regulations have allowed for other development, including residential and commercial uses, to be located and built in the vicinity of the ROW. In general, most zoning ordinances do not specifically address electric or utility transmission lines or utility easement corridors as a use. Some ordinances designate specific zoning districts, usually industrial parks or commercial areas, as appropriate for larger generation facilities such as power plants. Many municipalities have adopted small wind energy system ordinances to comply with RSA 674:62-66, which requires that municipalities allow for the development of these energy systems of not more than 100 kW (not subject to SEC jurisdiction), and not unreasonably limit the installation or performance of the system including restrictions on heights, setbacks, or noise level of the structures.

In addition to reviewing local master plans and zoning ordinances, input from local planners was obtained regarding existing land use, local master plans and future development within and adjacent to the Project corridor, identification of development that has been approved but not yet constructed, and future development potential. In each community, the existing land use and zoning have evolved around the pre-existing corridor and adjusted to its presence, and is part of the fabric of development in the community.

Madbury

Master Plan

The Madbury Master Plan: Toward the Year 2010 was prepared by the Town of Madbury Planning Board and the Strafford Regional Planning Commission. The Planning Board adopted the Master Plan in 2003. The document includes a vision statement and many policies and recommendations associated with water resources, natural resources, historic resources, land use, transportation, town facilities/services, housing, and overall vision for the community. Madbury's vision statement is to "be a quality residential community that preserves and maintains the town's historic and rural character." To help achieve this vision for Madbury's citizens, the Plan sets forth policy goals in order of priority. One of the major initiatives of the plan is the preservation of open space and rural character.

Policies for specific sections of the 2003 Master Plan address water resources, natural resources, historic resources, land use, agricultural land, residential land, civic district, recreation, town facilities and service, commercial and industrial development, economic viability, transportation, and housing.

The Master Plan vision section recommended three major initiatives: (1) water quantity and quality protection; (2) preservation of open space and rural character; and (3) town center improvements.

The Madbury Master Plan Committee has been working to update to the Master Plan since 2013. The Committee conducted a community survey in 2014 and a summary is posted on the Planning Board's website. The summary concludes that the survey results seem to support the 2003 Community Vision; the results appear to be consistent with the major Issues of the 2003 Plan; survey respondents were generally satisfied with the town's services and like living in Madbury; respondents favored agriculture or home-based businesses including bed & breakfasts; and the results indicate support for senior housing, but not housing requiring increased density, and support for diversity of housing.

The Committee also completed a draft of the Population and Housing Chapter in 2014 which reviews the town's population trends and characteristics. The data indicate that although Madbury has an aging population, future growth is expected to be moderate. The town has a high percentage of family households, and the highest educational levels in Strafford County. The housing section reviews the town's current housing trends which indicate that Madbury's housing stock is largely single-family and owner-occupied. The plan notes that Madbury's housing growth rate (28%) is greater than the County (12%). Much of this is larger homes with a median price of $345,000 (2011). The chapter sets forth seven housing goals.

In March, 2018 the Madbury Planning Board conducted a review of the 2003 Master Plan Recommendations and noted where progress or changes have been made since the Master Plan was written. None of these directly pertain to the Project.

Among the ten policy goals included in the plan, the most pertinent to the Project are:

- Preserve Madbury's rural atmosphere and landscape. Protect and manage open space, wetlands, forests, fields, agricultural resources, scenic vistas, and historic resources for the benefit of present and future generations.
- Plan and implement a safe, attractive and efficient transportation network.

The Project supports the goal to preserve Madbury's rural atmosphere and landscape, which is also a key goal in Madbury's Land Use section. Improvements to the substation will be within the existing footprint, and by using an already developed corridor for the transmission line, the Project preserves other open spaces in Town essential to the Town's rural character and natural resources.

The Project supports the goal of a safe and attractive transportation network. The Project team worked with the Town of Madbury and made adjustments to address the town's concern about the visibility of the structures from Madbury Road. These adjustments included the purchase of additional property and easements along the railroad tracks near Madbury Road, expanding the ROW, reducing structure heights and eliminating two structures. The Project team has also discussed traffic management with the town, and has committed to working with the community to minimize traffic impacts and protect public safety.

Zoning Ordinance

The Madbury Zoning Ordinance outlines the permitted uses and dimensional requirements for the Town's zoning districts. The zoning ordinance establishes three districts, the General Residential and Agricultural District; the Civic District; and the Commercial and Light Industry District. The town also has a number of overlay districts including Wet Area Conservation; Aquifer and Wellhead Protection; Shoreland Protection; Telecommunication Facilities; and Flood Hazard Area. The Madbury substation, electric line and railroad corridor are located within the town's General Residential and Agricultural District.

The General Residential and Agricultural District is intended for low-density residential development while maintaining the open, rural character of the land for agricultural purposes. No other uses other than those specified are permitted, except those identified as special exception uses. Permitted uses include single, two family and tourist dwellings; farms; sale of home produce and products and agricultural products; nursing home, assisted living facilities and hospice facilities and accessory buildings; and accessory apartments. Agritourism is permitted with a conditional use permit. Home occupations with no outside employees (Level I) are permitted, and all other home occupations (Level II) require a conditional use permit from the Planning Board. Special exception uses include the replacement of a dwelling while an existing dwelling remains on the site, and the expansion, enlargement, change or intensification of a non-conforming use.

The ordinance does not list electric utility facilities or power lines as a permitted or conditional use in any of its base zoning districts. The ordinance allows for industrial and commercial enterprises in the Commercial and Light Industrial District, but does not have a specific list of uses. However, the ordinance allows for the construction of powerlines and transmission as a conditional use in the Shoreland Protection Overlay District. These are permitted with a Conditional Use Permit from the Planning Board under certain conditions that are designed to minimize impacts to shoreland areas and restore the site to original conditions. The Project does not fall within the Shoreland Protection Overlay District in Madbury.

Durham

Master Plan

With the assistance of the Strafford Regional Planning Commission, Durham recently completed the process of updating its Master Plan. Ten chapters were adopted in 2015 including: Vision and Community Character; Existing Land Use; Housing and Demographics; Agriculture; Energy; Recreation; Natural Resources; Economic Development; Historic Resources; and Downtown and Commercial Core. The master plan update was completed in 2018 when the planning board adopted the Future Land Use Chapter on January 24, 2018. Each of these chapters can be reviewed on the Town's website.

The Town's master plan vision statement is:

> *In 2025 and beyond, Durham is a balanced community that has successfully maintained traditional neighborhoods, natural resources, rural character, and time-honored heritage, while fostering a vibrant downtown, achieving energy sustainability, and managing necessary change. Durham has effectively balanced economic growth, which has been essential in supporting our schools, resources, and town services, and stabilized property taxes. Durham has encouraged mixed residential and commercial development in and near the downtown including retail establishments, offices, services, eateries, and other businesses that serve local needs and interests while attracting visitors from neighboring vicinities. In designated areas beyond downtown, balanced development was accomplished by prudently integrating our community's range of values. Through forward-thinking engagement on the part of our citizens and town government, in tandem with continued pursuit of a productive partnership with UNH, our vision for Durham was realized.*

The factors that Durham identified as contributing to community character and the quality of life in town are natural beauty; recreation; strong school system; cultural, agricultural and historic resources; engaged citizenry; and the university. Quality of life factors that the town strives for include diversity; better integration with the university; a vibrant downtown; finding balance between economic development and retaining small town characteristics; and finding a balance in the partnership with the university. The overarching development policy guiding the master plan chapters is smart growth. As noted in the Town of Durham Master Plan Existing Land Use Chapter, "Land use is closely tied to a town's physical environment and its community character. Durham's existing land use patterns are a physical expression of the town's values, goals, and vision as they will in turn affect the location, type, and extent of future land uses and the growth of the community."

The Energy Chapter of the master plan discusses the "three pillars" of energy policy in Durham: Building Design and Land Use; Transportation; and Alternative and Renewable Energy Sources.

To solicit public input on future land use, the Durham Planning Board held an all-day Future Land use Community Forum at Holloway Commons on Saturday, May 13, 2017. Over 100 people attended, including members of the town council, planning board, town administrator, town planner, four regional planning commission staff, members of the master plan land use committee, and other town boards and committees, UNH faculty and staff and many local citizens representing a wide range of interests. Several individuals served as meeting facilitators.

Participants were asked to share their views about what they love about living in Durham; what they hope the community will be like ten years from now; and what advice they have for the planning board's Land Use Committee as they seek to balance the needs of the community going forward. The land use questions were related to preserving and protecting the natural environment; agriculture and farm land; enjoyment of the land; housing; business and commercial development; and the downtown. Maps developed from input provided during the forum include Areas for New Business and Areas to Avoid for Development. The areas desired for new business were mostly focused along the Main Street, and the greatest areas to avoid for new development was along Route 108 south of Main Street and portions of Route 4 and Route 155A.

Feedback on these topics was provided in a variety of ways, including facilitated small group discussions, color-coded preference dots, placement of development options on maps, and completing individual cards noting their recommendations. A total of 157 advice card recommendations were submitted, all of which were grouped by topic and are posted on the town's website. None of the 157 advice card comments and recommendations mentioned the Seacoast Reliability Project.

A 17-page summary of the Future Land Use Community Forum was prepared by Peggy Kieschnick for the Durham Land Use Committee. The summary, which is posed on the town's website, is a synthesis of the feedback from the various methodologies and to capture the opinions that were shared by many of the participants. It was intended to inform the development of the Future Land Use Chapter of Durham's Master Plan. The Seacoast Reliability Project was not mentioned in this summary report.

The Future Land Use Chapter builds on the ten chapters adopted in 2015 and focuses on the four general themes reflected in the master plan vision statement: Community, Balance, Connection and Quality of Place. The Chapter presents a future land use map that is based on the historical development patterns of the community and is intended to be used to inform future planning and zoning decisions. The future land use map is based on the concept of a transect, which illustrates how the historic development patterns in a community transition from less densely developed rural areas to more densely developed urban core. Durham has identified six distinct transect areas, which range from Rural, Rural/Core transition, Main Street West, Town Core, Campus Core, and Downtown.

The majority of the town is identified as rural land use which consists of forested and agricultural lands, low density development, rivers, wetlands and conservation/recreation lands. Guidance for new development in this transect as well as the Rural/Core Transition is to screen development from major roads where possible. The town considers views along major transportation corridors to be important visual gateways.

Future Land Use Recommendations include:

- Community Recommendations
    - Conduct a residential zoning audit
- Balance Recommendations
    - Develop a Gateway Design District which considers the viewscapes along major transportation corridors which are important gateways.

  - Work in partnership with UNH to plan for targeted commercial development in the Main Street West area.
  - Environmental stewardship and resiliency: Plan for stewardship of conserved lands and agricultural uses on protected land.
- Connection Recommendations
  - Partnership with UNH
  - Bicycle and pedestrian improvements
  - Structured parking
  - Agricultural zoning audit
- Quality of Place Recommendations
  - University Town
  - Historic preservation framework
  - Main Street West area planning

The Project team worked with the Town of Durham prior to and after filing the NHSEC application, and half of the nearly 30 meetings were joint meetings with UNH. As a result of these meetings, the team was able to make adjustments to the Project design to address specific concerns and issues identified by the town, UNH, abutters and residents. Many of these changes address the visual elements of community character and quality of life as expressed in the Master Plan.

Changes to the Project design include:

- Purchased an easement to expand the ROW, reduce structure heights and eliminate one structure to address the concern regarding structure heights at Madbury Road.

- Moved the structures away from the road and purchased additional easement rights to reduce the visibility of Project from Route 4, addressing the concern regarding visibility of structures from Route 4.

- Secured an additional 25' easement to expand the ROW adjacent to the west side railroad tracks, eliminated three structures, and reduce the heights of structures by 10' to 15', reducing the view of the Project from the Scottland Road/Hampshire Avenue neighborhood.

- Secured underground easements and avoided the visual impact of the line by designing and proposing placement of the Project underground for a distance of 2,100 feet as it passes the Whittemore Center, Amtrak/Dairy Bar, Main Street, and the Fieldhouse/Wildcat Stadium Areas.

- Secured easements with UNH to reroute the access for construction to avoid environmental impacts to the Oyster River.

