

PSEG LONG ISLAND LLC
on Behalf of and as Agent for the
LONG ISLAND LIGHTING COMPANY d/b/a LIPA

Southampton to Deerfield Transmission Project

EXHIBIT 4 — ENVIRONMENTAL IMPACTS

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EXHIBIT 4: ENVIRONMENTAL IMPACTS

4.1 Introduction

This Exhibit summarizes potential environmental impacts associated with Project¹ construction, operation, and maintenance, and describes existing conditions, study methodologies and appropriate measures to be implemented to avoid or mitigate environmental impacts.

The Project has been designed and is planned to be constructed and operated in such a way as to avoid or minimize impacts to environmental resources in the vicinity of the Project. A combination of agency consultations (see Appendix B), literature review, GIS analysis, and field investigations have been conducted to identify and assess potential Project impacts to the following environmental resource categories:

- Land Use
- Visual Resources
- Cultural Resources
- Wetlands and Water Resources
- Terrestrial Ecology and Rare Species
- Topography and Soils
- Noise
- EMF

4.1.1 *Potential Impact Producing Activities*

Due to the nature of the Project as a transmission facility located primarily underground within public road rights-of-way between existing substations, environmental impacts associated with the operation and maintenance of the Project are not anticipated. There will be temporary impacts due to the clearing, installation, and restoration activities associated with Project construction.

Clearing

Prior to construction, the Project ROW will be surveyed to clearly mark the ROW edges and the limits of disturbance. Project construction may necessitate a limited amount of trimming or clearing of shrubs

¹ For clarity and consistency, the Application includes a Master Glossary of Terms that defines terms and acronyms used throughout the Application.

and trees along the ROW to provide unimpeded and safe access to work sites. Shrubs and low growing vegetation, and other vegetation that provide visual buffers in visually sensitive areas, will be retained to the maximum extent practical and only removed if they interfere with construction activities. Permanent tree clearing at Deerfield Substation will be required to accommodate the Facility. Any potential tree mortality will be discussed in the Restoration Plan submitted as part of the EM&CP. The specific clearing and vegetation management techniques to be used for the Project will be detailed in the EM&CP in accordance with the Applicant's currently-effective standard vegetation management practices outlined in its "Right-of-Way (ROW) and Grounds Maintenance Procedures." Measures to prevent or control the transport of invasive plant species during construction will also be detailed in the EM&CP.

Erosion and sediment control measures will be implemented due to the anticipated disturbance of greater than 1 acre and will be detailed in the EM&CP and in a Project-specific Stormwater Pollution Prevention Plan ("SWPPP"). Erosion and sediment control measures will be designed to maintain and protect soil and water resources during both the construction and operational phases of the Project.

Staging Areas

The Stony Brook University Southampton campus gymnasium parking lot, located at 70 Tuckahoe Road in the Town of Southampton, parcel ID 34058, has been identified as a potential Project laydown yard. The entire laydown yard parcel is 8.8 acres in size and is partially paved with asphalt. The entire surface area to be used as a marshalling yard is impervious and, therefore no earth disturbance would be required to convert the lot into a staging area. Temporary construction fencing in compliance with local standards is proposed to be added to the perimeter of the staging yard. Existing lighting in accordance with local ordinances is anticipated to be used.

Any additional proposed staging areas for office trailers, parking, and storage purposes during construction will be strategically placed at select locations along or adjacent to the Project ROW or at selected off-ROW locations, and specified in the EM&CP. The sites will be located adjacent to existing public roads where material deliveries can be efficiently conducted. Staging areas will be located to avoid environmentally sensitive features including wetlands, known archeological sites, and habitats that support rare, threatened, and endangered plants and animals.

Given the ready availability of developed commercial sites, use of an undeveloped site for construction staging is not anticipated. If suitable developed properties are not available, the establishment of additional staging areas could require vegetation clearing, removal and stockpiling of topsoil, grading,

spreading of ground cover, and fencing and installation of temporary utilities. Additional vegetation clearing and grading for site access may also be needed but is not anticipated.

Installation

The method to install the transmission line will be conventional open-cut trenching. Trenchless Horizontal Directional Drilling (“HDD”) and auger bore techniques are not anticipated for this Project, although final methods will be defined in the EM&CP. Along the majority of the proposed transmission line route, the general sequence of construction activities will include utility mark-outs, pavement saw-cutting, trench excavation, duct placement, backfilling, and temporary pavement restoration.

The LIRR tracks are elevated above North Sea Road at their intersection with that roadway within the Village of Southampton. The Project will be routed along North Sea Road at this location to avoid an at-grade crossing of the LIRR tracks.

Restoration

Clean-up and restoration activities will be conducted at all disturbed sites. For construction within the public roadway and in areas of pavement disruption, final pavement restoration will be performed to standards negotiated with by the authority having jurisdiction over the applicable roadway and will be performed prior to cable pulling and splicing operations. Areas not under pavement that are disturbed by construction will be restored in accordance with the EM&CP.

4.2 Land Use

4.2.1 Existing Land Use

The Project will not change existing land use in the vicinity of the Project. Existing land use adjacent to and within a quarter mile of the proposed Project ROW is shown in Figure 4.2-1 (Land Use).

The quarter-mile study area includes: residential; agricultural; vacant; wild, forested conservation and public lands; commercial; and public and community service land uses. Single family residential uses are present throughout all segments of the Project ROW and comprise approximately 40 percent of the total land area within a quarter mile of the Project. Agricultural uses are the second-most predominant land use, comprising approximately 27 percent of the study area, primarily occurring north of the Village of Southampton. Approximately 20 percent of the land within the study area is comprised of intermittently scattered vacant land.

The remaining approximately 13 percent of land use within the study area is comprised of land uses categorized as commercial, community services, public services, or wild, forested, conservation land and public lands. Such areas are located primarily in the southern portion of the proposed route, along North Sea Road and North Main Street, south of County Route 39A.

The residential density is slightly higher in the southern portion of the route in the Village of Southampton along Willow Street and North Main Street, extending into the Town of Southampton. The residential density lowers as the route continues north towards Deerfield Substation as the presence of agricultural parcels, vacant land, and larger residential lot sizes increases.

Table 4.2-1 (Land Use within the Study Area) quantifies the percentage of each type of land use within the Project study area along the proposed route.

**Table 4.2-1
Land Use within the Study Area**

Land Use Classification	% of Total Area
Residential	40.5
Agricultural	26.8
Vacant Land	19.8
Wild, Forested, Conservation Lands & Public Parks	6.4
Commercial	3.8
Public Services	1.9
Community Service	0.8
Total	100%

4.2.2 Other Land Use Policies

State of New York Public Policies

New York State Coastal Management Program

The New York State Coastal Management Program was established pursuant to the federal Coastal Zone Management Act of 1972 to maintain and manage New York State coastal resources. The Project is not located within the coastal zone designated by New York State (See Figure 4.2-2 Coastal Zone) and, therefore, is not subject to New York State’s coastal zone management policies.

New York State Climate Leadership and Community Protection Act (2019)

The New York State Climate Leadership and Community Protection Act (“CLCPA”) was enacted in July, 2019, and requires the reduction of economy-wide greenhouse gas emissions to 40 percent by

2030 and no less than 85 percent by 2050, compared to 1990 levels. The CLCPA includes additional goals such as, by 2030, 70 percent of electricity in the State will be generated by renewable energy.

The CLCPA also provides that projects permitted by State agencies should avoid disproportionately burdening disadvantaged communities (“DAC”). Accordingly, the Applicant performed an analysis to determine whether DACs or Potential Environmental Justice Areas (“PEJA”) exist within the study area.

That analysis revealed that no portion of the proposed Project route overlaps with a DAC. The nearest DAC is located approximately one mile west of the Southampton Substation. However, a portion of the route is within a PEJA. The portion of the Project within Southampton Substation property is within a PEJA and an additional approximately one mile of the proposed Project route is within a half mile of the PEJA. Figure 4.2-3 (Environmental Justice and Disadvantaged Community Areas) shows both DAC and PEJA in the Project area. However, due to the underground nature of the Project, limited substation work required for the Project, and the existing land use of that area, there is no expected impact on that PEJA. Small pockets of Spanish-speaking households were identified along both the Western and Eastern alternatives and, thus, interpretive services through the Public Outreach Plan have been initiated and will continue through Project construction. The Applicant’s Public Outreach Plan is designed to be consistent with NYSDEC’s Commissioner Policy 29.

New York State Open Space Conservation Plan (2016)

The New York State Open Space Conservation Program, first established in 1990, develops a strategy for the State’s land conservation efforts. The New York State Open Space Conservation Plan divides New York State into nine regions and identifies priority conservation areas within each region. The proposed route is fully located within Region 1: Long Island. There is one priority conservation project located in Suffolk County, but it is over five miles from the Project ROW.

Regional and Local Policies

LIPA is a corporate municipal instrumentality of the state, a body corporate and politic, and a political subdivision of the state, exercising essential governmental and public powers. Public Authorities Law, § 1020-c(1). In addition, Public Authorities Law § 1020-p provides that:

[i]t is hereby found and declared that the operation of the authority is primarily for the benefit of the people of the state of New York, for the improvement of their health, welfare and prosperity, and is a public

purpose, and the authority shall be regarded as performing an essential governmental function in carrying out the provisions of this title.

To carry out its essential governmental purposes, LIPA is required solely to “apply to the appropriate agencies and officials of the federal and state governments for such licenses, permits or approval of its plans or projects as it may deem necessary or advisable....” See Public Authorities Law § 1020-g(e).

Suffolk County Comprehensive Master Plan 2035

The Suffolk County Comprehensive Master Plan 2035 was published in 2015 as a strategic plan to achieve sustainable growth and resiliency and encourage the economic development in Suffolk County. Completion of the Project will advance these goals by providing increased electric system reliability to the growing county.

Town of Southampton Master Plan 1970

This master plan does not include any language applicable to the future goals of electric system in the Town of Southampton.

Town of Southampton Comprehensive Plan 1999

This comprehensive plan does not include any language applicable to the future goals of electric system in the Town of Southampton.

Town of Southampton Sustainability Plan (2013)

This addendum to the Town’s Mast Plan lists long-term energy planning, which includes the support of local utilities to upgrade their infrastructure. The Project will further the goals of the Town of Southampton by adding to the resiliency and reliability of the region’s electric transmission infrastructure.

Village of Southampton Comprehensive Master Plan 2022

The Village of Southampton has a Comprehensive Master Plan, adopted in 2022, which suggests a need to strategize energy goals to improve energy use.

4.2.3 Mitigation

Land Use

The majority of the Project will be completed within public roadway rights-of-way. Installation of the transmission circuits and substation equipment will not affect nearby land uses. The proposed route does not traverse FEMA floodplains, nor is it within the coastal zone boundary. For reference, Figure 4.2-4 (FEMA-Designated Flood Hazard Areas) shows the location of the Project relative to the nearby

flood hazard zones. The proposed construction is not anticipated to result in adverse impacts on flood hazard areas.