- Relocated structures and changed structure type south of Mill Road to reduce the visibility of the structure and equipment.

- Changed line design from double circuit monopole to double circuit H-Fame to reduce structure heights, reducing visibility of structures from Bennett Road and the Route 108 crossing.

- Changed line design to side by side construction and reduced structure heights to reduce visibility of structures from Route 108.

- Relocated structures and revised line design to reduce visibility from residential properties located near Timberbrook Lane, Cutts Road, Ffrost Drive, Sandy Brook Drive, Longmarsh Road, and Durham Point Road.

- Purchased property to place the line underground and relocate the transition structure inland from original location at the edge of Little Bay to reduce the visibility of structures.

Many of these changes support the town's guidance for new development in the Rural transect as well as the Rural/Core Transition (screen development from major roads where possible) and are sensitive to the views along major transportation corridors which the town considers important visual gateways. The Project team's efforts were also consistent with the town's goal to strengthen the partnership between the town and UNH by meeting jointly to discuss the Project, hear concerns and make design changes.

In addition to visual goals, the Project supports the goal in the Natural Resources Chapter to reduce the trend of continued loss of forestland and other natural areas by locating in an existing ROW, which preserves the remaining open space in town.

The Project team also worked with the Town of Durham on an application to the NHDES for a living shoreline stabilization project to restore saltmarsh and reduce the amount of erosion from the town-owned Wagon Hill Farm shoreline bordering the Great Bay Estuary and the Oyster River.

The Wagon Hill Farm shoreline stabilization project provided the opportunity to mitigate for unavoidable permanent impacts caused by Project structures in freshwater wetlands (approximately 700 square feet in Durham), potentially 2,500 square feet of impact from concrete mattresses on tidal flats, and clearing of freshwater wetlands and streams as a result of tree removal within the Project corridor. The initial phase of the Wagon Hill shoreline project has been estimated to cost $370,000. The Applicant proposes to contribute approximately $224,000 to the Aquatic Resource Mitigation (ARM) fund to be allocated by NHDES to support the Wagon Hill project. This project has been a priority for the town for several years. This salt marsh restoration project supports Natural Resources Chapter goal to Protect and, where appropriate, restore salt water and other important wetlands, and the recommendation to undertake saltmarsh restoration projects.

The goal of the extensive outreach conducted by the Project team prior to and after the application submittal, and ongoing to the present is to be able to understand the town's views and concerns about the Project, address them through design changes and other methods, and to develop a Memorandum of Understanding to prepare for and manage construction operations that addresses the town's specific issues and concerns about construction.

Zoning Ordinance

The Durham Zoning Ordinance is intended to regulate the use of land for the purpose of protecting the public health, safety, convenience, and general welfare, and to promote the orderly growth of the town.

Almost all utility and transportation corridors pass through several zoning districts across a community. Within the Town of Durham, the Project corridor from (west to east) is located in the Office, Research, and Light Industry District (ORLI) and the Mixed Use and Office Research District (MUDOR) from Madbury through the UNH Campus. The Project crosses the railroad tracks, passing through the Residence B (RB) District near Mill Road, and the Rural (R) District to the Packers Falls Substation. The Project turns east in the R district, through an area zoned RB in the vicinity of Cutts, Ffrost and Sandy Brook Roads, and returning to R before changing to RC near Durham Point Road to Little Bay.

The purpose of the ORLI is to provide areas in Durham to accommodate a wide range of businesses that create employment and contribute to the town's economic vitality. The purpose of the MUDOR is to provide an area in the community is to provide an area in the community for high-quality office development and comparable uses. The purpose of the RB District is to maintain the integrity of existing medium-density residential areas while ensuring that new development, redevelopment, and expansions of existing buildings and structures are consistent with and maintain the established character of these neighborhoods. The purpose of the R District is to preserve the rural character of the areas of Durham that have historically been rural, that are low density, that are not served or intended to be served by public water and public sewerage, and that the Master Plan identifies as areas that should remain rural and their agricultural heritage preserved. The purpose of the RC District is to protect the water quality of the community's principal surface waters and to preserve the rural character and scenic beauty of these coastal areas including the view of the shore as seen from the water.

The town also has a number of overlay districts including Wetlands Conservation; Shoreland Protection; Flood Hazard; Aquifer Protection; Historic; and Personal Wireless Service Facilities. Personal wireless facilities are permitted in all zoning districts subject to the provisions of the overlay district, which requires these facilities to be located on existing structures unless there are none suitable from which to transmit/receive signals, and in no case shall exceed 200' in height unless the mount for the facility existed prior to the adoption of the ordinance. Carriers are permitted to locate new personal wireless facilities on existing electric and transmission distribution structures, utility poles and similar existing utility structures with an increase in height restricted to 20'.

The zoning ordinance defines a Public Utility Facility as: "A public service corporation performing some public service and subject to special governmental regulations, or a governmental agency performing similar public services, the services by either of which are paid for directly by the recipients thereof. Such services shall include, but are not limited to, water supply, electric power, telephone, television cable, gas and transportation for persons and freight." It is not clear if the definition applies to single structure such as a generation facility, or if it is applies to linear projects that cross throughout town. If it applies to linear projects it would appear to prevent the development of lines for cable, telephone, gas, transportation, and electricity throughout town.

Public utility facilities are listed in the Table of Land Uses which identifies the permitted uses of land, buildings or structures in all zoning districts. They are listed under category VI. Utility & Transportation Uses, and are a permitted use in the ORLI and the MUDOR Districts, are allowed as a conditional use in the R and RC Districts, and are not permitted in the RB District.

Newington

Master Plan

The Town of Newington Master Plan 2010-2020 was adopted by the Newington Planning Board in 2009. The document includes several sections: Vision; Goals and Objectives; Historic Resources; Demographic Profile; Existing Land Use; Soils; Water Resources; Public Utilities; Housing; Town Services and Facilities; Shattuck Corridor; Transportation; Office District; Future Land Use; Summary of Recommendations; Development Policies; and Citizen Survey.

The Newington Planning Board, with the assistance of Rockingham Planning Commission, is updating the town's master plan over the next several years. Phase I includes Community Vision, Existing Land Use and Future Land Use. Phase II will address Transportation and Housing. A citizens' survey and three public facilitated sessions were conducted in the fall of 2017, the results of which are summarized on the town's website.

The citizen survey consisted of 21 questions soliciting opinions about topics such as the town's greatest assets; the most pressing issues; the most appealing areas; the least appealing areas; municipal funding from taxes; identification of serious local problems the town government should resolve; types of businesses the town needs the most; rate of growth; best use of land; current and future threats to the environment; preferences for Newington's character; focus areas for town strategies; volunteerism in local government; extreme weather events; actions to address future impacts of climate change; and demographics (how long people have lived in town; what part of town; how old they are; how far they commute to work; are they an elected official).

The town held three facilitated visioning sessions in November, 2017. The first session covered the topics of natural resources, transportation, emergency planning, and natural hazards. The second session focused on land use and community facilities, and the final session looked at future land use, energy, utilities, and housing. The responses gathered at the visioning sessions were summarized and posted on the town's website. Almost all of the comments were about land use issues not relating to the Project. Despite the active application for the Seacoast Reliability Project, there was no mention about it in the comments; however, a few responses addressed power lines and utilities in general. For example, in response to the question "What are the weaknesses regarding natural resources in Town?" there were two comments regarding power lines and how low density/open space are attractive areas for realignment of utilities and other infrastructure. Also, when asked "What should Newington have for future land uses?" one response was to "use Arboretum Drive as a future utility right-of-way since a high pressure gas line is already there." Regarding Energy Policy, one respondent said that the "master plan should discuss the Town's role as a regional conduit for gas and electric transmission; the town shoulders a greater burden of this activity than surrounding municipalities." The results of the survey

and visioning session are generally considered as the town works on the master plan update.

The current vision statement for Newington, adopted by the Planning Board in 2009, discusses Newington's unique and diverse land uses, including a deep-water working port, extensive retail, office, restaurant, and industrial facilities, a regional airport, a national wildlife refuge, a marina, and historic landscapes. Newington hopes to responsibly guide development while strengthening the community's environmental, human, and financial sustainability, and protecting a wide variety of resources.

The Master Plan includes 52 goals and objectives and nearly 200 recommendations. Goals and objectives by topic include Commerce and Industry, Transportation, Environmental Protection, Natural Resources, Pease, Municipal Services and Facilities, and Cultural Resources. The Newington Master Plan adopted 13 development policies which are intended to represent the town's position regarding future land development proposals. The policies seek to maintain and improve resources within the town while responsibly expanding commercial development.

The Newington Master Plan includes a chapter on Public Utilities which describes electric generation and transmission, natural gas, public sewer, public water, communications, and utility easements. The Utility Easement section described the utility easements in Town for electric power lines and gas pipelines and noted that, "While planning for future land development, easement restrictions obviously should be taken into account." While most master plans are general in nature and focus on long-range planning policies such as maintaining rural character, the Town of Newington suddenly amended the Utility Easements section of the 2009 Master Plan in January 2015 specifically in response to the Project proposal.

The revised section states that "while electric distribution lines are needed to power today's residences, electric transmission lines are generally viewed as uses incompatible with residential uses," and states that "electric transmission line development within existing easements is strongly disfavored." The section comments that the proposed Project would have "considerable negative view impacts from many homes and upon the view shed of the Town's Historic District." If no alternative locations are feasible, the town recommends that the transmission line be placed underground as it passes through the residential and historic districts. In response to this change to the master plan, the Applicant considered a number of alternatives including the town's suggestion to deviate from the established electric line ROW to cut through the federal wildlife refuge, however, Eversource does not have an easement or any other associated land rights along this route, and the federal government does not appear to support the development of additional infrastructure through the wildlife refuge.

The Project team has worked extensively with the Town of Newington, abutters and residents to make changes to the Project design, to avoid, minimize and mitigate potential impacts to Newington's Center Historic District, and to address the concerns expressed regarding the residential districts in the Master Plan and made in statements made during the SEC process. Changes to the Project design include:

- Relocated the ROW for the submarine cable landfall, reducing residential impacts and shoreland disturbance.

- Secured additional rights to re-route the underground construction out of the pavement in Gundalow Landing onto private property to avoid reconstruction of the roadway.

- Shifted the easement to move underground construction farther away from a home and yard to reduce property impacts during construction in Gundalow Landing.

- Secured additional rights from the town to relocate the transition structure at the Flynn Pit away from Little Bay Road to reduce the visibility of the transition structure away from Little Bay Road, and changed the transition structure design from a three pole design to a single monopole structure at the town's request.

- Secured additional rights from the property owners to locate the Project underground through the Frink Farm to eliminate the view of the Project. In addition, the Project team contracted with a Soil Management consultant to assist in properly managing the agricultural soils in relation to underground construction and to rehabilitate the agricultural fields. Executed an MOU with the Rockingham County Conservation District (RCCD) to manage the project.

- Proposed to remove the existing distribution line through the Frink Farm to enhance the view and reduce the visual impacts on the historic property.

- Secured additional rights to locate the Project underground near Hannah Lane to eliminate the view of the Project. Also relocated the transition structure farther from the last home on Hannah Lane.

- Proposed to remove existing distribution line to enhance the view of the area near Hannah Lane.

- Removed a structure in the field near Fox Point Road to reduce the visibility of the Project from Nimble Hill Road.

- Repositioned structures and adjusted heights within the parking lot islands in the western parking lot at the Crossing at Fox Run Mall to avoid infringing on mall parking spaces and to avoid removal of existing lighting structures in the western parking lot.

In addition to these design changes, the Project team worked with the town of Newington Conservation Commission which is pursuing a 10-acre conservation easement on a 13-acre parcel on Old Post Road that borders an existing conservation parcel and encompasses a section of the Knights Brook Prime wetland. The team worked with the Town of Newington to develop a permittee-responsible compensatory mitigation project that would offset the wetland functional impacts of the Seacoast Reliability Project, and meet the town's goal of protecting this valuable parcel for wetland and wildlife habitat.

The Project appears to be reasonably consistent with the Development Policies listed in the master plan:

- By locating the Project underground through Gundalow Landing, the Frink Farm and Hannah Lane, and removing portions of the distribution line to enhance the views of the Center Historic District, the Project is consistent with Policy One: Newington's rural residential character should be preserved.

- By relocating structures and lowering structure heights in the Crossing at Fox Run Mall parking area, the Project is consistent with Policy Four: the Town seeks to improve the safety, appearance, operation and character of the mall area.

- By assisting the Conservation Commission, to develop a mitigation project and conservation easement in the Knight's Brook Corridor, the Project is consistent with Policy Nine: The Town encourages the establishment of conservation areas to protect wetlands, forests, agricultural land, and open space, and to prevent premature subdivision of Newington's undeveloped area.

- By relocating the transition structures away from the Little Bay shoreline, the Project is consistent with Policy Eleven: The shorelines of Great Bay and Little Bay should be protected.

- By relocating distribution line and locating the Project underground through the Frink Farm and Nimble Hill Road, and proposing chimney restoration projects to historic structures, the Project is consistent with Policy Twelve: Newington seeks to ensure the preservation of the town's historic resources.

As described above, in Newington, the Project has worked very hard with the Town to address their concerns and has made several very significant changes to accommodate the local input. Specifically, the Project will be underground from Little Bay to the Flynn Pit, as well as the area across the Newington Center Historic District, Nimble Hill Road and through the Hannah Lane residential neighborhood. Both of the underground road crossings—Little Bay Road and Nimble Hill Road— are town-designated scenic roads. There are two overhead sections in the residential areas, with limited visibility from the roadway. Design changes have been made to this section to address the aesthetic concerns expressed by the Planning Board in in the Master Plan.

The Newington Planning Board held visioning sessions and conducted an on-line community survey about future land use in November 2017, and there was no mention of the Project in the summarized results.

Zoning Ordinance

The Newington Zoning Ordinance establishes several classes of districts of zones, including the Residential District (R Zones), Commercial District (C Zone), Office District (O Zone), Marina District (M Zone), Industrial District (I Zone), Waterfront Industrial District (W Zone), Historic District (H Zone), Shattuck Way (SWOD Zone), and Natural Resource Protection District (NRP Zone). In 2016, the Town revised the Ordinance by combining the Airport, Airport Industrial, Light Industrial, and the Mobile Home districts into a single Pease Tradeport District (PT Zone) where the Pease Tradeport retains land use authority in Pease.

The Town also has a Wetlands Overlay District and a Floodplain Management Ordinance in addition to ordinances regulating Accessory Dwelling Units; Non-conforming Property; Air Pollution Mitigation; Signs; Sexually Oriented Businesses; Trailers & Mobile Storage Containers; Home Occupations & Home Businesses; and Lighting & Illumination. Telecommunication Facilities are permitted in the Industrial District, and the Waterfront Industry and Commerce Districts, and there does not appear to be a height limit for these facilities. The town also has a Small Wind Energy System ordinance which allows small wind energy systems to be constructed in all zoning districts as an accessory use, with the maximum tower height restricted to 35' above the tree canopy, and not to exceed 150'.

The proposed Project traverses the residential, office, commercial, and waterfront industrial zoning districts in Newington, as well as the scenic and historic districts. The following summarizes uses for each of the zoning districts crossed by the Project.

- Single Family Residential District (R) - The "R" District is established as a zone for low-density single-family dwellings, and recreational, educational, and religious facilities which will encourage the development of well-rounded neighborhood living.
- Office District (O) - The "O" district is a zone primarily for office buildings, research & development facilities, and light manufacturing.
- Commercial District (C) - The "C" district is a mixed use zone for retail sales, office buildings, research & development facilities, and light manufacturing.
- Waterfront Industrial District (W) - The "W" district is established as a zone for activities which depend upon the ocean for transport or resources.
- Historic District (H) - The "H" district includes the area on both sides of Nimble Hill Road from the Pease Development Authority to its junction with Little Bay Road, following existing property lines of parcels fronting these roads. Uses permitted in the R district are allowed in these areas, subject to the provisions of the Newington Historic District Ordinance.
- Pease Tradeport District (PT) – The "PT" district states that the local land use regulatory authority in this area is controlled by the Pease Development Authority (see RSA 12-G:13)

In addition, the zoning ordinance designates all town roads west of the Spaulding Turnpike and all town roads north of the Newington/Greenland town line as scenic roads. (The Master Plan states that all Class V town roads are designated as scenic roads.) The designation of these roads requires that the Planning Board follow the procedures in RSA 231:158 before trees are cut or removed, or all or a portion of stone walls are altered. The Project will be underground as it crosses Little Bay Road, Old Post Road and Nimble Hill Road.

Other provisions in the ordinance pertinent to the Project include:

- The height limits for building or structures stated in Article VII – Dimensional Requirements do not apply to transmission towers and other structures not intended for human occupancy.
- In the Wetlands Overlay District Article IX, the Planning Board may grant a Conditional Use Permit (CUP) for the construction of roads and other access ways,

and for utility pipelines, underground lines, power lines, and other transmission lines if certain conditions are found to exist including: the proposed construction is essential to the productive use of land not within the WCOD; the design and construction methods minimize detrimental impact upon the wetland and include site restoration; no alternative route with a less detrimental impact is feasible; and economic advantage alone is not the reason for the proposed construction.

Portsmouth

Master Plan

The City of Portsmouth Master Plan, adopted by the Planning Board in February 2017, is called Portsmouth 2025. It is an update of the City's 2005 Plan, and a result of a two year planning process that included significant public engagement with two phases of listening sessions, neighborhood meetings, a visual preference survey, numerous focus meetings, visioning sessions, a web-based survey, and other community input.

Part I of the Master Plan articulates the planning themes that guide the plan: Vibrant; Authentic; Diverse; Connected; and Resilient. Each of these is supported by a vision statement and implementation goals and actions. Part II of the Plan applies the goals and actions across five focus areas within the city: Urban Core; Corridor; Urban Neighborhood; Suburban Neighborhood; and Parks & Open Space. Part III presents the implementation plan, which brings all of the various goals and recommendations together.

The Plan builds upon all of the existing conditions reports that were conducted in 2014 and 2015 prior to the Master Plan update including Population and Social Characteristics; Land Use; Housing; Economic Development; Transportation; Community Facilities and Services; Natural Resources and Open Space and Recreation; Natural Hazards and Climate Change; Cultural and Historic Resources; and Social Services. The Plan also incorporates the many other plans and reports developed by the City since the 2005 master plan.

The Project does not appear to fall within one of the five focus areas identified in Part II of the Master Plan. It is in an industrial area of the City that was determined to not require further study. The proposed Project appears to be reasonably consistent with the Portsmouth Master Plan and will not interfere with implementation of the planning board's policies and recommendations. The Project will be constructed entirely within an already developed ROW, which minimizes impacts to land use and the environment and is a short distance within the City of about 0.3 mile, running from the Newington/Portsmouth line to the existing substation in a highly developed area. The Project will also include improvements at the substation, within the existing footprint.

Zoning Ordinance

The Portsmouth Zoning Ordinance was prepared to promote the health, safety and the general welfare of Portsmouth and its region in accordance with the City of Portsmouth Master Plan.

The City of Portsmouth is divided into many zoning districts, including seven Residential Zones, four Mixed Residential Zones, five Character Districts, four Business Districts, two Industrial Districts, four Pease/Airport Districts, and other Districts including a Civic

District, a Municipal District, a Natural Resource Protection District and a Transportation Corridor.

The Project is located on only one lot in Portsmouth, which is owned by Eversource and is in the Waterfront Industrial District (WI) for less than 0.3 miles. The WI is intended to provide for industrial and related uses that depend on direct access to the Piscataqua River. The substation is bordered by Gosling Road and open land to the north, forests and a business park to the west and south, and the Pisacataqua River to the east.

University of New Hampshire

The University of New Hampshire Campus Master Plan 2012: A Flexible Planning Vision for our Sustainable Learning Community was adopted by the University System of New Hampshire Trustees in October 2013. The Goals of the 2012 Campus Master Plan aim to align the University's 2010 Strategic Plan and follow through on recommended priority Projects, thrive among limited resources, enhance the character of the university and the relationship with the town, and reaffirm UNH's commitment to sustainability.

Most of the priority projects are a considerable distance from the existing railroad line and electric transmission corridor. Those closest include the renovations to Nesmith Hall (just east of the corridor) and expansion of the stadium (completed). The plan also identifies enclosure of the flow physics site, a renovation of the field house, and improvements to DeMeritt Way as new identified needs for the future. Longer range "placeholders" also were identified, including development and structured parking at the A-Lot parking lot which is across the tracks from the Amtrak Station, expansion of the Gables student housing complex (northwest corner, away from the tracks), extension of North Road under the railroad tracks and (just north of the Whittemore Center) connecting to Strafford Avenue, additional development on town-owned Depot Road (currently a parking lot) adjacent to the Whittemore Center, expansion of Gregg Hall, construction of a new service road and possible academic buildings at Ritzman, the service building and a location west of Morse Hall. The plan also identifies the long range potential for SERC area student housing, with three of the potential four new buildings to be located east of the existing buildings and one to the south near the railroad tracks.

Several buildings and sites were identified as possible surplus in the future. Those closest to the rail line include the service building, Kendall, the mini-dorms, Zais Hall and Ritzman, all of which are south of Main Street.

Based on a review of the UNH Campus Master Plan, it is clear that the proposed Project will not interfere with implementation of UNH's proposed and potential campus projects. The Applicant has been coordinating closely with UNH and the town of Durham, including placement of the line underground on the edge of UNH A Lot parking area, under Main Street, and past the Fieldhouse and Wildcat Stadium.

The Project and UNH are negotiating a Memorandum of Understanding that confirms the design changes made by the Project and sets forth the specific conditions for construction of the Project through campus. The MOU includes agreement on daily and weekly meetings, with the ability to stop construction on campus if there are any construction concerns; the hours (7 am – 7 pm) and days (Monday – Saturday) for general construction, time of year restrictions for excavation (after May graduation through August 23); installation of an

electrical duct bank crossing under Main Street which will be constructed and funded by Eversource for UNH; avoiding impacts on UNH playing fields and surrounding drainage systems; identification of access routes to certain overhead structures; use of weathered steel structures in wooded sections and galvanized steel for some structures as requested by UNH staff; procedures for tree removal, relocation and disposal; conformance with state and federal rules for blasting; vegetative screening and plantings, and repair and/or replacement of any existing utility systems impacted during construction.

Pease International Tradeport

The Pease International Tradeport is located in the middle of a peninsula, formed by the Pisacataqua River, Little Bay and Great Bay. It abuts Newington, Portsmouth and Greenland, and is within Rockingham County.

The Pease International Tradeport was formed as a result of the closure and redevelopment of the former Pease Air Force Base. The 4,255-acre base was constructed between 1952 and 1956 after lands were purchased from property owners in Newington and Portsmouth.

Today the Pease International Tradeport consists of the Portsmouth International Airport and over 3,000 acres of office and industrial space and over 250 companies employing more than 7,000 people occupying about 4 million square feet of office and industrial space. Pease also includes the 27-hole Pease Golf Course, restaurants, banks, college classrooms, and a hotel. The number of people working at the Pease International Tradeport in 2014 had nearly doubled since the closure of Pease Air Force Base was announced, a significant accomplishment for the Pease Development Authority and the State of New Hampshire.

The Pease Development Authority (PDA) adopted a zoning ordinance, site plan review regulations and subdivision regulations in 1991 to help guide growth and development.

The ordinance establishes four zoning districts at the Pease International Tradeport: a 792-acre Airport Zone, 448-acre Airport Industrial Zone, 333-acre Industrial Zone, 504-acre Airport Business and Commercial Zone and a 781-acre Natural Resource Protection Zone. The Project traverses a section of the Natural Resource Protection Zone and the Industrial Zone adjacent to the Spaulding Turnpike. The Industrial Zone is primarily intended to provide for industrial uses which do not require direct access to the airport. The Natural Resource Protection Zone is intended primarily for uses relating to airport buffer and security purposes and for the protection of existing natural resources.

The PDA zoning ordinance defines "Public utility facility" as a communications, electric, gas, cable, water, sewer, or other utility pipe, conduit, transmission line, transformer, reducer, distribution apparatus or other unoccupied structure necessary for the furnishing of utility service (see 302.38). Public utility facilities are listed in section 303.06 as a permitted use in the Natural Resource Protection Zone, but are also listed as a use requiring a Special Exception in Part 303-A.05. Public utility facilities are permitted by special exception.