At seven locations, the Project route directly borders Agricultural District 5 in Suffolk County. However, because all construction will occur within public roadway right-of-way, no adverse impacts to agriculture are anticipated. Figure 4.2-5 (Agricultural Districts) depicts the Project route relative to agricultural districts.

Construction will be limited to the width of the current public roadway right-of-way. The southern portion of the proposed Project route adjoins agricultural parcels on the west and east sides of North Main Street, and on the south side of North Sea Mecox Road. The central portion of the proposed Project route adjoins agricultural parcels on the north and south sides of Edge of Woods Road. Areas of Project disturbance adjacent to agricultural parcels will be limited to the paved road and the road right-of-way shoulder. Erosion control measures will be utilized during construction activities to control sediment and stormwater runoff and minimize any potential impacts to agricultural lands.

The EM&CP will document the procedures that will be implemented during construction to minimize the effects of the construction on other nearby land uses. It is anticipated that, with the proper measures in place, there will be no significant adverse impacts to land use in the vicinity of the Project.

4.3 Visual Resources

Permanent visual impacts of the Facility are expected to be minimal or non-existent.

According to the NYSDEC Program Policy “Assessing and Mitigating Visual Impacts” (“DEP-00-2”), a “visual impact occurs when the mitigating effects of perspective do not reduce the visibility of an object to insignificant levels”. DEP-00-2 also provides guidance with respect to the definition of an “aesthetic impact”:

“Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility of a project, should not be a threshold for decision making. Instead a project, by virtue of its visibility, must clearly interfere with or reduce the public’s enjoyment or appreciation of the appearance of a significant place or structure.” (DEP-00-2, p. 15)

The Project is largely comprised of underground facilities, and the only permanent or aboveground construction elements are limited to manhole covers and substation equipment including grounding switches, termination structures, circuit breaker, disconnect switch, potential transformers, and all associated foundations, neither of which are expected to cause a detrimental visual impact.

Nevertheless, the Applicant conducted a visual assessment to address the necessity, if any, to further reduce visibility of the Project from areas of public view.

4.3.1 Existing Aesthetic and Visual Resources

An inventory of aesthetic and visual resources was prepared following the guidance in DEP-00-2. The inventory described in Table 4.3-1 (DEP-00-2-Defined Aesthetic and Visual Resources – Summary) includes resources within a three-mile radius of the proposed Project route identified as potentially possessing scenic or aesthetic value by local jurisdictions. The items listed in this table are represented on Figure 2-1 (NYS DOT Topographic Map) with shaded areas for both individual resources (i.e. a single residence) and districts (i.e. North Main Street Historic District).

**Table 4.3-1
DEP-00-2-Defined Aesthetic and Visual Resources – Summary**

NYSDEC Policy System Item	Aesthetic Resource Category	No. Of Resources in Study Area
A1	A property on or eligible for inclusion in the National or State Register of Historic Places	604
A2	State Parks	0*
A3	Heritage Areas (formerly known as Urban Cultural Parks)	0
A4	State Forest Preserve	0
A5	National Wildlife Refuges	1
A6	National Natural Landmarks	0
A7	The National Park System, Recreation Areas, Seashores, Forests	0
A8	Rivers designated as National or State Wild, Scenic or Recreational	0
A9	A site, area, lake, reservoir, or highway designated or eligible for designation as scenic	0
A10	Scenic Areas of Statewide Significance	0
A11	A State or federally designated trail, or one proposed for designation	0
A12	Adirondack Park Scenic Vistas	0
A13	State Nature and Historic Preserve Areas	4
A14	Palisades Park	0
A15	Bond Act Properties	2
A16	National Heritage Areas	0

*Note: 1 County Park, 14 Municipal Parks, and 7 School Recreation Areas are present in study area.

4.3.2 *Aesthetic and Visual Resources Inventoried within Visual Range of the Project*

NPV investigated the potential visual impact of Project construction and operation on the aesthetic and visual resources. The lists below identifies the aesthetic or visual properties that may be within the visual vicinity of the Project as identified in Figure 2-1 (NYSDOT Topographic Map).

Properties on or eligible for inclusion in the National or State Register of Historic Places

Several eligible or listed historic properties and districts are located adjacent to or are in close proximity to the public roadway right-of-way and would have lines of sight to the construction of the Project.

- North Main Street Historic District – Southampton
 - Residence C1, located at 208 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.
 - Residence C2, located at 210 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.
 - Residence C3, located at 219 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.
 - Residence C4, located at 234 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.
 - Residence C5, located at 244 North Main Street includes a slight vegetative buffer and fence that limits some lines of sight to and from the first story of the residence. There is minimal vegetative buffer obstructing views to or from the second story of this resource to or from the surface of North Main Street.
 - Residence C6, located at 251 North Main Street includes a slight vegetative buffer and fence that limits some lines of sight between North Main Street and the residence.
 - Residence C7, located at 255 North Main Street has a robust vegetative buffer. The only line of sight to or from North Main Street is straight down the driveway.
 - Residence C8, located at 261 North Main Street has a robust vegetative buffer with no lines of sight between the residence and North Main Street.
 - Residence C9, located at 276 North Main Street has some vegetative buffer and several lines of sight exist to the adjacent section of North Main Street.

- Residence C10, located at 281 North Main Street appears to be undergoing construction or renovation. From visual inspection during recent site review, the formally historic property has been significantly renovated or removed.
- Residence C11, located at 300 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.
- Residence C12, located at 305 North Main Street includes a robust vegetative buffer that limits lines of sight to and from the first story of the residence. There is minimal vegetative buffer obstructing views to or from the second story of this resource to or from the surface of North Main Street.
- Residence C13, located at 310 North Main Street includes a slight vegetative buffer and fence that limits some lines of sight between the residence and North Main Street.
- Residence C14, located at 320 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.
- Residence C15, located at 325 North Main Street has a robust vegetative buffer with no lines of sight to or from the residence to or from North Main Street.
- Residence C16, located at 328 North Main Street includes a slight vegetative buffer and fence that limits some lines of sight between the residence and North Main Street.
- Residence C17, located at 338 North Main Street includes a slight vegetative buffer and fence that limits some lines of sight between the residence and North Main Street.
- Residence C18, located at 241 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.
- Southampton Fuel Co., C19, located at 224 North Main Street has minimal vegetative buffer. Views are unobstructed to and from this resource to or from the surface of North Main Street.

Schools

None of the mapped schools are within visual range of the Project.

Scenic Byways

The proposed Project route does not cross any scenic byways. There will be no visual impact to scenic byways.

National Wildlife Refuges

None of the mapped national wildlife refuges areas are within visual range of the Project.

Recreation Areas

None of the mapped recreation areas are within visual range of the Project.

School Recreation Areas

None of the mapped school recreation areas are within visual range of the Project.

State Nature and Historic Preserve Areas

None of the mapped state nature and historic preserve areas are within visual range of the Project.

Bond Act Properties

Neither of the two mapped bond act properties are within visual range of the Project.

4.3.3 *Visual Resources Impacts and Mitigation*

While there are many visual resources within the study area, the Project is largely comprised of underground facilities. The underground installation of many Project facilities will minimize their visibility from public view. The aboveground construction elements are limited to substation connections and manhole covers.

The existing substations will need associated aboveground termination structures to accommodate the additional line. Additions to substations will be within the current substation fence line, resulting in very limited visual impact. Other utilities currently exist along the route so the addition of intermittent at-grade manholes will likely have minimal visual impact.

Tree clearing and vegetation removal will be determined on a case-by-case basis and avoided as much as practicable. Disturbed vegetation within the Project ROW will be restored as work is completed as

detailed in the EM&CP. A Restoration Plan will be prepared and included as part of the EM&CP for impacted trees and larger vegetation.

4.3.4 *Temporary Visual Impacts*

Temporary visual impacts to residents, motorists, and pedestrians will take place during installation of the cable. Visual impacts will include effects resulting from construction equipment staging and operations within and along existing public road rights-of-way. Construction activities will progress along the route exposing each area for a limited amount of time. While Project activities will be continuous during the installation and cable route construction period, no one location will be visually impacted for a significant duration because of the generally linear nature of the Project. The EM&CP will address efforts that will be employed to further mitigate potential construction related visual impacts. No significant visual impacts are anticipated to result from Project construction activities.

4.4 Cultural Resources

The impact of the Facility on cultural resources is anticipated to be minimal due to the degree of observable prior ground disturbance within the Project ROW and the limited extent of the aboveground work at the existing substations. While numerous properties of architectural or historic significance exist in the general Project area, the construction of an underground transmission line has no potential to affect such resources.

This section describes the existing cultural resources located in the vicinity of the Project and evaluates the potential impacts to cultural resources which may occur as a result of the construction, operation, and maintenance of the Project. The Applicant commissioned a Phase IA Literature Search and Sensitivity Study and Phase IB Field Investigation from TRACKER Archaeology, Inc.

Consultation with the New York OPRHP concluded that the Project would have no effect on archaeological or historic resources. This correspondence can be found in Appendix B – Agency Consultation. The locations of state listed historic sites in the vicinity of the Project are shown in Figure 2-1 (NYSDOT Topographic Map).

4.4.1 *Existing Cultural Resources*

Outside of the Project substation properties, the area of potential ground disturbance associated with the Project is anticipated to be limited to within the Project ROW, including the shoulders of the public

roadway rights-of-way where the Project will be located. With the exception of a proposed marshalling yard at the Stony Brook University Southampton campus gymnasium parking lot, other laydown, staging and work areas have not yet been defined for this Project, but it is expected that these will be located in areas of impervious cover in order avoid unnecessary ground disturbance. The potential for effects on archaeological resources associated with the use of laydown, staging and work areas, and other design changes that occur in the Project's final design phase will be reevaluated when the locations of these other areas have been identified in the EM&CP.

Additional property rights are not currently anticipated as all installation and staging are planned to occur within public property within which LIPA holds franchise rights or property owned by the Applicant.

Phase IA Methodology and Results

For the Phase IA assessment, prehistoric and historic information relative to existing cultural resources was obtained through publicly available municipal reports and documents, OPRHP's online Cultural Resource Information Service ("CRIS"), and other various archival literature, maps, and documents. Factors taken into consideration in assessing Project sensitivities and potential effects included:

- The presence or absence of known archaeological sites within the Project's limit of disturbance, from shoulder to shoulder of the public roadway ROW and the Project substation work areas;
- The presence or absence of known historic architectural resources in the Project vicinity;
- Environmental characteristics likely to have influenced prehistoric and historic settlement patterns (e.g., distance to water, slope, soil types); and
- The historical development of the Project vicinity.

No prehistoric sites were identified within a 1-mile radius of the Project ROW despite the Project area having moderate potential. There is a Native American trail in the nearby vicinity of the Project that was recorded in the seventeenth century which likely was along present-day County Route 39A. During the Contact Period, records also note planting fields near the village, and cellars from settlers. The area was primarily forested with some open areas. By the eighteenth century, more land was converted into pastureland, and Shinnecock territory was defined. In the nineteenth century settlements were noted in the current Village and Town of Southampton. Development continued in the Village and Town of Southampton in the twentieth century.