The Applicant has consulted with the FAA, PDA, ANG and DOT to ensure that the placement of transmission structures within the existing ROW will not affect aviation safety or uses, and the FAA has issued a "Determination of No Hazard to Air Navigation" for the Project.

The Applicant also filed a Special Notice with the PDA and received information about subsurface contamination issues associated with Pease. The Project team also met with US

Air Force, NHDES and EPA regarding the proposed construction soil management plan. Given the Project's assurances that NHDES protocols will be followed for any excavations of soils that may have PFAS, the staff do not have concerns about the Project.

Affected / Abutting Communities

There are seven communities in New Hampshire (Dover, Barrington, Lee, Newmarket, Greenland, Rye, and New Castle) which abut Project host communities. These municipalities are defined as "affected" communities under NHSEC rules (see Site 102.07). The Applicant is required to provide information about master plans and prevailing land uses (but not zoning) in these communities in addition to Project host communities. The Master Plans of these affected communities are summarized in a separate document entitled "Review of Master Plans in Abutting Municipalities, Seacoast Reliability Project" (Exhibit 46).

5.5 Community Services and Facilities

In general, the construction and operation of the Project will not place any new or significant demands on local or regional services, facilities, or infrastructure. Operation of the Project will not generate any significant truck, automobile or emergency vehicle traffic in the town. It does not involve the installation of any septic systems, leach fields, wells or water withdrawals which could affect groundwater or surface water resources. NHDES protocols will be followed with respect to any potential PFAS issues. Ongoing use of the existing corridor will not interfere with local recreational activities such as hiking, fishing, hunting or boating or continued use of the right of way for trails and wildlife corridors/ movement.

Operation of the transmission line will not generate, store or use hazardous waste, chemicals, fertilizers, salt or petroleum products. There will not be any fuel deliveries or underground or above ground tanks. Operation of the line will also not generate air emissions, fumes, smoke, odors or outdoor lighting.

The Project will provide additional tax revenue to the municipalities and their school districts, but will not place any new or increased demands on schools, police or fire services, roads, transit services, solid waste disposal, drinking water or wastewater treatment facilities or services, recreation facilities, medical facilities or services, or any other community service or infrastructure.

5.6 Tourism and Regional Recreation

A review of tourism and regional recreation sites is detailed in *Review of Tourism and Regional Recreation Seacoast Reliability Project, July 2018*. This report includes an examination of tourist-oriented attractions and regional recreation facilities along the Project corridor and in the seacoast region promoted by the NH Division of Travel and Tourism, regional chambers of commerce (Greater Dover Chamber of Commerce and the Chamber Collaborative of Greater Portsmouth), local communities, businesses, and other organizations. The report is based on an extensive review of state, regional and local websites that promote activities and events in the region (a complete list of the resources is included in the report). Categories of tourist-oriented activities and events that were inventoried include water-based activities on Great Bay/Little Bay (public boat and access

sites; boat tours, recreational boating; fishing; and shell fishing); trails; running and cycling; scenic roads; golf courses; camping; lodging, restaurants and shopping; historic sites and museums; and agricultural activities.

The report concludes that while there are numerous destinations, activities and events in the Seacoast region, there are no major tourist attractions located adjacent to or near the Project corridor. There are a few activities and sites along the Project corridor that could be temporarily impacted during construction of the Project. These include a few of the UNH facilities (the Whittemore Center, Dairy Bar/Amtrak Station, UNH Field House/Wildcat Stadium, and Paul Creative Arts Center); water-based activities on Great Bay/Little Bay (including businesses such as Portsmouth Harbor Cruises and Gundalow Company); and The Crossing mall area in Newington. The Project team has been communicating with UNH, the municipalities and businesses to ensure that temporary impacts are avoided and minimized.

5.7 Views of Municipalities and Regional Planning Commissions

As noted above, there are four municipalities that are host communities (Madbury, Durham, Newington and Portsmouth), and seven municipalities in New Hampshire that abut the host communities (Dover, Barrington, Lee, Newmarket, Greenland, Rye, and New Castle). The Project does not appear to be visible from the abutting communities. Two of the four host municipalities, Durham and Newington, petitioned to intervene in the Project and have been directly involved prior to and through the NHSEC application process. Madbury and Portsmouth did not petition to intervene, and have not formally expressed concerns about the Project. The Project team has met a number of times with Madbury and Portsmouth to update them on the Project and keep lines of communication open. None of the abutting municipalities petitioned to intervene in the application process, nor have they expressed concerns about the Project.

Durham and Newington, where the Project is principally located, have been actively engaged with the Project, expressing their views and concerns in numerous meetings with the Applicant, as well as through attendance and comments at public meetings and hearings. The Applicant has listened to and considered these concerns, and as a result have made design and route changes, conducted additional studies, and voluntarily agreed to a significant delay the procedural schedule pending resolution of issues about Little Bay and the Frink Farm in Newington.

As detailed in Section 5.1, Normandeau and the Project team also conducted outreach to the Strafford Regional Planning Commission and the Rockingham Planning Commission to obtain their views and discuss issues. Neither planning commission has taken a formal position with respect to the Project, and communication continues to be open should any issues arise.

The sections below summarize the results of the meetings the Project team conducted to solicit the view of the municipalities, UNH, and other entities, and the Project changes that were made in response. These changes have been noted throughout this report and are summarized by town below.

Pre-application Meetings

Beginning in late 2013, prior to submitting the application to the SEC, the Project team met extensively with Project host communities, UNH, businesses and chambers of commerce, other municipalities in the region, environmental organizations, and agencies to discuss the Project and identify and address concerns.

Specifically, the team held 18 meetings in person or by phone with the town of Newington, the majority of which were with the Planning Board Chair. The team met with the town of Durham 25 times and UNH a total of 23 times (which included joint meetings with the town of Durham officials and UNH representatives). In addition, the team met with the town of Madbury three times, the City of Portsmouth five times, and met with other municipalities in the region including Dover, Newmarket, and Somersworth. The team also met with numerous residents and property owners in each community to receive input on structure placement and design.

The feedback from these meetings helped to shape the initial Project design and SEC Application, including:

Madbury

- Acquired additional property and an easement adjacent to the railroad, resulting in the elimination of two overhead structures and reduced structure heights, reducing visibility of the Project from Madbury Road.

Durham

- Expanded the ROW adjacent to the railroad, reducing the number of structures, and lowering structure heights by 10-15 feet.
- Revised the line design east of Route 108 near Sandy Brook Drive.
- Relocated the transition structure near Little Bay, moving the riser structure 200 feet from the shoreline, thereby reducing visibility of the transition structure from Little Bay.
- Redesigned structure type and relocated structures on Foss Farm Road at the request of landowners, reducing visibility of structures and equipment.
- Relocated the structure and changed line design on Durham Point Road, reducing visibility and minimizing tree buffer removal.
- Relocated a structure near Longmarsh Road to reduce visibility.
- Design modifications at road crossings.
- Upgrades to local distribution.

UNH

- Underground design: 2,100 feet of underground across Main Street and near the new football stadium, and redesigned the line near a portion of UNH steam pipe system therefore avoiding any future design conflicts. Agreed to re-engineer the underground design to avoid crossing the soccer field.
- Construction coordination: restricted underground construction schedule to minimize impacts to campus and expanded access plans to avoid traffic on campus while ensuring reliability to UNH generation.

- Coordination with UNH plans to build a North and South Drive.
- Additional easements secured along the railroad, to minimize environmental impact to Oyster River.
- Outages coordinated with UNH generation to avoid impacting the equestrian center.

Newington

- Remove and rebuild the distribution line between Little Bay Road and Fox Point Road along public streets.
- Reduce structure heights in the vicinity of the Newington Center Historic District by 20-30 feet, (if the Project's efforts to obtain the underground easements proved unsuccessful).
- Revise structure types.
- Optimize structure design to limit impacts to parking and driving lane areas at The Crossings.
- Initiate negotiations for underground easements to locate the Project under the Frink Farm.

The effectiveness of this outreach is evidenced in letters submitted to the SEC:

- Town of Madbury Selectmen – letter submitted to the NH SEC dated July 23, 2015 expressing that the "Board is in support of adequate infrastructure for the region's power needs." The letter acknowledges potential visual impacts from higher structures at the "railroad overpass for Madbury Road within an existing power line right-of-way. Alternatives to this impact would likely shift to other areas and not solve any issue." (The Project team has addressed this concern by acquiring additional easement rights to expand the easement and lower structures in this area, reducing the visibility of the structures.)
- Town of Durham Town Administrator – letter submitted to the NH SEC dated January 20, 2016, confirming that the Project team has worked closely with the town and UNH to address local concerns, avoid sensitive areas, limit views of the transmission line from specific town and campus locations, and to mitigate potential effects through design changes. The letter confirms that the town will continue to work with UNH and the Applicant to coordinate the construction process with UNH and Durham activities and minimize impacts to immediate abutters and the broader community.
- University of New Hampshire – letter submitted to NH SEC dated November 9, 2015, confirming that the Project team has worked closely with UNH to address concerns, identify and avoid sensitive areas within the transmission corridor, limit views of the transmission line from certain campus locations, and mitigate potential effects through design changes. The letter confirms that UNH will continue to work with the Applicant to coordinate the construction process with campus activities and meet the University's operational needs and minimize impacts to the campus community.

- City of Somersworth, Department of Economic Development – letter submitted to NH SEC dated September 8, 2015, in support of the benefits the Project will bring to the region in terms of electric reliability for current needs and future economic development.
- The City of Dover City Manager - letter submitted to the NH SEC dated October 15, 2015, in support of the benefits the Project will bring to the region in terms of current and future electric reliability needs for the region.

In addition to reaching out to municipalities, the Project team met with business organizations such as the Portsmouth, Dover and Rochester Chambers of Commerce, the Dover Rotary, and individual businesses such as Liberty Mutual, Portsmouth Hospital, Highliner Foods, Lindt & Sprungli, Tyco, Lonza, Sig Sauer, GP Gypsum, Westinghouse, Sea 3, Bay Point Oyster Company, Turbo Cam, Safron Aerospace Companies, Joe King Oyster Company, and The Crossings. The positive response to this outreach is evidenced by the letters in support of the Project submitted to the SEC:

- Greater Dover Chamber of Commerce – letter submitted to NH SEC on January 21, 2016, in support of the project.
- Greater Rochester Chamber of Commerce – letter submitted to NH SEC on April 28, 2016, in support of the Project.

The Project team also met many other agencies and organizations including Pease Development Authority, PanAm Railroad, and environmental organizations such as the Great Bay National Wildlife Refuge, The Nature Conservancy, Oyster River Local River Advisory Committee, and Great Bay Resource Protection Partners (see Appendix 36, Public Outreach Summary).

Post-Application Communications

Following the submission of the application, the Project team received significant feedback from residents and other key stakeholders, and continued to meet with municipalities, businesses, agencies and landowners to refine the Project.

Based on this feedback, and feedback received at the 45 day post-application public information sessions and public hearings, the Applicant filed an amendment to the application in March, 2017 reflecting additional changes in the Project design and line configuration in response to community and resident input. These include:

Madbury

- At the request of the NHDOT, made changes to alignment, structure height and design near Madbury Road and Route 4 to increase spacing near the existing bridge abutments and allow for future maintenance and construction.

Durham

- Reduced height of the Little Bay transition structure by 10 feet to reduce visibility.
- Modified design to allow for longer span lengths and eliminated an overhead structure near Durham Point Road.

- Assisted the town of Durham with preparation of an application for the Wagon Hill Farm shoreline stabilization project Environmental Mitigation Fund.
- In consultation with NHDES, conducted additional environmental studies regarding the construction process and potential impacts to Little Bay, revised engineering, conducted additional data collection and modeling.
- In consultation with NHDHR, proposed stabilization and relocation of the Durham cable terminal house, and development of interpretive and display materials.
- Proposed an MOU with the town to guide the construction process including work hours, laydown areas, construction schedule, communication, traffic control, disposal of construction debris, blasting, liability protections, protection of public roadways, and requirements to protect the environment.

UNH

- Met with UNH, on 16 occasions, to discuss constructability, access, engineering and coordination, among other topics, as well as numerous phone calls and emails.
- Re-engineered the underground line design to avoid passing through the previously approved location, across the soccer field.
- Filed, with the SEC, a revised design to reflect the design changes requested by UNH.
- Expanded access plans to avoid traffic on campus while ensuring reliability to UNH generation.
- Revised construction schedule to avoid impacts to campus generation during peak load/events.
- Coordinated on parking plans.
- Agreed to relocate memorial trees impeding access by the field house prior to construction.
- Proposed a MOU with UNH to guide the construction process including underground work hours and acceleration schedule; time of year work restrictions; civil construction work zone maps; access maps; communications protocol; structure types in certain locations; facilities coordination (electric, phone, cable); handling of logs and chips from tree clearing; Memorial tree relocations; blasting protocol; and restoration.

Newington

- Relocated the ROW for the submarine cable landfall, thereby reducing residential impacts and shoreland disturbance.
- Secured additional rights to re-route underground construction out of the pavement in Gundalow Landing onto private property to avoid reconstruction of the roadway.
- Shifted the easement to move underground construction farther away from a home and yard to reduce property impacts during construction in Gundalow Landing.
- Secured additional rights from the town to relocate the transition structure at the Flynn Pit away from Little Bay Road to reduce the visibility of the transition

structure, and changed the transition structure design from a three pole design to a single monopole structure at the town's request.

- Secured additional rights from the property owners to eliminate overhead structures and locate the Project underground through the Frink Farm. The Project team also contracted with a Soil Management consultant to assist in properly managing the agricultural soils in relation to underground construction and to rehabilitate the agricultural fields. Executed an MOU with the Rockingham County Conservation District to manage the project.
- Proposed to remove the existing distribution line through the Frink Farm to enhance the view and reduce visual impacts on the historic property.
- Secured additional rights to locate the Project underground near Hannah Lane to eliminate the view of the Project. Also relocated the transition structure farther from the last home on Hannah Lane.
- Proposed to remove existing distribution line to enhance the view of the area near Hannah Lane.
- Removed a structure in the field near Fox Point Road to reduce the visibility of the Project from Nimble Hill Road.
- Repositioned structures and adjusted heights within the parking lot islands in the western parking lot at the Crossing at Fox Run Mall to avoid infringing on mall parking spaces and to avoid removal of existing parking lot lighting structures in the western parking lot.
- Proposed historic mitigation projects including a chimney project on the Alfred Pickering Farm and the creation of an interpretive panel about the historic underwater cable terminal houses to be located at Fox Point, and development of interpretive displays and materials to be located in a publicly accessible venue selected by the Historic Commission.
- Provided assistance to the Newington Conservation Commission to develop a scope and language for a conservation easement on a parcel of land adjacent to existing conservation land encompassing a section of the Knights Brook prime wetland, the subject of an application to the Aquatic Resource Mitigation (ARM) Fund to fund the project.
- Negotiation and signing of a MOU with the town of Newington to ensure that construction of the Project minimizes impacts to the environment and disruption to the public, and provides reasonable assurance to the town and its residents that construction impacts will be avoided, minimized and mitigated. The MOU covers public information, communications and comments, equipment and facilities, reporting to the town, use and excavation of town roads, financial guarantee for road damage, laydown areas, and marshalling yards. In addition, the MOU provides for Project construction commitments regarding stormwater pollution prevention plans, construction schedule, disposal of tree clearing and construction debris, construction operating hours, and provisions regarding construction and restoration of underground segments. The MOU also includes provisions for wildlife protection and monitoring and landscape restoration.

It should be noted that Project outreach is ongoing and the team hopes to complete negotiations on the MOUs with the town of Durham and UNH in the near future.

Written Testimony and Comments

Written views by municipal and regional planning commissions and municipal governing bodies regarding the proposed Project include:

Newington

Newington's Planning Board Chair, Dennis Hebert, submitted pre-filed testimony on behalf of the Town of Newington on July 28, 2017. Newington's main concerns included aesthetic impacts to residential and historic sites, construction impacts on municipal roadways, ensuring that any existing contamination from PFOS and PFOA is properly addressed and relocation of the 34.5 kV distribution line to local roadways. Hebert expresses concern about the Project's construction schedule and the impact on public safety. Hebert notes the town's desire to protect the residential and historic areas as set forth in the town's Master Plan, and expresses concern regarding construction impacts to the stone walls along Newington's designated scenic roads, the preservation of Knight's Brook Corridor, and construction impacts on roadways. Hebert's testimony concludes with proposed conditions should the NHSEC issue a Certificate of Site and Facility for the Project, which includes the suggestion to bury the line through the entire residential district, avoiding or rebuilding stonewalls on scenic roads, adhering to Newington's road construction standards, and other potential conditions.

The Project team has worked extensively with the town to balance their concerns with the needs of this important reliability project for the region. As detailed above and in Section 5.4, the resulting proposal avoids sensitive residential and historic areas identified in the Master Plan by locating portions of the Project underground, relocates sections of the distribution lines to improve the aesthetics of the residential and historic districts, minimizes environmental impacts to wetlands and the Great Bay, and addresses local landowner considerations. In addition, the Project team has assisted the Conservation Commission in pursuing a 10- acre conservation easement that borders an existing conservation parcel and encompasses a section of the Knights Brook Prime wetland that will meet the town's goal of protecting this valuable parcel for wetland and wildlife habitat. As detailed above, the Project team has also executed a Memorandum of Understanding covering many of the issues in Hebert's testimony.

Durham

Town Administrator, Todd Selig, submitted pre-filed testimony on July 28, 2017 (also on behalf of UNH), the main concerns of which covered four points: the consideration of a "Gosling Road Autotransformer Alternative;" a request that the SEC hire an independent consultant to evaluate the impacts of horizontal directional drilling (HDD) under Little Bay and compare it with the proposed jet plowing method; a concern about the visual impact of the concrete mattresses during low tides; and the town's desire to negotiate a construction related MOU with Eversource.

The SEC declined to: (1) consult with ISO-NE regarding the Gosling Road Autotransformer Alternative (Order on Partially Assented-To Motion to Consult With ISO-New England,

Docket No. 2015-04 (April 24, 2018)) and (2) to hire an independent HDD consultant (Hearing on Motions, Tr. p. 53 (May 29, 2018)). The visual impact assessment conducted by Mr. David Raphael of LandWorks determined that the concrete mats will have a "minimal visual presence", and "will be a very minor feature of the Landscape, and will only minimally affect the viewer's experience of the water, the bay, and the views to the shoreline." See Concrete Mattress Addendum, dated July 17, 2017.

The Applicant is in the process of negotiating a MOU with the town.

Strafford Regional Planning Commission

Cynthia Copeland, Executive Director of the Strafford Regional Planning Commission, submitted a letter to the NH SEC on June 13, 2017. The letter, dated January 3, 2017, references the Great Bay Ecosystem Service Assessment report "How People Benefit from New Hampshire's Great Bay Estuary" dated November, 2106. Copeland notes that the report identifies human activities, such as dredging, as "stressors that may have a negative impact on key habitats due to suspended sediments, though the modeling does not specifically calculate the impacts from individual dredging and underwater transmission line projects." Copeland goes on to state that, "the report suggests that careful planning within the confines of the Great Bay Estuary is critical to achieving healthy habitats and maximizing the use of the Estuary in the future."

The Applicant agrees that careful planning is very important for the Great Bay Estuary, and along with its consultants has spent considerable time and effort to ensure that the Project is carried out in an environmentally sound manner. Specifically, the Project team has: strengthened the study of impacts on Little Bay during the construction process; revised the engineering of the Project to reduce environmental impacts; gathered additional field data/sampling to test for contaminants in the sediment; run additional models; and conducted further sampling and gathering of field data to test for pesticides, as requested. All work in Little Bay will be subject to, and completed in conformance with, all federal and state permits and approvals.

5.8 Local and Regional Planning Conclusions

The Applicant has worked diligently with and listened to concerns voiced by regional planning boards, governing bodies, UNH, residents, businesses and other organizations and have incorporated their concerns into the Project design, resulting in a project that is reasonably compatible with the context of the landscape in the region and is supportive of the general goals and policies of local and regional land use planning documents.

Except for the town of Newington, the local and regional long-range plans and zoning ordinances do not directly address the construction or operation of the Project. The Project team has conducted extensive outreach with local communities, regional planning commissions, businesses and residents to understand their views and concerns and to receive their input to site the Project within the existing electric corridor with the least amount of impact. As detailed in the sections above, this extensive outreach has resulted in a number of design changes and Project refinements that avoid, minimize and mitigate potential impacts from construction and operation of the Project.

The Project is reasonably consistent with prevailing land uses and the general goals in local master plans, such as Madbury's desire to preserve the rural atmosphere and landscape. By using an already developed corridor for the improvements, the Project preserves other open spaces in Town essential to the Town's rural character and natural resources. In Durham, the many changes to the Project's design supports the town's general guidance for new development in the Rural transect, which is to screen development from major roads where possible, and to be sensitive to the views along major transportation corridors which the town considers important visual gateways. Changes include placing the line under Main Street, purchasing additional easements, reducing structure heights, and relocating and redesigning structures to reduce visibility of the Project.

In Newington, changes to the Project were proposed to avoid, minimize and mitigate potential impacts to Newington's Center Historic District, and to address the concerns regarding preserving the character of the residential districts in the Master Plan and made in statements made during the SEC process. All of these changes, including placing segments of the Project underground, reducing structure height, relocating structures, and relocating segments of existing distribution lines, address concerns expressed by the Planning Board in the revised Utility Easement section of the Newington Master Plan.

The goal of the extensive outreach conducted by the Project team prior to and after the application submittal and ongoing to the present has been to solicit and fully consider municipal and regional views and concerns about the Project, address them through numerous design changes and other methods, and to develop MOUs with each entity to prepare for and manage construction operations that addresses the town's specific issues and concerns about construction.