TRACKER Archaeology, Inc. concluded that the area near the Southampton Substation has a higher-than-average potential for the recovery of Euro-American historic sites. The area surrounding Deerfield

Substation has a low potential. Three historic sites were recorded within one mile of the Project ROW and are captured below in Table 4.4-1 (New York SHPO Sites Within a one-mile Radius of the Project).

Table 4.4-1
New York SHPO Sites Within a one-mile Radius of the Project

SHPO Site Identification	Distance from the Project (feet)	Site Description
A10309.000305	1,706	D. Jagger Site: complete superstructure
A10357.000421	3,250	Mill Hill Mill: moved between 1873 & 1902, moved 1889
90NR01920	921	Southampton Village Historic district

The information in this table was provided by TRACKER Archaeology, Inc.

Phase IB Methodology and Results

The Applicant contracted a Phase IB assessment for the Project to confirm the potential for archaeological resources along the site. Coordination with New York OPRHP concluded no effect on state and nationally listed resources as documented in the correspondence included in Appendix B – Agency Coordination.

The field methods for the Phase IB assessment included a walkover and shovel testing along the Project route. Southampton Substation and Deerfield Substation are the only areas of the Project that are within natural landscape. The installation of the splice vaults has the potential to impact the soft shoulder of the roadway. Due to the previous disturbances of soils along the soft shoulder, these areas were examined but not screened. The walkover portion of the field investigation included reconnoitering exposed and covered ground surfaces for artifacts or features that may be evidence for prehistoric or historic sites. A total of 28 shovel testing pits at Southampton Substation and Deerfield Substation were performed at 15-meter intervals, measuring 30 centimeters in diameter, and 10 to 20 centimeters in depth into the subsoil. The excavated soil was screened through a quarter-inch wire mesh to observe potential artifacts.

No prehistoric or historic artifacts or features were encountered during the Phase IB Assessment.

4.4.2 Cultural Resources Effects and Mitigation

TRACKER Archaeology, Inc concluded that the Project area has a moderate potential for the recovery of prehistoric sites and the Project area near the Southampton Substation has a higher-than-average

potential for the recovery of historic sites. While site potential was moderate or higher for the Project area, field survey revealed no prehistoric or historic features. Additionally, most of the Project area consists of land that has been subjected previously to extensive filling and a variety of other disturbance factors which makes it further unlikely that the Project would encounter archaeological resources.

Construction of the proposed underground transmission line has no potential to adversely affect aboveground cultural resources (historic buildings and structures). Further, construction of the proposed underground transmission line within existing roadway rights-of-way makes it highly unlikely that the proposed underground construction would affect archaeological deposits associated with New York or National Register-listed buildings or structures or sites that might be deemed individually eligible for listing.

As depicted on Figure 2-1 (NYSDOT Topographic Map), eligible and listed properties on the State and/or National Register are located along the Project route. While these properties illustrate the fact that there are many significant architectural resources in the general area, the construction of an underground transmission line will not negatively impact or affect these properties.

4.5 Wetlands and Water Resources

The installation, operation, and maintenance of the Facility is not anticipated to cause impacts to wetlands because no wetlands, streams, or other bodies of water have been identified during field investigations or via review of published wetland maps within or adjacent to the Project.

Information relative to existing wetlands, streams and water resources was obtained through several sources including NYSDEC topographical maps, the USFWS National Wetland Inventory (“NWI”) maps, and publicly available GIS data sources. In addition to desktop surveys, the Project route was reviewed in the field for the presence or absence of wetlands and water resources by the Project’s field evaluation team. A visual inspection of the Project ROW and 100 feet on either side of the Project route was performed to determine if wetlands were present within or immediately adjacent to the ROW which would trigger the need for formal delineation in accordance with USACE and NYSDEC guidance manuals.

4.5.1 Existing Wetland and Water Resources

The Project is located within the USGS Southern Long Island Watershed (Hydrologic Unit Code 02030202)², which includes areas of Kings, Queens, Nassau, and Suffolk Counties. This watershed is within the Shinnecock Bay-Atlantic Ocean drainage basin, specifically the Heady Creek-Shinnecock Bay and the Mecox Bay (respective Hydrologic Unit Codes 020203030604 and 020302020605)³. Figure 4.5-1 (Wetlands and Surface Waters) depicts the locations of water resources identified within the study area and confirmed with field reconnaissance conducted in August and September 2023. No such resources were identified within or along the Project ROW.

USFWS NWI mapping, NYSDEC Environmental Resource Mapping, as well as the field investigations performed by NPV concluded that no wetlands or surface water resources are present along the Project route. USACE concurred that no USACE-regulated wetlands are traversed by the proposed Project route. See Appendix B for agency concurrence.

4.5.2 Wetland and Aquatic Resources Impacts and Mitigation

As no wetlands, streams, or bodies of water have been identified during field investigations or on published wetland maps within or adjacent to the Project ROW, no impacts to wetlands, streams, or other surface waterbodies are anticipated to result from the Project.

The Project does not anticipate the use of blasting or other explosives, or the introduction of pollutants, in or near streams or other bodies of water. Accordingly, the Applicant has not proposed mitigation or further protective measures for fish or other aquatic life from harm arising from the use of such explosives or pollutants.

Erosion and sediment control measures to be implemented will be detailed in the EM&CP and in a Project-specific SWPPP. Erosion and sediment control measures will be designed to maintain and protect soil and water resources during both the construction and operational phases of the Project.

² United State Geological Survey (USGS) n.d. Science in Your Watershed Locate Your Watershed. Available Online: <https://water.usgs.gov/wsc/cat/02030202.html>. Accessed 9/28/2023.

³ New York State Department of Environmental Conservation (NYSDEC). n.d. Waterbody Inventory/Priority Waterbodies Accessed 10/09/2023.

4.6 Terrestrial Ecology and Rare Species

The installation, operation, and maintenance of the Facility is not anticipated to have an adverse impact on terrestrial ecology and rare species resources in the Project area. The resources evaluated for potential impacts from the Project include vegetation, wildlife, and endangered and threatened species. Information relative to location, type and characteristics of vegetated communities and wildlife habitat was assessed through a review of aerial photographs, available GIS data, agency consultations, and field reconnaissance conducted by NPV. Publicly available documentation of existing conditions within the Project area includes the following materials and data:

- USFWS NWI maps;
- Information on rare, threatened, and endangered species or special habitats within the vicinity of the study area as obtained through the NYSDEC NYNHP; and
- USFWS Information for Planning and Consultation (“IPaC”).

A complete record of agency consultations can be found in Appendix B – Agency Correspondence.

4.6.1 *Significant Natural Communities*

The NYSDEC defines areas known as “Significant Natural Communities” (“SNCs”) as rare or high-quality ecological areas including certain wetlands, forests, grasslands, ponds, streams, and other landforms that constitute significant habitats. The NYNHP documents the location of natural communities where the community type is rare in New York State, or, for more common community types, where the community at that location is a high-quality example and meets specific, documented criteria for state significance in terms of size, undisturbed and intact condition, and the quality of the surrounding landscape. Not all of New York State lands have been surveyed for the presence of SNCs, nor have the lands been surveyed to definitively delineate the extent of each feature, therefore New York State identifies areas within a half mile buffer to a SNC as a Natural Communities Vicinity (“NCV”). For purposes of this assessment, a half-mile wide corridor was established around the proposed Project ROW to demonstrate the distance to nearby SNCs. Figure 4.6-1 (Significant Natural Communities) provides the location of NYSDEC-mapped SNCs in the vicinity of the proposed Project ROW. No SNC, nor their half-mile-wide NCV overlapped with this assessment’s Project ROW half-mile corridor. These features are identified in the following Table 4.6-1 (NYSDEC-Mapped Significant Natural Communities Identified in the Vicinity of the Proposed Route). The SNCs identified are as follows:

Table 4.6-1
NYSDEC-Mapped Significant Natural Communities Identified in the Vicinity of Proposed Route

Site Name	Site Location	Community Type	General Description*
North Sea Cedar Swamp	Approximately 1.1 miles northwest of the Project ROW. The Project ROW buffer and the SNC vicinity buffer do not overlap.	Coastal plain Atlantic white cedar swamp	This palustrine forested peatlands are identifiable by the Atlantic white cedars in open areas within the swamp. The significance of this community is the high quality occurrence of the rare community type.
Mecox Bay	Approximately 1.4 miles southeast of the Project ROW. The Project ROW buffer and the SNC vicinity buffer do not overlap.	Marine back-barrier lagoon	The significance of this community is the high quality occurrence of the rare community type.
Southampton and East Hampton Beach	Approximately 1.6 miles southeast of the Project ROW. The Project ROW buffer and the SNC vicinity buffer do not overlap.	Marine intertidal gravel/sand beach	This marine intertidal community is constantly exposed to wave action, ocean wind, and salt spray. The significance of this community is the high quality occurrence of the rare community type.
Big Woods	Approximately 1.9 miles northwest of the Project ROW. The Project ROW buffer and the SNC vicinity buffer do not overlap.	Coastal oak-beech forest	Beech-drops, a parasitic plant on beech trees are characteristic of this forested uplands. The significance of this community is the high quality occurrence of the uncommon community type.
Conscience Point	Approximately 2.4 miles northwest of the Project ROW. The Project ROW buffer and the SNC vicinity buffer do not overlap.	Maritime grassland	The terrestrial, grass-dominated open uplands is near the ocean and in the range of offshore winds and salt spray. The significance of this community is the high quality occurrence of the rare community type.

*From NYNHP community type guide

4.6.2 *Vegetation*

Vegetation clearing may be required for proposed construction activities outside of the public roadway and along the roadway shoulders to provide a safe workspace. Tree clearing will be necessary to accommodate the installation of the Project into Deerfield Substation. Previously cleared areas leading up to Deerfield Substation do not have adequate space to accommodate an additional underground facility and, thus, clearing an additional area will be required. During NPV's field investigations, they reviewed the area of proposed clearing near Deerfield Substation and concluded that, if USFWS and

NYNHP guidance is followed, there would be no impact to habitats or species of concern. Tree mortality, particularly at and around splice vaults, may occur due to the mature tree growth across the road. Disturbance will be limited to temporary impacts associated with equipment access and trenching activities and will primarily occur within plant communities along the Project route that are previously disturbed and or maintained. Any clearing activities will be detailed in the EM&CP which will also include a Restoration Plan. The Restoration Plan will detail substantive plantings.

The Project route is located within the Coastal Lowlands “EcoZone,” which includes all of Long Island. The ecological communities encountered within the Project route are consistent with typical suburban development encountered in eastern Long Island, including residential, commercial, agricultural, and developed landscapes. The ecological community definitions provided below are consistent with the classification system presented in *Ecological Communities of New York State, Second Edition*⁴.

The proposed Project route is primarily located within existing public roadway rights-of-way. Portions of the proposed route cross local and county roads, which primarily consist of impervious surfaces and pavement. While the route itself will be restricted to installation within a roadway, surrounding habitats include mowed lawns, lawns with trees, mowed roadsides, coastal oak beech forest, pitch pine oak forest, successional shrublands, and successional southern hardwoods. The installation of the transmission line primarily within the roadway right -of-way will minimize but not eliminate the need for vegetation and tree clearing.