Appendix A: Project Corridor Land Use Descriptions

A-1 Madbury

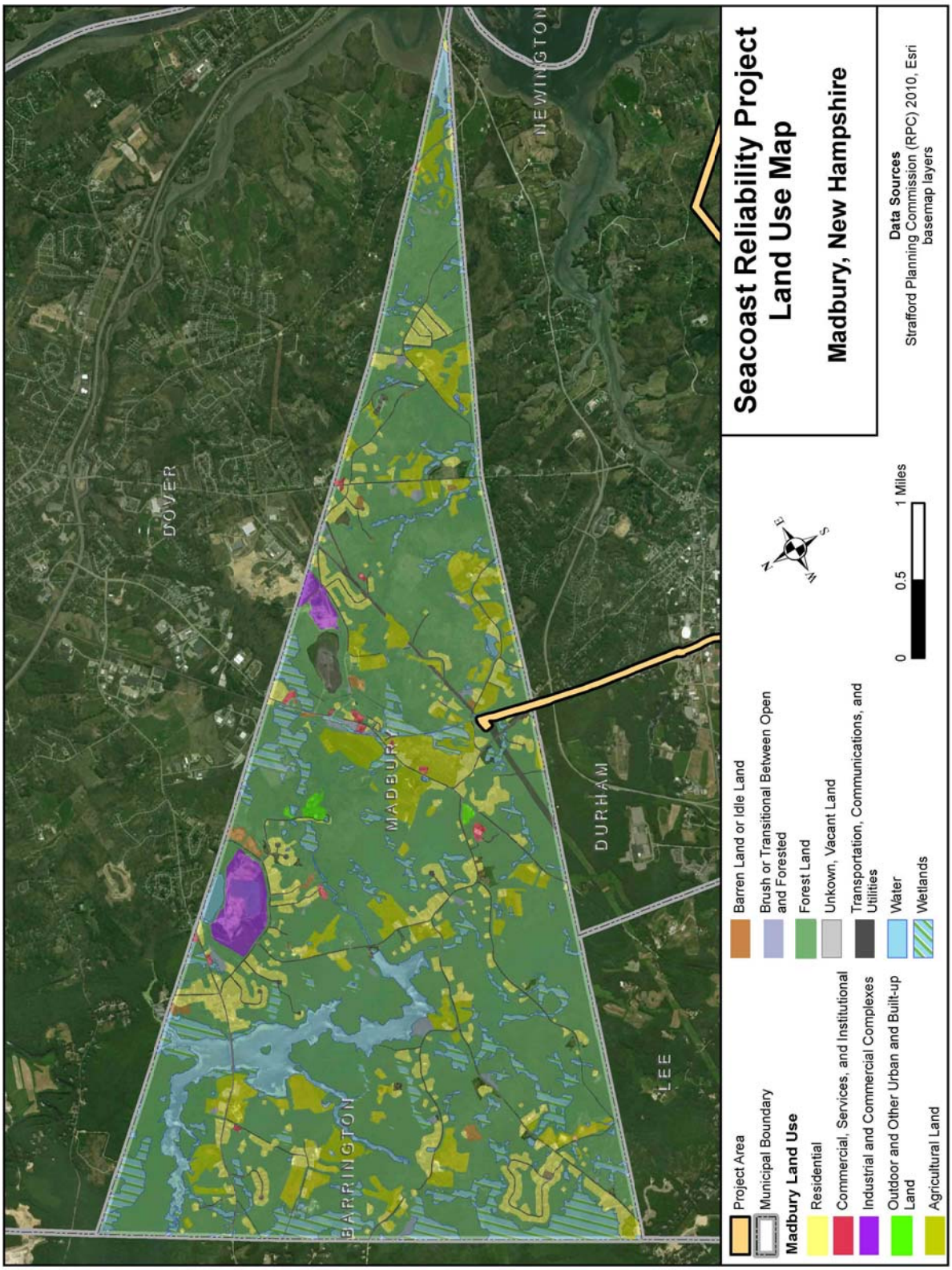
Originally part of Dover and Durham, the land formerly known as Madbury Parish was granted town privileges in 1768. Madbury is located in the southeastern portion of New Hampshire. It is bounded by the City of Dover to the northeast, the town lines of Durham and Lee to the south and east, and Barrington to the west. The Bellamy River is the largest and the main river in town and the Bellamy Reservoir provides about 50-60% of the City of Portsmouth's water supply. Timber harvesting and agriculture were the traditional industries within Madbury for many years until the community became a residential destination for those who work in nearby communities.

In 2016 the population of Madbury was about 1,820. Madbury contains about 11.6 square miles of land area, 0.6 square miles of inland water area, and a population density of about 157.6 persons per square mile of land area (NHES, March 2018). The Project corridor's land area in Madbury is approximately 4.7 acres which is less than one percent of the Town's total land area of about 7,420 acres (NHOEP 2014/NH GRANIT, 2014).

The Project includes improvements within the footprint of the existing substation in Madbury, which is off of Miles Lane, just east of Madbury Road and the railroad tracks and just north of Route 4. The Project exits the eastern side of the substation in Madbury and enters the existing electric line corridor shared with the railroad. There are two houses immediately adjacent to the substation, located between Madbury Road and the edge of the ROW. The Applicant purchased an easement from the parcel adjacent to the substation, and purchased the other parcels (adjacent to the railroad tracks at the intersection of Madbury Road and Beech Hill Road). This resulted in the elimination of two overhead structures and reduced structure heights for the remaining structures. The Project runs south within the existing ROW for about 2,000 feet where it exits the southern border of Madbury and enters the northern portion of Durham.

Land uses along the corridor and throughout Madbury are reflected on the attached Existing Land Use Map, prepared with data from the Strafford Regional Planning Commission.

Existing Land Use
Madbury, NH



Source: Strafford Regional Planning Commission Data, 2010.

A-2 Durham

Durham was originally a parish of Dover called Oyster River Plantation. It was first settled in 1669, and incorporated as Durham in 1732. Durham included Lee until 1766. The Warner Farm was bequeathed by Benjamin Thompson, a descendent of an early settler, to be used to establish an agricultural college. The state agricultural school was moved from Hanover to Durham in 1890, and became the University of New Hampshire in 1923.

In 2016 the population of Durham was about 16,431. Durham contains about 22.4 square miles of land area, 2.4 square miles of inland water area, and a population density of about 733.5 persons per square mile of land area (NHES, March 2018). The Project corridor's land area in Durham is approximately 80 acres which is less than one percent of the Town's total land area of about 14,336 acres. (NHOEP 2014/NH GRANIT, 2014).

The Project corridor follows along an active railroad corridor for about 3. 5 miles south, and then follows an existing electric utility ROW to the east for a total of about 7.1 miles, eventually crossing under Little Bay into Newington. Land use adjacent to the Project corridor in Durham is primarily forested, low-density residential and institutional (UNH). Some parcels are conservation lands.

The Project enters Durham from Madbury just north of Route 4 along the western side of the rail line. One residence on a wooded lot is located east of the corridor, approximately 160 feet from the edge of the Project ROW.

The Project continues south, crossing Route 4. There are some residences east of the active railroad line along Scotland Road and Hampshire Avenue. Along Scotland Road, they measure between 105 to about 280 feet from the edge of the Project ROW. Along Hampshire Avenue, one residence is about 80 feet from the edge of the Project ROW, two are 135 feet, three are between 225 and 250 feet, and two are about 300 feet from the edge of ROW. There is a vegetated buffer between these houses and the railroad and electric line ROW. The Applicant purchased additional easement adjacent to the railroad tracks in this area, reducing the number of structures, and lowering structure heights by 10-15 feet.

Continuing south, there are nine homes located east of the corridor and on the west side of Fairchild Drive which range from about 105 feet to 340 feet from the ROW. These homes are located across the railroad tracks from four parking lots and the Gables student apartment complex. The area between these homes and the railroad tracks is forested and conserved as the "Fairchild Drive Common Open Space" (according to NH GRANIT), providing a wooded buffer between land uses. One residence located on Davis Avenue near the Fairchild Drive intersection about 270 feet from the edge of the electric line ROW, with a wooded buffer between the house and the corridor.

The University of New Hampshire built the Gables, its largest student apartment complex in 1991. The high-rise development consists of three buildings providing housing for over 1,000 students and is located west of the railroad tracks, north of the large UNH A lot parking area and south of additional parking lots, all of which are along the railroad tracks. The Gables parking lots were constructed adjacent to the ROW and 60 feet from the railroad, with a chain link fence running parallel to the tracks. The access road, Gables Way, is adjacent to the corridor, and about 40 feet from the rail line.

Continuing south toward the Whittemore Center, there is a small residential complex called the Woodside Apartments on the east side of the tracks, just north of several parking areas and the Whittemore Center. The closest apartment building is located about 190 feet from the railroad tracks and about 200 feet from the edge of the existing electric line ROW. There is a wooded buffer between these apartments and the railroad line.

Further south in the Town of Durham, the line will be placed underground for 2,100 feet as it passes the Whittemore Center, the Amtrak Station/Dairy Bar, Main Street and the Field House/Wildcat Stadium area.

Continuing to the southern end of the UNH campus, there is some student housing along Demeritt Circle, east of the railroad with the closest structure located about 80 feet east of the tracks, and about 200 feet from the electric line corridor. The electric line then crosses from the west to the east side of the railroad tracks before crossing Mill Road within the established ROW. Continuing south, the ROW is along the western border of East Foss Farm and along the eastern side of the railroad tracks. It then turns east just before the Packers Falls Substation toward Little Bay.

Residences along Foss Farm Road are more than 600 feet east of the Project ROW. The closest residence on Hemlock Way measures more than 200 feet west of the edge of the Project. The Project runs south along the western border of UNH's East Foss Farm, turns east, and continues toward Route 108. Three residences along the north side of Bennett Road range in distance from about 155 feet to about 285 feet away from the power line corridor. These parcels have wooded buffers.

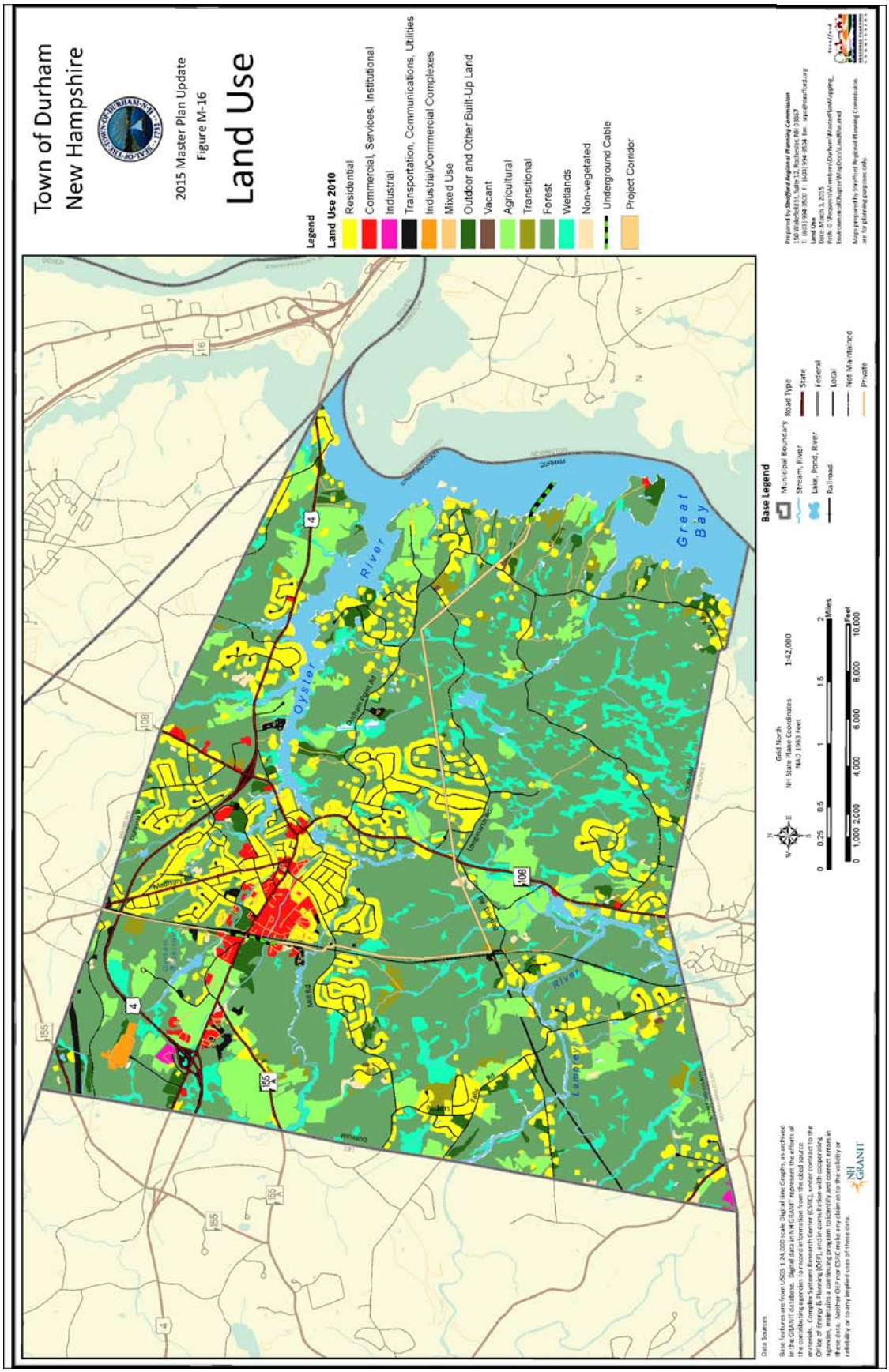
The area with the greatest number of homes close to the power line corridor is located east of Route 108 and north of Longmarsh Road. This area includes Timberbrook Lane, Cutts Road, Ffrost Road, and Sandy Brook Drive. On Timber Brook Lane there are three houses that measure between approximately 60 and 190 feet from the existing ROW. On Cutts Road three houses are adjacent to the ROW (5, 25, and 40 feet from the ROW), and one measures approximately 80 feet south of the corridor. These homes are located on wooded parcels. On Ffrost Drive three homes were constructed adjacent to the ROW (1, 5 and 10 feet from the ROW) and others are between 115, and and 240 feet away. The homes on Sandy Brook Drive are more than 100 feet from the ROW, except one which measures approximately 80 feet south of the ROW. The homes on Sandy Brook Drive have a wooded buffer. It should be noted that the electric line ROW was established before these homes were constructed.

Continuing east there are two residences located on Longmarsh Road which measure about 65 and 165 feet east of the corridor, with a wooded buffer. The existing ROW continues southeast and crosses Durham Point Road. Two residential properties are approximately 35 feet and about 125 feet south of the ROW. The line continues in a southeasternly direction towards Little Bay where one residence is located approximately 190 feet south of the ROW. The line then transitions underground to cross Little Bay and enters into Newington.

In response to input from property owners, the Project relocated structures and revised line design to reduce visibility from residential properties located near Timberbrook Lane, Cutts Road, Ffrost Drive, Sandy Brook Drive, Longmarsh Road, and Durham Point Road.

Land uses along the corridor and throughout the Town of Durham are reflected on the attached Existing Land Use Map which was prepared by Strafford Regional Planning Commission.

Existing Land Use
Durham, NH



Source: Master Plan Update, Town of Durham Website, 2013.

A-3 Newington

Newington was originally part of the Dover and Squamscot Patent known as Bloody Point, named after an early colonist victory over attacking natives in the late 1600's. Newington Parish was formed in 1714 after a boundary dispute with Greenland. In 1952, the US Air Force took command of Portsmouth Airport for a bomber base; about 60 percent of the airport is located in Newington. The base closed in 1991, and currently houses the NH Air National Guard and the Pease International Tradeport. The population of Newington in 2016 was 787 residents. Newington contains 8.2 square miles of land area and 4.1 square miles of inland water area, with a resulting population density of about 95.5 persons per square mile of land area (NHES, March 2018).

The Project crosses under Little Bay from Durham to Newington. It follows the natural contour of the land through the town for about four miles, where it exits Newington and enters the northern portion of Portsmouth.

Land use adjacent to the corridor in Newington is primarily low-density residential, transportation, open and forested land, and heavy commercial and industrial development beyond the Spaulding Turnpike. The Project corridor's land area in Newington is approximately 51 acres, which is less than one percent of the Town's total land area of 5,248 acres.

After crossing under Little Bay into Newington, the cable continues underground through Gundalow Landing, a residential neighborhood, crosses under Little Bay Road to the Flynn Pit. It then transitions above ground east of Little Bay Road within the existing ROW. The Applicant worked with the town to acquire an additional easement to place the transition structure away from Little Bay road, reducing visibility of the Project. Residences north of the corridor are located along the Captain's Landing cul-du-sac where the closest structure is approximately 485 feet north of the ROW with a wooded buffer.

There are eight residences located south of the corridor along the northern side of Little Bay Road, between McIntyre Road and Nimble Hill Road. These homes range in distance from about 250 feet to 700 feet south of the ROW. Some have a full or partial wooded buffer while a few have open field. The Applicant has offered to work with the land owners to plant fast-growing vegetation to provide a screen along the edge of the ROW.

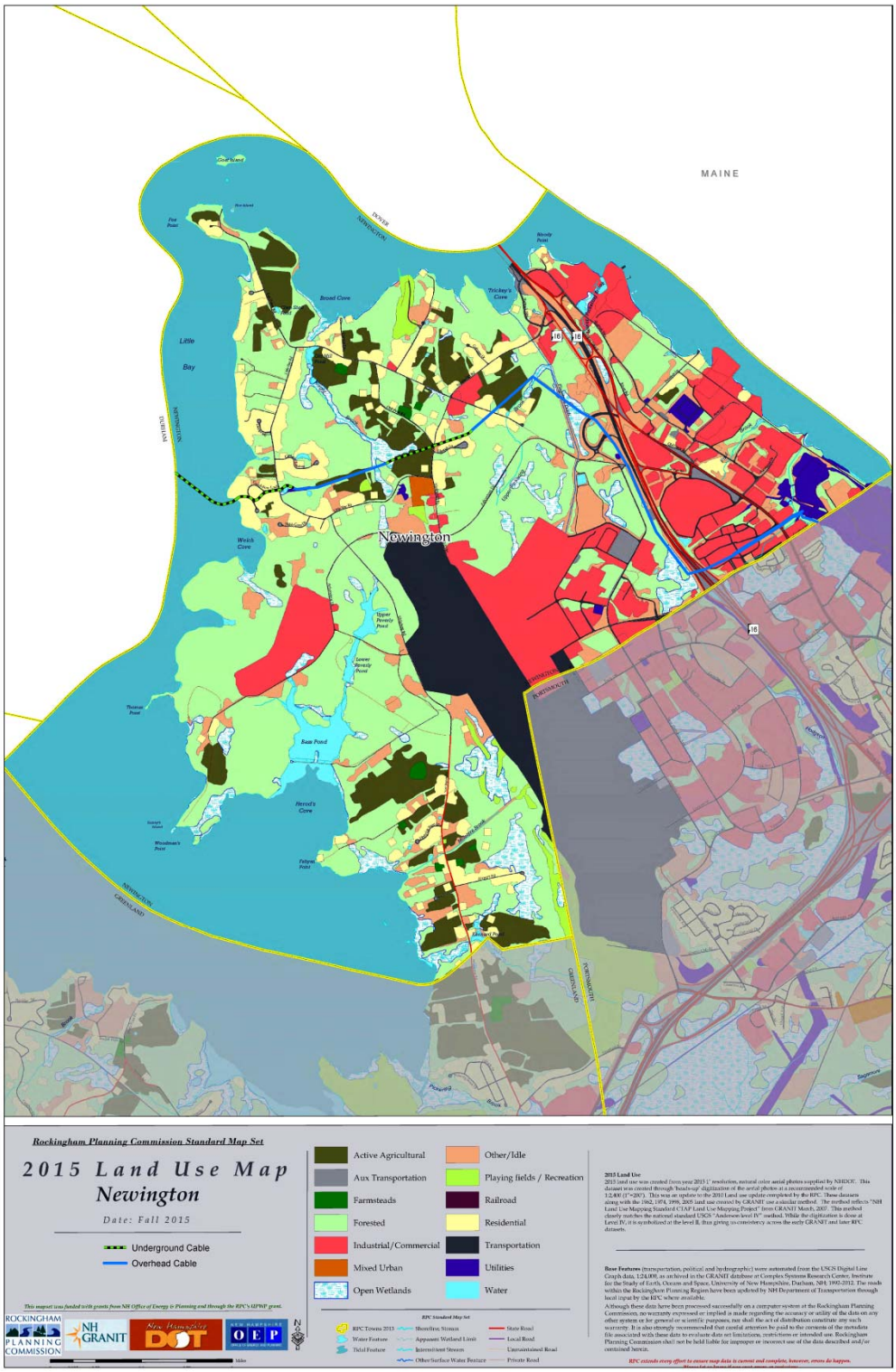
The Project transitions underground through the Darius Frink Farm and continues 2,860 feet under Old Post Road and Nimble Hill Road within the existing ROW to a point north of Hannah Lane and transitions to an overhead design west of Fox Point Road. The Applicant proposes to remove the existing distribution line in addition to placing the transmission line underground in this area.

Continuing northeast, there are two residences along the south of Fox Point Road which were constructed approximately 130 feet from the edge of the existing ROW, each with a wooded buffer. On the north side of the road, two houses are located about 300 feet from the corridor. The ROW then crosses a field, where the Applicant eliminated one structure redesigned the line to reduce visibility of the Project. The line then turns southeast between Pease and the Spaulding Turnpike, continues east and crosses the turnpike. Multi-family residences are located on the south side of Gosling Road, approximately 550 feet from the Project, as it continues parallel to the north of Gosling Road, within the parking area for the Crossings, an

open air mall with national big box retailers, a movie theater, and a number of chain restaurants. The Project continues east, crossing Woodbury Avenue, crossing Gosling Road to the existing substation which is in Portsmouth.

Land uses along the corridor and throughout the Town of Newington are reflected on the attached Existing Land Map using existing land use map from the Rockingham Planning Commission.

Existing Land Use
Newington, NH



Source: Rockingham Planning Commission, 2015.

A-4 Portsmouth

The land area now known as Portsmouth was originally part of a land grant to John Mason and Francisco Gorges in 1622. The grant included Portsmouth and the harbor, Greenland, Rye, New Castle and Newington. Originally named Pisacataqua, the territory eventually became known as Strawbery Banke. The name Portsmouth was adopted in 1653. Portsmouth was known as a center for trade and shipping, and became capital of the province of New Hampshire in 1679. It was incorporated as a city in 1849.

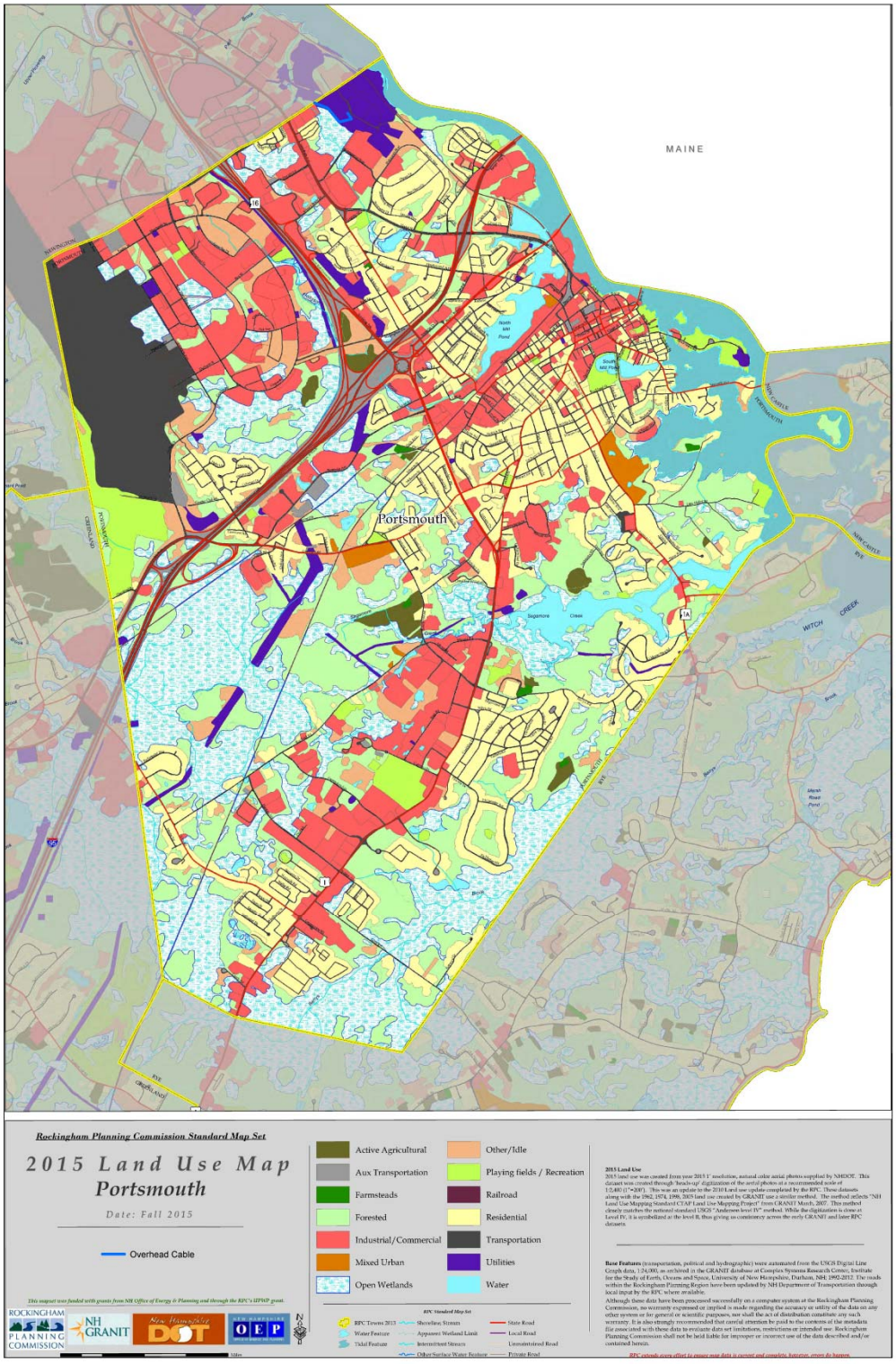
The population of Portsmouth in 2016 was about 21,485 residents. Portsmouth has about 16 square miles of land area, and about 1 square mile of inland water area, with a resulting population density of about 1,370.2 persons per square mile of land area, the third highest in the state among cities and towns (NHES, March 2018).