The Southampton Substation and Deerfield Substation are located within fenced and gated security perimeters. The ground surface throughout the interior of the secured perimeter is overlain with crushed stone and other fill materials. No protected vegetated communities or wildlife habitat is located within either substation. Clearing will occur around the Deerfield Substation, within the substation property lines, following protection guidelines set forth in Section 4.6.4. Endangered, Threatened, and Special Concern Species.

All Project laydown, staging, and work areas have yet to be defined, however they are planned to be located in areas of impervious cover to the extent practicable and thus will avoid unnecessary ground

⁴ Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2014. *Ecological Communities of New York State. Second Edition*. A revised and expanded edition of Carol Reschke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

disturbance. The one identified marshalling yard location is at the Stony Brook University Southampton campus asphalt-paved gymnasium parking lot.

4.6.3 *Invasive Species*

As defined in 6 NYCRR Part 575, invasive species are nonnative plant or animal species that can cause harm to the environment, economy, or human health. The presence of invasive plant and animal species is a widespread and common occurrence throughout the areas adjacent to the existing public roadway ROW and was verified in the Project vicinity during field reconnaissance.

Based on the location of the Project primarily within existing public roadway rights-of-way, interaction with invasive plant species will be limited to areas that are subject to tree clearing or vegetation removal. Tree clearing and vegetation removal will be determined on a case-by-case basis and avoided to the extent practicable. Tree clearing and vegetation removal will be identified during final design and presented in the EM&CP.

The NYNHP manages the New York iMap Invasive Species Database and Mapping System. This online database contained records identifying a total of eight nonnative plant species occurrences within or proximate to the proposed route. These invasive plant species are described in Table 4.6-2 (Invasive Species Recorded within the Proposed Route).

Table 4.6-2
Invasive Species Recorded Within the Proposed Route

Location	ID	Scientific Name	Common Name	Observed
West side of North Main Street, north of Newberry Lane, south of Clearview Farm Road	476215	<i>Aralia elata</i>	Japanese Angelica Tree	10/17/2014
	425796	<i>Aralia elata</i>	Japanese Angelica Tree	10/17/2014
East side of North Main Street, north of Newberry Lane, south of Clearview Farm Road	421461	<i>Aralia elata</i>	Japanese Angelica Tree	10/17/2014
Southwest corner of North Main Street and North Sea Mecox Road	367507	<i>Rubus phoenicolasius</i>	Wineberry	1/1/1962
South side of North Sea Mecox Road, east of North Main Street, west of David Whites Lane	403070 412223 352953	<i>Heracleum mantegazzianum</i>	Giant Hogweed	7/11/2012 6/5/2013 1/1/2011
North side of Edge of Woods Road, immediately west of Edge Avenue	1273577	<i>Litylenchus crenatae maccanni</i>	Beech leaf disease nematode	6/2/2022

Additional communities of invasive species were identified during field reconnaissance between August 24th and September 20th, 2023. Approximately 14 percent of the roadway rights-of-way within the Project area is dominated by invasive species. The area surrounding the proposed Project ROW is dominated by mowed lawn and lawn with sparse shrub or tree coverage habitats along the roadsides. Coastal Oak beech habitat is the second largest habitat classification found within the surrounding work area followed by successional southern hardwoods. Two small patches of pitch pine oak, and successional shrublands also exist along the Project route.

A description of the approximate location of the community, habitat classification, and a list of the predominant invasive species are included in the table below, Table 4.6-3 (Invasive Species Identified Within the Proposed Route).

Table 4.6-3
Invasive Species Identified Within the Proposed Route

Location	Habitat Classification	Scientific Name	Common Name
Habitat Area 1: Southwest of Southampton Substation	Successional Southern Hardwoods	<i>Acer platanoides</i>	Norway Maple
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Celastrus obiculatus</i> <i>Thunb</i>	Oriental Bittersweet
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Hygrophila difformis</i>	Wisteria
		<i>Euonymus alatus</i>	Winged Euonymus
		<i>Ligustrum spp.</i>	Privet
Habitat Area 2: South of the LIRR crossing at North Sea Road	Mowed Lawn with Trees	<i>Acer platanoides</i>	Norway Maple
		<i>Celastrus obiculatus</i> <i>Thunb</i>	Oriental Bittersweet
Habitat Area 3: South of the intersection of North Main Street and County Route 39A	Successional Southern Hardwoods	<i>Acer platanoides</i>	Norway Maple
		<i>Ailanthus altissima</i>	Tree of Heaven
		<i>Robinia pseudoacacia</i>	Black Locust
		<i>Hygrophila difformis</i>	Wisteria
Habitat Area 4: South and north of the intersection of North Main Street and County Route 39A	Successional Southern Hardwoods	<i>Acer platanoides</i>	Norway Maple
		<i>Ailanthus altissima</i>	Tree of Heaven
		<i>Robinia pseudoacacia</i>	Black Locust
		<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus</i> <i>Thunb</i>	Oriental Bittersweet
		<i>Alliaria petiolata</i>	Garlic Mustard
Habitat Area 5: North of County Route 39A on North Main Steet	Mowed Lawn	<i>Acer platanoides</i>	Norway Maple
		<i>Ailanthus altissima</i>	Tree of Heaven
		<i>Celastrus obiculatus</i> <i>Thunb</i>	Oriental Bittersweet
		<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Artemisia vulgaris</i>	Mugwort

**Table 4.6-3
Invasive Species Identified Within the Proposed Route**

Location	Habitat Classification	Scientific Name	Common Name
		<i>Aralia elata</i>	Angelica Tree (Aralia)
Habitat Area 6: North of County Route 39A on North Main Steet	Successional Southern Hardwoods	<i>Acer platanoides</i>	Norway Maple
		<i>Ailanthus altissima</i>	Tree of Heaven
		<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet
		<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Aralia elata</i>	Angelica Tree (Aralia)
		<i>Persicaria perfoliata</i>	Mile a Minute
		<i>Phytolacca americana</i>	Pokeweed
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Smilax spp.</i>	Greenbrier
Habitat Areas 7 and 8: North of County Route 39A on North Main Steet	Successional Southern Hardwoods	<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet
		<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Smilax spp.</i>	Greenbrier
Habitat Area 10: North Sea Mecox Road	Mowed Lawn	<i>Bambusoideae</i>	Bamboo
		<i>Amp</i>	Miscanthus
		<i>Persicaria perfoliata</i>	Mile a Minute
		<i>Hygrophila difformis</i>	Wisteria
		<i>Phytolacca americana</i>	Pokeweed
	Successional Southern Hardwood	<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet
		<i>Hygrophila difformis</i>	Wisteria
		<i>Euonymus alatus</i>	Winged Euonymus
		<i>Ampelopsis brevipedunculata</i>	Porcelain Berry
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Elaeagnus umbellata</i>	Autumn Olive

Table 4.6-3
Invasive Species Identified Within the Proposed Route

Location	Habitat Classification	Scientific Name	Common Name
Habitat Area 11 and 12: Intersection of North Sea Mecox Road and David Whites Lane	Successional Southern Hardwood	<i>Rosa multiflora</i>	Multiflora Rose
		<i>Elaeagnus umbellata</i>	Autumn Olive
		<i>Persicaria perfoliata</i>	Mile a Minute
		<i>Miscanthus sinensis</i>	Miscanthus
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Robinia pseudoacacia</i>	Black Locust
Habitat Area 12: David Whites Lane	Successional Southern Hardwood	<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Lonicera spp.</i>	Honeysuckle
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Acer platanoides</i>	Norway Maple
		<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet
Habitat Area 13: Intersection of David Whites Lane and Edge of Woods Road	Successional Southern Hardwood	<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Lonicera spp.</i>	Honeysuckle
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Acer platanoides</i>	Norway Maple
		<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet
		<i>Robinia pseudoacacia</i>	Black Locust
		<i>Gleditsia triacanthos</i>	Honey Locust
		<i>Smilax spp.</i>	Greenbrier
Habitat Area 14: Edge of Woods Road	Mowed Lawn with Trees	<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Lonicera spp.</i>	Honeysuckle
		<i>Artemisia vulgaris</i>	Mugwort
		<i>Acer platanoides</i>	Norway Maple
		<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet

**Table 4.6-3
Invasive Species Identified Within the Proposed Route**

Location	Habitat Classification	Scientific Name	Common Name
		<i>Robinia pseudoacacia</i>	Black Locust
		<i>Gleditsia triacanthos</i>	Honey Locust
		<i>Smilax spp.</i>	Greenbrier
		<i>Ligustrum spp.</i>	Privet
	Successional Southern Hardwood	<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet
		<i>Ligustrum spp.</i>	Privet
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Smilax spp.</i>	Greenbrier
	Habitat Area 15: Edge of Woods Road	Coastal Oak-Beech Forest	<i>Hygrophila difformis</i>
<i>Celastrus obiculatus Thunb</i>			Oriental Bittersweet
<i>Rosa multiflora</i>			Multiflora Rose
<i>Smilax spp.</i>			Greenbrier
Successional Southern Hardwood		<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus Thunb</i>	Oriental Bittersweet
		<i>Acer platanoides</i>	Norway Maple
Habitat Area 16: Edge of Woods Road	Coastal Oak-Beech Forest	<i>Elaeagnus umbellata</i>	Autumn Olive
Habitat Area 17: Edge of Woods Road	Successional Shrublands	<i>Elaeagnus umbellata</i>	Autumn Olive
Habitat Area 18: Edge of Woods Road	Mowed Lawn	<i>Artemisia vulgaris</i>	Mugwort
		<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Smilax spp.</i>	Greenbrier
	Successional Southern Hardwood	<i>Artemisia vulgaris</i>	Mugwort
		<i>Alliaria petiolata</i>	Garlic Mustard
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Smilax spp.</i>	Greenbrier
		<i>Robinia pseudoacacia</i>	Black Locust

**Table 4.6-3
Invasive Species Identified Within the Proposed Route**

Location	Habitat Classification	Scientific Name	Common Name
Habitat Area 20: Intersection of Edge of Woods Road and Water Mill Towd Road	Successional Southern Hardwood	<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus</i> <i>Thunb</i>	Oriental Bittersweet
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Smilax spp.</i>	Greenbrier
Habitat Area 23: Water Mill Towd Road	Mowed Roadside	<i>Hygrophila difformis</i>	Wisteria
		<i>Celastrus obiculatus</i> <i>Thunb</i>	Oriental Bittersweet
		<i>Rosa multiflora</i>	Multiflora Rose
		<i>Smilax spp.</i>	Greenbrier

Note: Numbered habitat areas are defined in the attached habitat maps.

4.6.4 Endangered, Threatened, and Special Concern Species

Section 7(a) of the ESA establishes a national program, headed by the USFWS, for the conservation of federally threatened and endangered species and their respective habitats. The USFWS also maintains protections for federally protected bald and golden eagle species through the Bald and Golden Eagle Protection Act (“BGEPA”) and for migratory bird species under the Migratory Bird Treaty Act (“MBTA”).