The Project corridor's land area in Portsmouth is approximately 4 acres, which is less than one percent of the city's total land area of about 10,240 acres (NHOEP, 2014/NHGRANIT, 2014). The Project ROW in Portsmouth is a short segment of about 0.3 mile, running from the Newington town line at Gosling Road to the Portsmouth substation.

Land uses along the Project corridor in Portsmouth are primarily industrial and commercial. The Project passes about 500 feet east of the Oriental Gardens manufactured home park, with woods between the development and the existing corridor and then turns east and enters into the existing substation.

Land uses along the corridor and throughout the City of Portsmouth are reflected on the attached Existing Land Use Map using data provided by the Rockingham Planning Commission.

Existing Land Use
Portsmouth, NH



Source: Rockingham Planning Commission, 2015

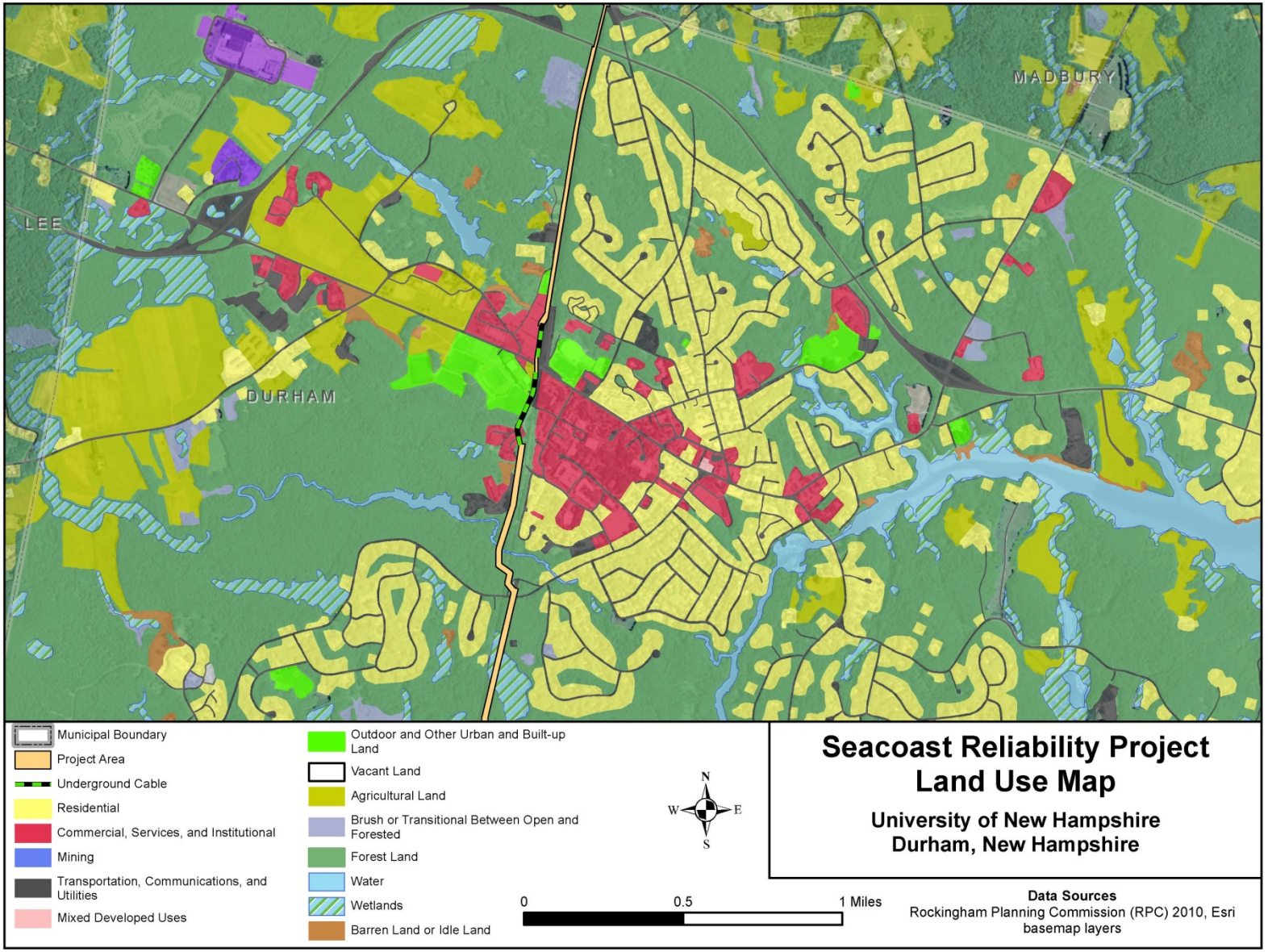
A-5 University of New Hampshire

The New Hampshire College of Agriculture and the Mechanic Arts was founded in 1866 with the goal of "fostering an educated citizenry" in New Hampshire. The college was originally located in Hanover and moved to Durham in 1893 after Benjamin Thompson, a wealthy farmer, bequeathed land and money for the development of the college. In 1893, the College opened its doors in Durham. The University of New Hampshire grew and expanded the academic fields of study and today functions as a land-grant and designated sea- and space-grant institution. The state's flagship university boasts about 13,000 students and hundreds of faculty and staff located on about 2,600 acres (unh.edu/main/brief-history, 2015).

The Project is located primarily along an existing electric ROW and an active rail line, as it travels through the western side of the University of New Hampshire campus. The ROW is just east of high-rise student housing, the Gables and associated parking lots and roadways. Continuing south along this corridor, the Project ROW moves slightly west on the edge of UNH A-Lot parking area, north of Main Street, where it transitions underground. The Project crosses under Main Street and remains buried while running past Wildcat Stadium to the west. The Project then daylights and continues across the Oyster River, before it crosses from the west side to the east side of the rail line. It continues south along the western parcel boundary of East Foss Farm and exits land owned by the University of New Hampshire.

Land uses along the corridor through the campus are reflected on the attached Existing Land Use Map of the University of New Hampshire, which was prepared using data from the Strafford Regional Planning Commission.

Existing Land Use
University of New Hampshire, Durham, NH



Source: Town of Durham Land Use Map, 2015.

A-6 Pease International Tradeport

The Pease International Tradeport is located in the middle of a peninsula, formed by the Pisacataqua River, Little Bay and Great Bay. It abuts Newington, Portsmouth and Greenland, and is within Rockingham County.

The 4,255-acre Pease Air Force Base was constructed between 1952 and 1956 after lands were purchased from property owners in Newington and Portsmouth. Land from Newington represented about 60% of the base and the remaining 40% was in Portsmouth.

Pease Air Force Base closed in 1991 after it was recommended and approved for closure in the federal Base Realignment and Closure Act (BRAC) process.

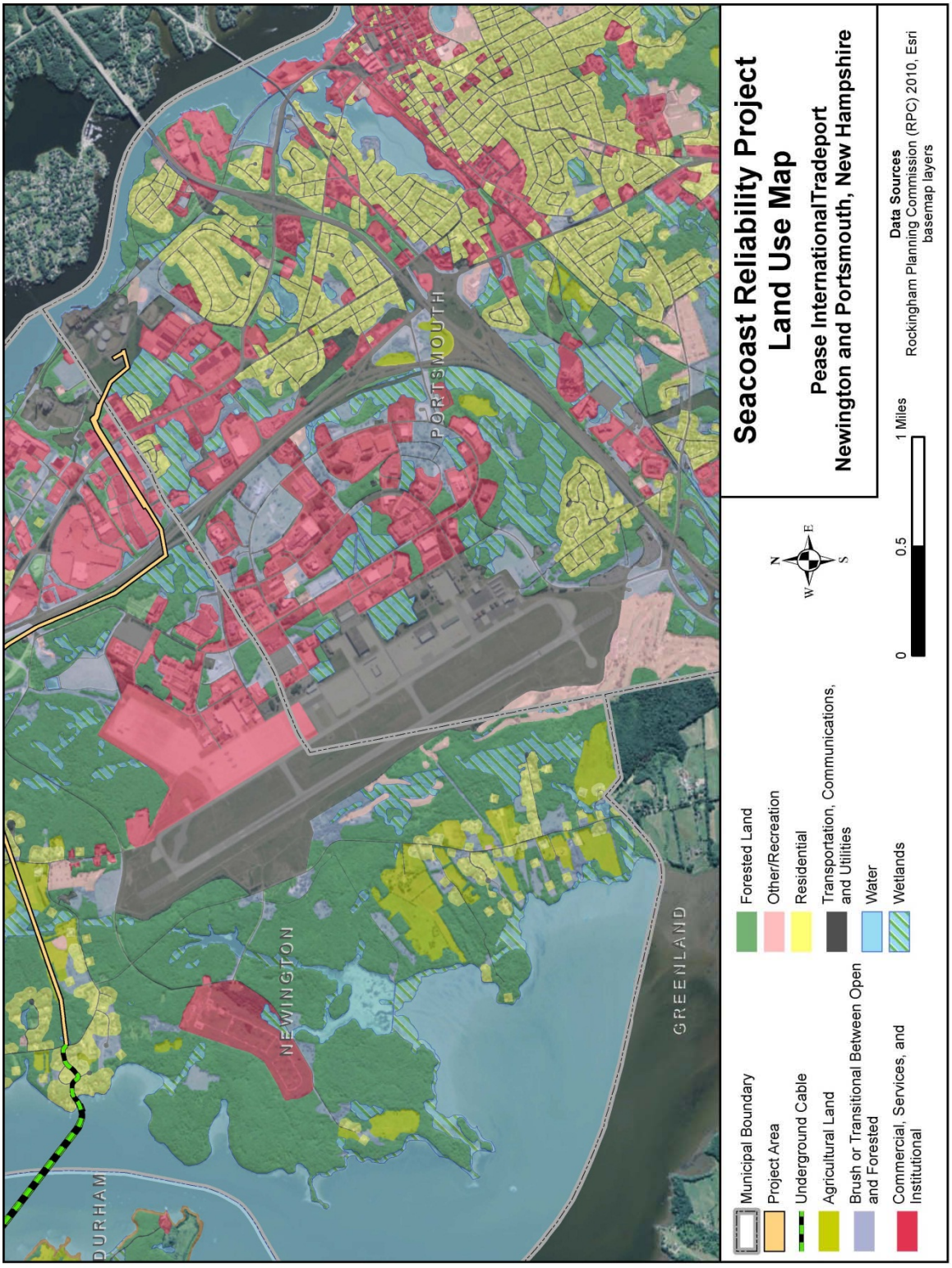
An airport layout plan for the Pease Airport was completed in 1991, and about 1,100 acres of land west of McIntyre Road was deeded to the US Fish and Wildlife Service for the creation of the Great Bay National Wildlife Refuge.

Today the Pease International Tradeport consists of the Portsmouth International Airport and over 3,000 acres of office and industrial space and over 250 companies employing more than 7,000 people occupying about 4 million square feet of office and industrial space. Pease also includes the 27-hole Pease Golf Course, restaurants, banks, college classrooms, and a hotel. The number of people working at the Pease International Tradeport in 2014 has nearly doubled since the closure of Pease Air Force Base was announced, a significant accomplishment for the PDA and the State of New Hampshire. Pease is home to the NH Air National Guard.

The Project ROW enters the northern corner of land owned by the Pease International Tradeport, and continues southeast along the border for about 3,000 feet to where it begins running adjacent to the Spaulding Turnpike. The ROW continues along the Spaulding Turnpike for about 4,000 feet where it exits the Pease International Tradeport property, crosses the turnpike, and continues to the substation.

Land uses along the corridor are reflected on the attached Existing Land Use Map of Pease International Tradeport prepared using data provided by the Rockingham Planning Commission.

Existing Land Use
Pease International Tradeport, NH



Source: Rockingham Planning Commission Land Use Data, 2010