The Applicant obtained a species list through the USFWS’s IPaC online service (Project Code: 2023-0125650) on September 12, 2023. The potential species of interest included on the initial IPaC report included the endangered northern long-eared bat (*Myotis septentionalis*), the threatened piping plover (*Charadrius melodus*) and red knot (*Calidris canutus rufa*), and the candidate species the monarch butterfly (*Danaus plexippus*). No critical habitats were listed in the IPaC report. A letter with the IPaC report attached, was submitted to the USFWS on October 25, 2023 to request official consultation. At the time of this application, the USFWS has not provided an official closeout form, however it has provided concurrence that the Project would likely not impact northern-long eared bats or result in a likely take of the species. The response is included in Appendix B – Agency Coordination.

The NYSDEC maintains state listed endangered, threatened, and special concern fish and wildlife species of New York State and regulates threatened and endangered species under the Environmental

Conservation Law (“ECL”) and its implementing regulations 6 NYCRR Part 182. Additionally, New York State maintains protection over native wild species, including birds, under ECL 11-0103. Protected resources may not be pursued, taken, wounded, or killed in any number or quantity at any time of the year, except as permitted.

A letter request was submitted to the NYNHP for information regarding the presence of state managed threatened and endangered species and unique natural communities in the Project’s study area. In a letter dated September 12, 2023, the NYNHP provided a report of rare or state-listed animals, plants, and significant natural communities in that study area. The only animal listed was the northern long-eared bat which the state classifies as endangered. The species has been documented within 1.25 miles of the Project site. The report also listed one vascular plant, the Atlantic white cedar (*Chamaecyparis thyoides*), which is listed as threatened in the state of New York and has the heritage conservation status of “imperiled.” This species has been historically documented within 0.5 miles east of the Project site. A consultation request was also submitted to the NYSDEC Region 1 office on October 25, 2023. NYSDEC responded on January 24, 2024, requesting additional Project information and that information was provided to NYSDEC via email on February 6, 2024. The NYSDEC correspondence and NYNHP correspondence is documented in Appendix B – Agency Coordination.

A brief summary of habitat-use requirements for each federal- and state-listed species is presented below.

Listed Species

Northern Long-eared Bat (Myotis septentrionalis)

The northern long-eared bat is listed as endangered both federally and in New York State. No critical habitat has been identified for this species. Northern long-eared bats utilize a diversity of forest habitats for roosting, foraging, and raising their young. Northern long-eared bats hibernate through the late fall and early spring in caves or abandoned mines.

Atlantic White Cedar (Chamaecyparis thyoides)

The Atlantic white cedar is a state-listed threatened species with the heritage status of imperiled in New York State. This species is not federally listed. The Atlantic white cedar is a slow growing tree found in swamps in the Long Island and lower Hudson area.

NPV performed field investigations within the Project area in August and September 2023 to identify suitable habitat for these federal- and state-listed species. NPV identified vegetative conditions that may provide potentially suitable northern long-eared bat foraging and roosting habitat around the

Deerfield Substation. NPV did not identify habitat suitable for the Atlantic white cedar. To minimize any risks to the northern long-eared bat, the Applicant has committed to restrict any required tree clearing by Deerfield Substation to the clearing window established by NYSDEC for Suffolk County (between December 1 and February 28 or 29 of the following year).

4.6.5 Terrestrial Ecology and Rare Species Impacts and Mitigation

Significant Natural Communities

Based on a review of available NYSDEC GIS data and field reconnaissance activities, the Project route does not transect a SNC. Therefore, SNC are not expected to be impacted by the proposed Project.

Vegetation

The Applicant does not anticipate using pesticides or herbicides during construction of the Project. Vegetation management activities during operation of the Project will be limited to use at the substations given that the Facility will be primarily located underground. During operation, the aboveground facilities at the Southampton Substation and Deerfield Substation will be included in the Applicant's existing annual substation spray program. Any pesticides and herbicides used will be NYSDEC-approved for use in New York State and in Suffolk County. Use of herbicides and pesticides must follow NYSDEC laws and regulations and follow the United States EPA registered label requirements. All pesticide or herbicide application methods will be determined by the Applicant's Vegetation Management group. Pesticide and herbicide application rates will be in accordance with the label rates for the application technique used. Pesticide and herbicide will be applied by licensed individuals.

At both substations, the Applicant's current vegetation management program consists of both bare ground and fence sprays using handheld sprayers in equipment areas. The bare ground application consists of both pre-emergent and post-emergent ingredients in spring, and fence sprays are post-emergent only, later in summer.

The types of pesticide or herbicide currently used in the Southampton Substation and Deerfield Substation, including the volumes of use of each, are shown in Table 4.6-4 (Pesticide and Herbicide Use at Substations) below:

**Table 4.6-4
Pesticide and Herbicide Use at Substations**

Herbicide	Rate Per Acre	Total Volume
<i>Southampton (.48 acres)</i>		
Sulfometuron methyl / Metsulfuron	2 ounces	1 ounce
Glyphosate	4 quarts	62 ounces
<i>Deerfield (.90 acres)</i>		
Sulfometuron methyl / Metsulfuron	2 ounces	2 ounces
Glyphosate	4 quarts	116 ounces

Invasive Species

To control the introduction or spread of invasive species to unspoiled areas, preventative measures will be employed during construction. These measures will be detailed in the EM&CP and may include: washing vehicles and equipment before and after moving them from one site to another; monitoring soil movement and stockpiling for invasive species; and providing special protection to invasive-free areas.

Endangered, Threatened, and Special Concern Species

Based on correspondence received from NYNHP and USFWS, the Project occurs in the vicinity of state and federally listed plant and animal species. However, based on the Project's location in roadway rights-of-way and existing substations, construction and operation of the Project is not anticipated to cause an adverse effect to any state or federally listed threatened or endangered species.

Limited localized disturbance of suburban wildlife may occur during construction phases. Given that the Project is within a highly active suburban location, wildlife will most likely be accustomed to these types of construction activities therefore any disturbances will be minor and temporary.

4.7 Topography and Soil

The use of public roadway rights-of-way for the installation of the Project will avoid high points, steep slopes, heavily timbered areas, and ridge lines and will help preserve the natural landscape. Information relative to the existing topography, geology, soils, and groundwater resources along the proposed Project route was obtained through USGS databases, field observations, GIS data, and literature review.

4.7.1 Topography

The topography along the proposed route ranges in elevation from approximately 37 feet to approximately 110 feet above mean sea level, sloping upwards toward the Deerfield Substation.

4.7.2 Geology

Long Island's geology is defined by two terminal moraines. Terminal moraines are low, ridge or hill-like formations that are remnants of the advances of glaciers. The terminal moraines on Long Island are associated with glaciation during the last ice age (i.e., Pleistocene epoch). Two morainal ridges, Harbor Hill Moraine and Ronkonkoma Moraine, run the length of Long Island and diverge east to form the North Fork and South Fork. The moraines are classified as poorly sorted glacial till deposits at the glacial terminus. South of the moraines are areas classified as outwash plain deposits of sand and gravel.⁵

The entirety of Long Island is near the northern-most portion of the United States' physiographic region, the Atlantic Coastal Plain. Mesozoic and Cenozoic rocks and unlithified sediments make up this plain. The multiple sedimentary layers are made up of sand, clay, and gravel, underlain by southeasterly sloping bedrock. As depicted in Figure 4.7-1 (Depth to Bedrock) bedrock in the Project area can be found at depths much greater than the depth required for construction. The layer of sediment above the bedrock is estimated to be as much as 2,000 feet deep.⁶ The bedrock is overlain with weakly consolidated and unconsolidated sediments from the Cretaceous era and Pleistocene events.

The interrelationships of the various geologic deposits dictate how the aquifers are recharged by rainfall, and also determine how activities on the land surface might affect the quantity and quality of the groundwater. The EPA has designated the aquifers of Long Island in Nassau and Suffolk counties as sole-source aquifers. These formations are the Upper Glacial Aquifer, the Magothy Aquifer, and the Lloyd Aquifer.

4.7.3 Soils

Soils found along the proposed Project route were mapped based on New York State GIS Clearinghouse database and the Soil Survey of Suffolk County, New York shown in Table 4.7-1 (Soil Types Crossed

⁵ New York Water Science Center, USGS. 2017. Long Island Topography. Accessed November 2023.

⁶ USGS. Mineral Resources Open Spatial Data Geology by state New York. Accessed January 2024.
<https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=NYKm:3>.

by Proposed Route) and depicted in Figure 4.7-2 (SSURGO Soils Crossed by Proposed Route). In general, soils identified within the proposed Project route are typically classified as silty or sandy loams.

The most prevalent soil types found along the proposed Project route are Plymouth loamy sand and Haven loam, with gentle slopes. Other soils found along the proposed route are comprised of silty loams, with some sandy loams and loamy sands, with slopes typically between zero and 15 percent. Table 4.7-1 (Soil Types Crossed by Proposed Route) provides an overview of the soil types found along the proposed route.

In part because suburban land soils are generally heterogeneous, a subsurface environmental and geotechnical investigation will be performed along the proposed route during development of the EM&CP. The investigation will document and classify the soils along the route and confirm the presence and/or absence of potential contamination. It is unlikely that the investigation will penetrate depths where groundwater is located. Due to the depth of bedrock along the proposed Project route, the investigation will not reach bedrock. The information gathered during the limited subsurface investigation will assist in the final design and construction of the Project.

Table 4.7-1
Soil Types Crossed by Proposed Route

Soil Classification	Total feet Traversed	Percent (“%”)
BgA-Bridgehampton silt loam, 0-2% slopes	1,393	6.0%
BgB-Bridgehampton silt loam, 2-6% slopes	453	2.0%
Bm-Bridgehampton silt loam, graded	404	1.8%
CpC-Carver and Plymouth sands, 3-15% slopes	1,481	3.2%
CpE- Carver and Plymouth sands, 15-35% slopes	108	0.2%
HaA-Haven loam, 0-2% slopes	3,822	8.3%
HaB-Haven loam, 2-6% slopes	2,925	6.3%
He-Haven loam, thick surface layer	680	1.5%
PIA-Plymouth loamy sand, 0-3% slopes	13	0.0%
PIB-Plymouth loamy sand, 3-8% slopes	4,386	9.5%
PIC-Plymouth loamy sand, 8-15% slopes	1,743	3.8%
PsA-Plymouth loamy sand, silty substratum, 0-3% slopes	606	1.3%
RdA-Riverhead sandy loam, 0-3% slopes	1,883	4.1%
RdB-Riverhead sandy loam, 3-8% slopes	2,710	5.9%
RdC-Riverhead sandy loam, 8-15% slopes	424	0.9%

The USDA-NRCS Web Soil Survey was also used to assess the locations of hydric soils along the proposed route, another possible indicator of historic fill. The locations of hydric soils in the vicinity of the proposed Project route are depicted in Figure 4.7-3 (Hydric Soils Along Proposed Route). This data shows that there are no hydric soils immediately adjacent to the proposed route. The nearest area of hydric soils to the proposed route were identified approximately 200 feet from the proposed route on the north side of Edge of Woods Road, between Seven Ponds Towd Road and Water Mill Towd Road. This area was identified as Scio silt loam, sandy substratum, 0-2% slopes. No disturbances are anticipated to occur in proximity to the identified area of hydric soils.

4.7.4 Groundwater

Generally, the water table underlying Long Island forms a linear mound of groundwater that crests under the central portion of the Island. The apex of this crest forms an east-west trending ridge in the water table, known as the groundwater divide, that gradually slopes downward towards the north and south shores of Long Island. The configuration of this groundwater mound creates a hydraulic gradient, which causes groundwater to flow downslope under gravity in a direction perpendicular to contours of equal elevation (generally toward the north and south shores) as they descend from the groundwater divide. In addition to horizontal flow, water flow within the central and inland portions of the Island is characterized by a deep flow system which exhibits a generally vertical component that provides recharge to the deeper Magothy and Lloyd aquifers, before flowing to the north and south shores in these deeper aquifers. Groundwater recharge along the shorelines tends to flow horizontally in a shallow flow system through the Upper Glacial aquifer and eventually discharges from subsurface systems into streams or marine surface waters (Krulikas, 1986).

The portion of the Project located north of the Village of Southampton municipal boundary is within the South Fork Special Groundwater Protection Area as shown in Figure 4.7-4 (Special Groundwater Protection Areas).

The water table in the Project area generally slopes from higher water table elevations towards the northern portion of the proposed Project route, near the Deerfield Substation, to lower table elevations closer to the southern shore of Long Island. Depth to groundwater in the vicinity of the Southampton Substation and the southern portion of the proposed route range from approximately 10 to 30 feet below the ground surface (“bgs”). The depth to groundwater along the majority of the Project route is 30 to 75 feet. See Figure 4.7-5 (Depth to Groundwater). The anticipated need for dewatering is minimal.

A summary of the inferred depth to groundwater based on a review of the above referenced data sources is included in Table 4.7-2 (Depth to Groundwater Summary).

**Table 4.7-2
Depth to Groundwater Summary**

Depth to Groundwater Interval (bgs)	Linear Feet Transected	Percent of Total Area
76-100'	779	3.6
51-75'	8,269	38.2
31-50'	7,249	33.5
21-30'	4,009	18.5
11-20'	1,349	6.2

4.7.5 Topography, Geology, Soils and Groundwater Impacts and Mitigation

Topography

Construction of the Project is not expected to have a significant impact on topographic features. Significant grading and filling will not be necessary for installation of the cable. After construction is complete, the soil will be restored to pre-existing contours. Disturbed areas will be restored to pre-existing conditions (vegetative restoration, pavement replacement, etc.). Areas of disturbed vegetation will be addressed in accordance with the Restoration Plan, which will be included with the EM&CP.

Geology

No long-term impacts on geologic features in the Project area are anticipated to occur as a result of the Project's construction. Significant grading and filling will not be necessary for installation of the cable.

Soils

As typically associated with many construction projects, potential Project related impacts to soils include the possibility of loss of topsoil through erosion or by the re-stratification of topsoil during trench backfilling, or unanticipated spills of petroleum-based products from construction equipment. The Project will employ best management practices and other measures to reduce or eliminate construction related impacts. As a result, Project impacts to soils will be minimal.

The Applicant will file its standard Spill Prevention, Control, and Countermeasure plan associated with maintenance at Southampton Substation and Deerfield Substation with the EM&CP. For the Project, no spill-producing equipment is planned to be added to either substation. The Spill Prevention Plan will be created in compliance with the NYSDEC spill standards to be used during construction. This plan

will be filed with the EM&CP. The Applicant will maintain the necessary tools and supplies needed to control and minimize potential spills during the construction phase of the Project. The construction activities will be completed in a manner to minimize impacts to soil to the extent practicable.

Erosion and sediment control measures, including potential topsoil replacement, to be implemented during construction will be detailed in the EM&CP and in a Project-specific SWPPP. Erosion and sediment control measures will be designed to maintain and protect soil and water resources during both the construction and operational phases of the Project.

A subsurface environmental and geotechnical investigation will be performed along the proposed route during development of the EM&CP. The investigation will document soil types and identify any areas where contamination could be encountered during construction activities. The information gathered during the subsurface investigation will assist in the final design and construction of the Project. Excess soils generated within a corridor of known risk of encountering contaminated soils will be managed in accordance with a Material Handling Plan during the construction phase of the Project. Excess soils generated outside a corridor of known risk of encountering contaminated soils will be recycled or used as thermal backfill wherever possible, or will be disposed properly in an identified approved facility, in accordance with a Material Handling Plan and the EM&CP. Necessary soil disposal and soil handling procedures will be in accordance with NYSDEC guidance and will be identified in the EM&CP.

Groundwater

No long-term impacts on groundwater resources or hydrology in the Project area are anticipated to occur as a result of the Project's construction, operation, or maintenance. Cable trench depths found to be stable on past similar underground transmission projects will be utilized.

The installation of the Project will not result in the degradation of groundwater given that solid dielectric conductor cable is proposed, and components will not contain dielectric fluids or hazardous materials or liquids that pose a threat to the aquifer.

Because the depth to groundwater is anticipated to be greater than the planned depth of excavation, the need for dewatering is anticipated to be minimal. Dewatering may be necessary in discrete areas of the proposed route, particularly for splice vault excavations which will be advanced to approximate depths of 15 feet below grade. Portions of the duct bank installations will also likely require dewatering. Necessary dewatering activities and groundwater handling procedures will be managed in accordance with a Material Handling Plan and identified in the EM&CP.

Dewatering discharge sampling will be conducted as necessary to assure compliance with NYSDEC discharge requirements. Pre-treatment of pumped groundwater may be conducted prior to discharge if contaminants are identified in the samples.

The installation of the splice vaults along the ROW will not increase impervious coverage, and stormwater runoff will continue to be managed with the existing storm sewer system.

4.8 Noise

The operation and maintenance of the underground transmission facility component of the Project is not anticipated to result in noise impact. The equipment to be installed at the existing substations to accommodate the transmission facilities is not expected to result in any increase to noise levels at the respective substations. This section evaluates the potential noise impacts introduced by the installation of the Project as well as the mitigation methods to limit these impacts. Potential noise impacts were evaluated based on guidelines and standards from NYSDEC, with consideration to typical and expected construction activity noise levels, and operational noise levels after construction is completed.

4.8.1 Existing Noise Policies and Regulatory Controls

Introduction

For the purposes of the Project, noise policies and regulatory guidelines from NYSDEC were reviewed and summarized below. Figure 4.8-1 (Noise Sensitive Receptors) shows the locations of noise sensitive receptors in the vicinity of the Project route, such as medical centers, places of worship, museums, police stations, post offices, public buildings, fire houses, libraries, childcare facilities, colleges, schools and other park and recreation areas.

New York State Department of Environmental Conservation Guidelines

The NYSDEC guidelines are defined in their publication “Assessing and Mitigating Noise Impacts”.⁷ This document states that loudness, or sound pressure level, increases from zero to three decibels should have no appreciable effect on receptors; increases of three to six decibels may have the potential for adverse impact only in cases where the most sensitive of receptors are present; and increases of more

⁷ NYSDEC. “Assessing and Mitigating Noise Impacts”. October 6, 2000. Revised February 2, 2001. (Accessed October 11, 2023).

than six decibels may require a closer analysis of impact potential depending on existing noise levels and character of surrounding land use.

NYSDEC also indicates that the addition of any permanent noise source should not raise ambient levels above 65 dBA in non-industrial settings. NSYDEC recommends that projects exceeding these threshold levels should explore the feasibility of implementing mitigation. This Project will not result in any permanent noise source. Therefore, under NYSDEC guidelines, noise mitigation is not recommended.

In Exhibit 7 – Local Ordinances, the Applicant summarizes relevant local noise ordinances and identifies those substantive requirements that the Applicant considers unduly restrictive.

4.8.2 *Existing Noise Conditions*

Baseline ambient sound level measurements have not been established for the Project. Due to the linear nature of the underground transmission line component of the Project, the Project will pass through multiple zones and sound receptor locations. Changes to noise levels in these receptor locations are temporary in nature and typical of roadway construction. No increases in noise levels are anticipated at the existing substations as a result of the limited Project modifications and new equipment at the two substations.

4.8.3 *Noise Effects and Mitigation*

The operation of the Project is expected to result in no increased permanent noise levels to surrounding properties and nearby receptors.

The noise associated with the Project will be limited to the construction phase of the Project, which is temporary and will take place primarily, but not exclusively, during daytime hours.

Noise associated with the construction phase is estimated to range from 65 dBA to 83 dBA at distances of 100 to 200 feet from the construction activity. Estimated construction noise levels at distances of 100 feet or more do not exceed the FTA daytime residential noise level guideline of 90 dBA. At distances of 500 feet or more, construction noise levels are estimated to be 69 dBA or less. Indoor noise levels would be lower than outdoor noise levels by 15 dBA or more. As such, the estimates provided in Table 4.8-1 (Typical Noise Emission Levels for Construction Equipment) can be attenuated by an additional 15 dBA within structures.

Construction equipment will be equipped with engine noise control devices, such as exhaust mufflers and acoustic casing enclosures, in accordance with federal, state, and local regulations. In addition to

proper maintenance and operation of construction machinery, several means of controlling construction noise impacts will be employed as needed, and as may be practical, including:

- Route heavily loaded truck traffic and heavy equipment movements to minimize impacts on sensitive uses;
- Equip construction vehicles or equipment, fixed or mobile, with properly operating and maintained mufflers; and
- Avoid unnecessary idling of internal combustion engines.

Standard hours of Project construction operations will be 7:00AM to 7:00PM on Mondays through Saturdays. However, specific activities (such as splicing to allow for clean work environments) are required to be performed continuously and so will occur outside of these planned construction periods, including during overnight hours. Exceptions to this will be addressed on a case-by-case basis and will be described in the EM&CP.

Project construction activities are likely to temporarily increase ambient noise levels for residences and other sensitive receptors closest to the construction activity, but such impacts will be localized, temporary and mitigated to the extent practicable via measures described above and which will be further detailed in the EM&CP. To the extent practicable, noise generating construction activity in noise sensitive areas (see Figure 4.8-1 Noise Sensitive Receptors) will be scheduled in accordance with NYSDEC guidelines and standards.

Table 4.8-1
Typical Noise Emission Levels for Construction Equipment

Equipment Item	Noise Level at 50 Feet (dBA)
Augured earth drill	80
Backhoe	83 - 86
Cement mixer	63 – 71
Chain saw cutting trees	75 – 81
Compressor	67
Jack Hammer	82
Paving Breaker	82
Woodchipper	89
Bulldozer	50
Grader	85
Truck	91
Generator	78
Rock Drill	98

Source: Cowan, James P., 1994. Handbook of Environmental Acoustics. As cited in NYSDEC. 2001. Assessing and Mitigating Noise Impacts. Available online: https://extapps.dec.ny.gov/docs/permits_ej_operations_pdf/noise2000.pdf. Accessed December 2023..

4.9 EMF

4.9.1 *Current Applicable Standards*

EMF are found wherever there is electricity, whether it is within wiring, appliances, computers or power lines. Transmission lines create EMF because they carry electric currents at relatively high voltages. EMF decrease in size as the distance from the source increases, so EMF are highest closest to the lines (typically near the center of the transmission line ROW) and decrease as the distance from the transmission corridor increases.

The NYSPSC has an edge-of-ROW magnetic field interim standard of 200 mG. As defined, this interim standard is to be applied to magnetic fields at one meter above the ground surface for loading conditions corresponding to winter-normal conductor ratings⁸. This interim standard is based on modeled average edge-of-ROW magnetic fields for a large sample of 345 kV transmission lines in New York State for assumed loading conditions at the winter-normal conductor ratings. The Interim Policy Statement provides guidance for applying the interim standard when there is no defined ROW edge, stating that the standard is applicable to magnetic field levels 50 feet from the centerline of transmission circuits operating voltages less than 230 kV.

The NYSPSC also has both on-ROW and edge-of-ROW standards for electric fields, although they are not relevant to this Project given the absence of aboveground electric fields from underground transmission lines.

4.9.2 *Ambient Magnetic Field*

The Applicant performed an EMF study for this Project to confirm compliance with the applicable Commission policy on magnetic fields. See Appendix D – EMF Study for further information. For assumed line loadings equal to winter-normal conductor ratings, modeled EMF are below the NYSPSC edge-of-ROW MF interim standard of 200 mG at the assumed Project ROW edges, ± 25 feet from the centerline of the Project underground conductors for each of the representative cross sections. Modeled EMF levels above the NYSPSC edge-of-ROW MF interim standard are only found directly above the conductor centerline for the splice vault entry/exit configuration, and these maximum modeled EMF values remain well below the health-based guideline issued by the International Commission on Non-

⁸ The Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities. Commission Cased 26529 and 26559, Proceeding on the Motion of the Commission. Issued and Effective: September 11, 1990

Ionizing Radiation Protection for allowable public exposure to EMF (2,000 mG).⁹ They drop below the 200 mG NYSPSC edge-of-ROW MF interim standard within 4 feet of the conductor centerline. Modeled EMFs drop off rapidly with increasing lateral distance from the Project conductors.

For the very limited portion of the proposed Project route where the Project underground transmission line may be in proximity to the existing 69-886 underground transmission line, the interaction between the EMFs from the two transmission lines will result in increased EMF levels as compared to the Project transmission line by itself. For the conservative assumption that the circuit centerlines are within 3.5 feet of each other, all modeled MF remain below the 200 mG NYSPSC edge-of-ROW MF interim standard. See Appendix D for the complete EMF study.

4.9.3 Potential Impacts and Mitigation

Operation of the Project will not result in EMF levels that exceed those recommended in the Commission's Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities.

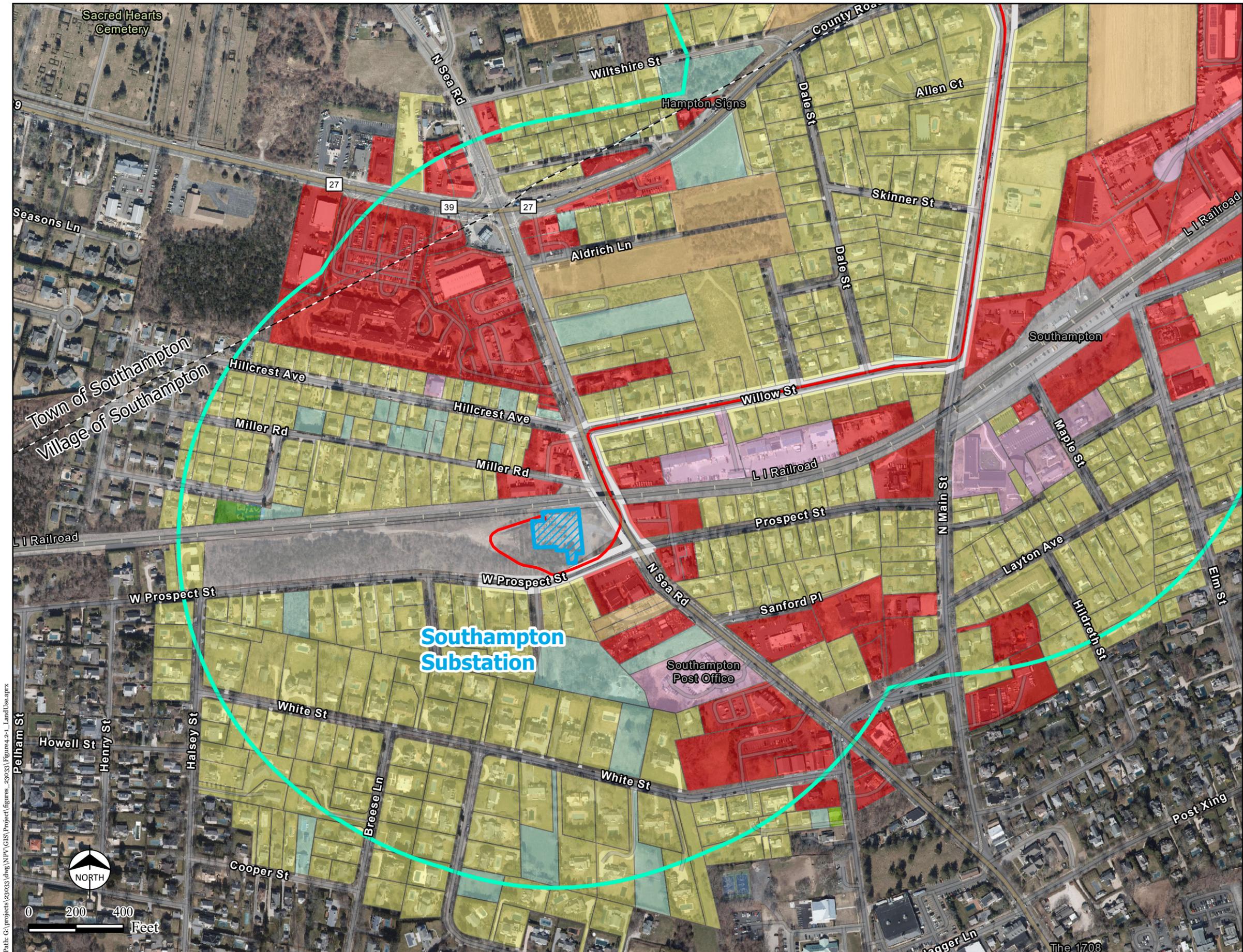
⁹ International Commission on Non-Ionizing Radiation Protection (ICNIRP). 2010. "ICNIRP Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz to 100 Hz)." Health Phys. 99(6):818- 836. doi: 10.1097/HP.0b013e3181f06c86.

Exhibit 4 Figures

**Figure 4.2-1
to
Figure 4.7-1**

FIGURE 4.2-1

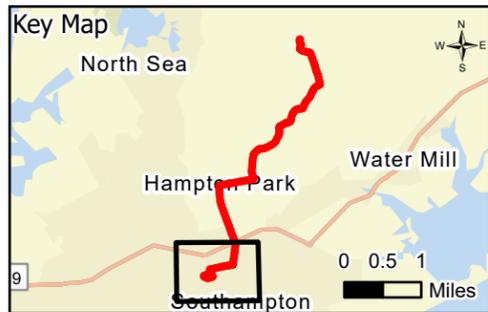
Land Use



LEGEND

	Proposed Route		Land Use Within 1/4 Mile of Right of Way
	Existing Substation		Agriculture
	Town/Village Boundary		Commercial
	Roadway ROW		Community Services
	1/4 Mile Buffer of Right of Way		Public Services
			Recreation & Entertainment
			Residential
			Vacant Land
			Wild, forested, conservation lands and public parks

- Sources:
1. Proposed Route prepared by Burns & McDonnell, July 2023.
 2. NYS Civil Boundary Feature Server, April 2020
 3. NRCS Parcels 2017
 4. Esri WMS, 2020
 5. Esri Hybrid Reference Layer 2017



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Transmission Project
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SHEET TITLE

Land Use

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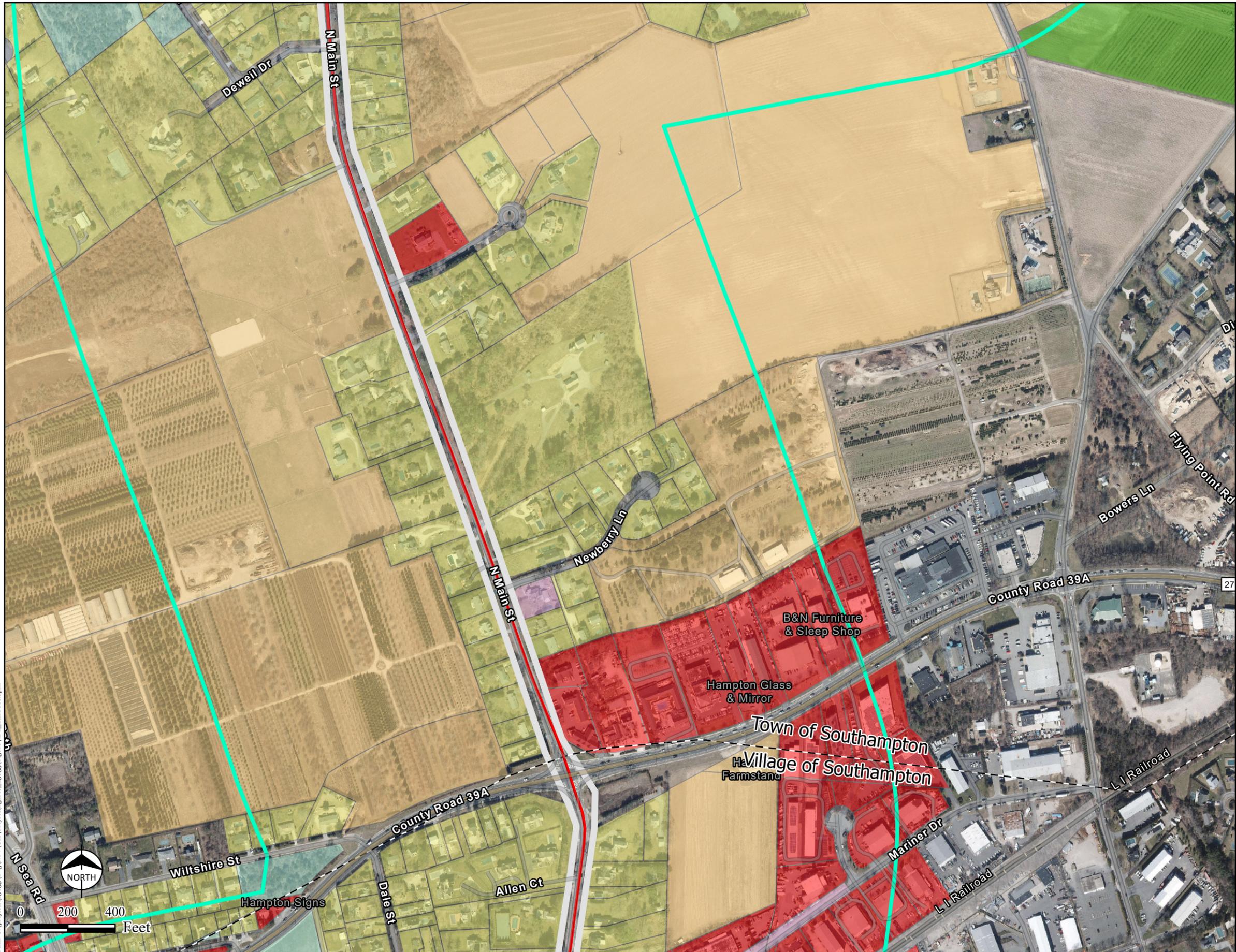
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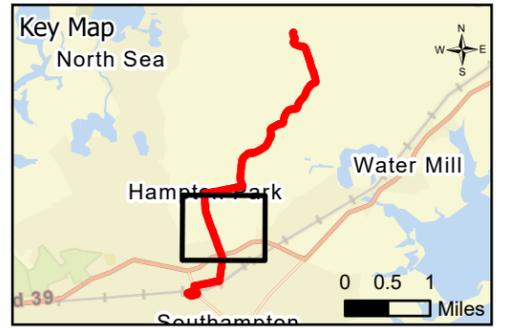
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LEGEND

	Proposed Route		Agriculture
	Existing Substation		Commercial
	Town/Village Boundary		Community Services
	Roadway ROW		Public Services
	1/4 Mile Buffer of Right of Way		Recreation & Entertainment
			Residential
			Vacant Land
			Wild, forested, conservation lands and public parks
			Residential

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FIGURE NO. 4.2-1 (2 of 6)

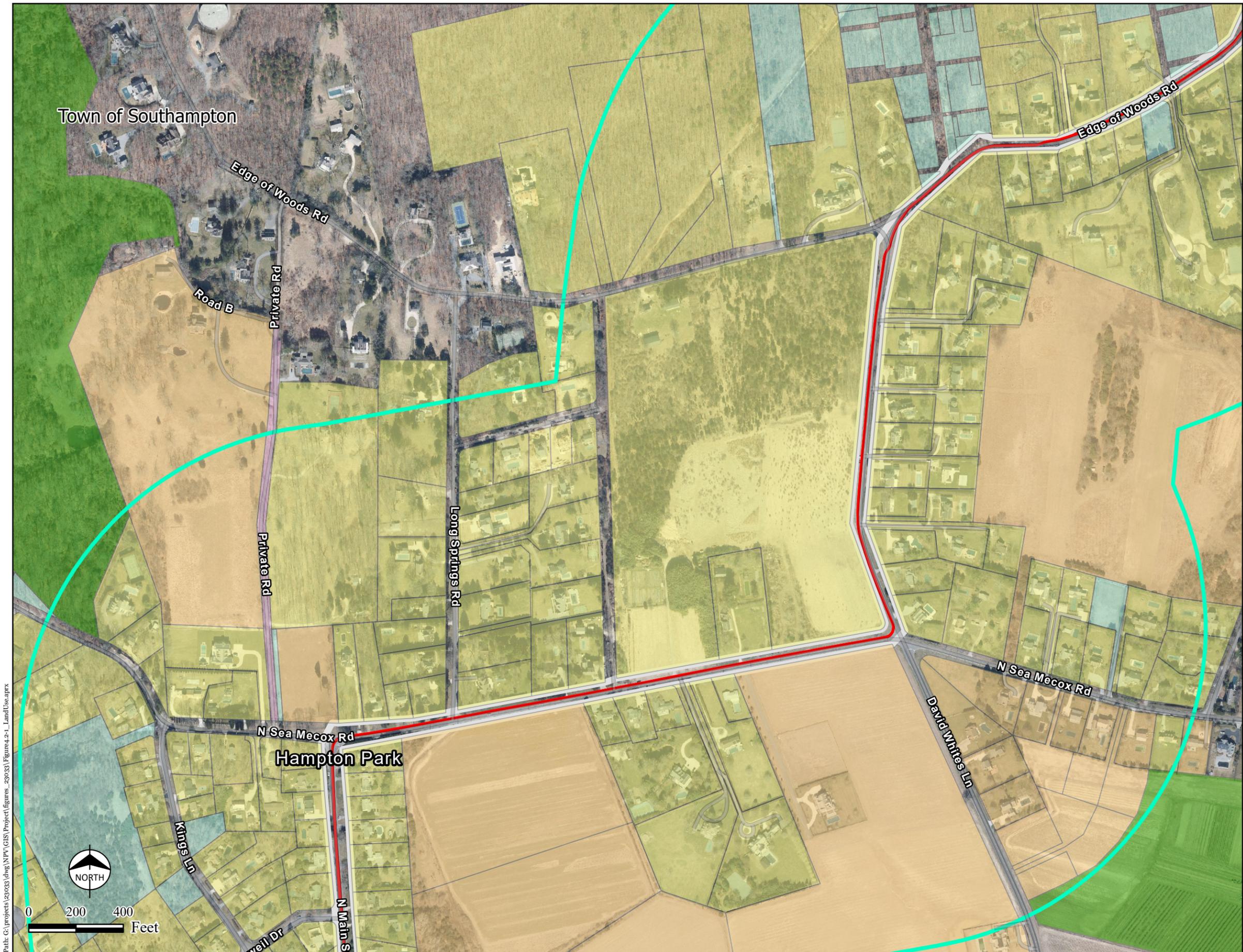
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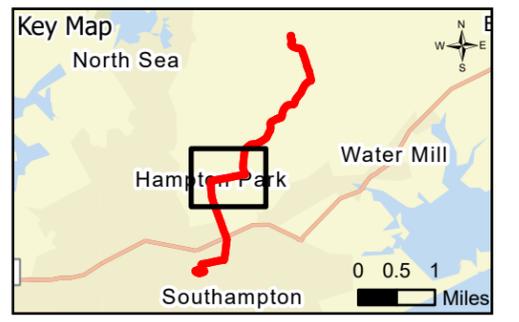
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LEGEND

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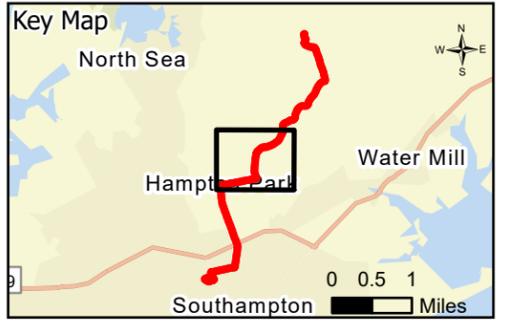
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LEGEND

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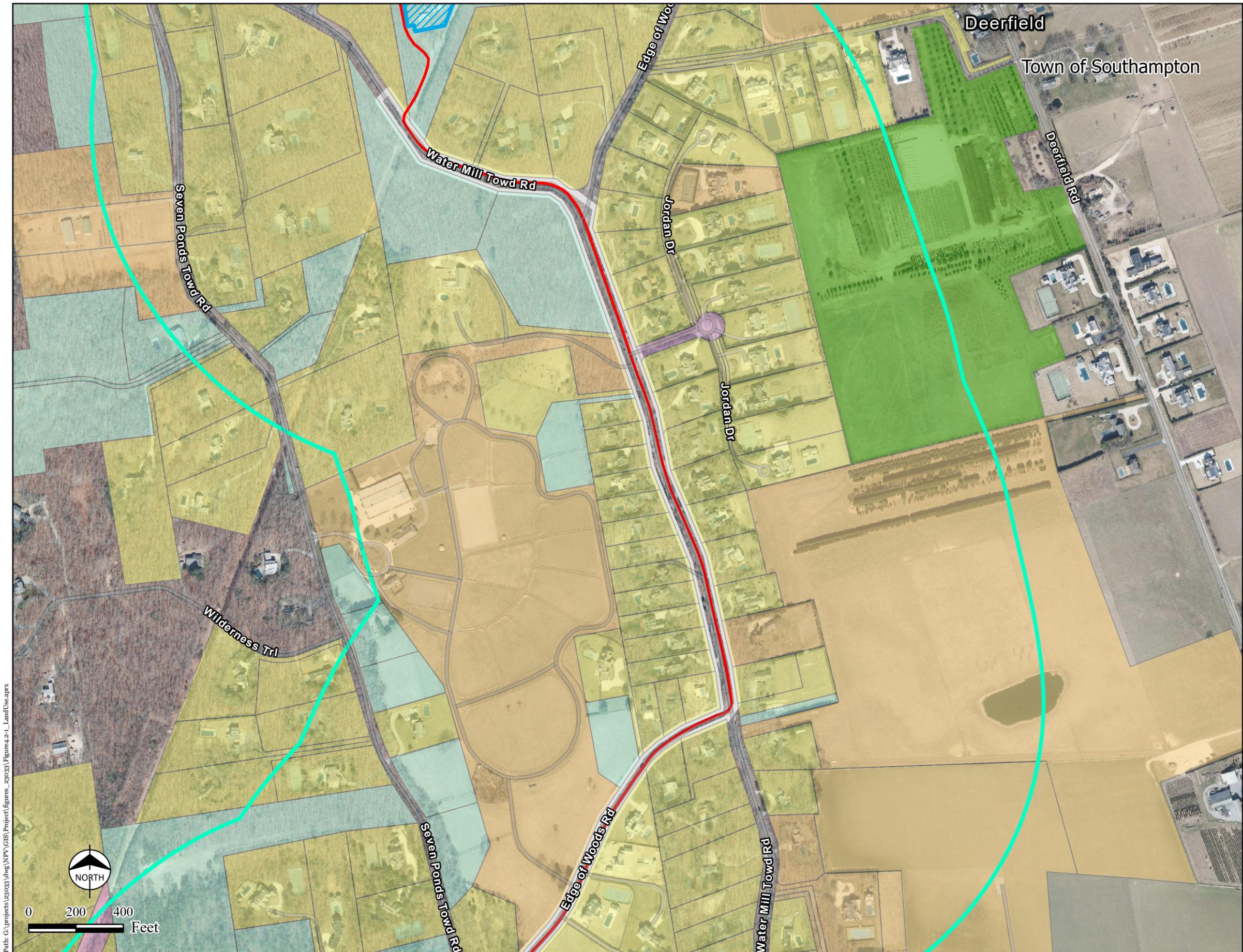
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FIGURE NO. 4.2-1 (4 of 6)

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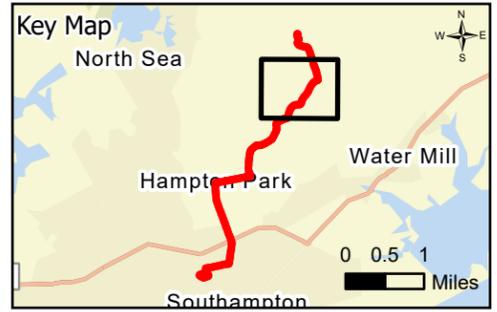
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LEGEND

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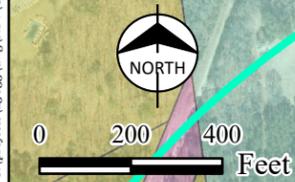
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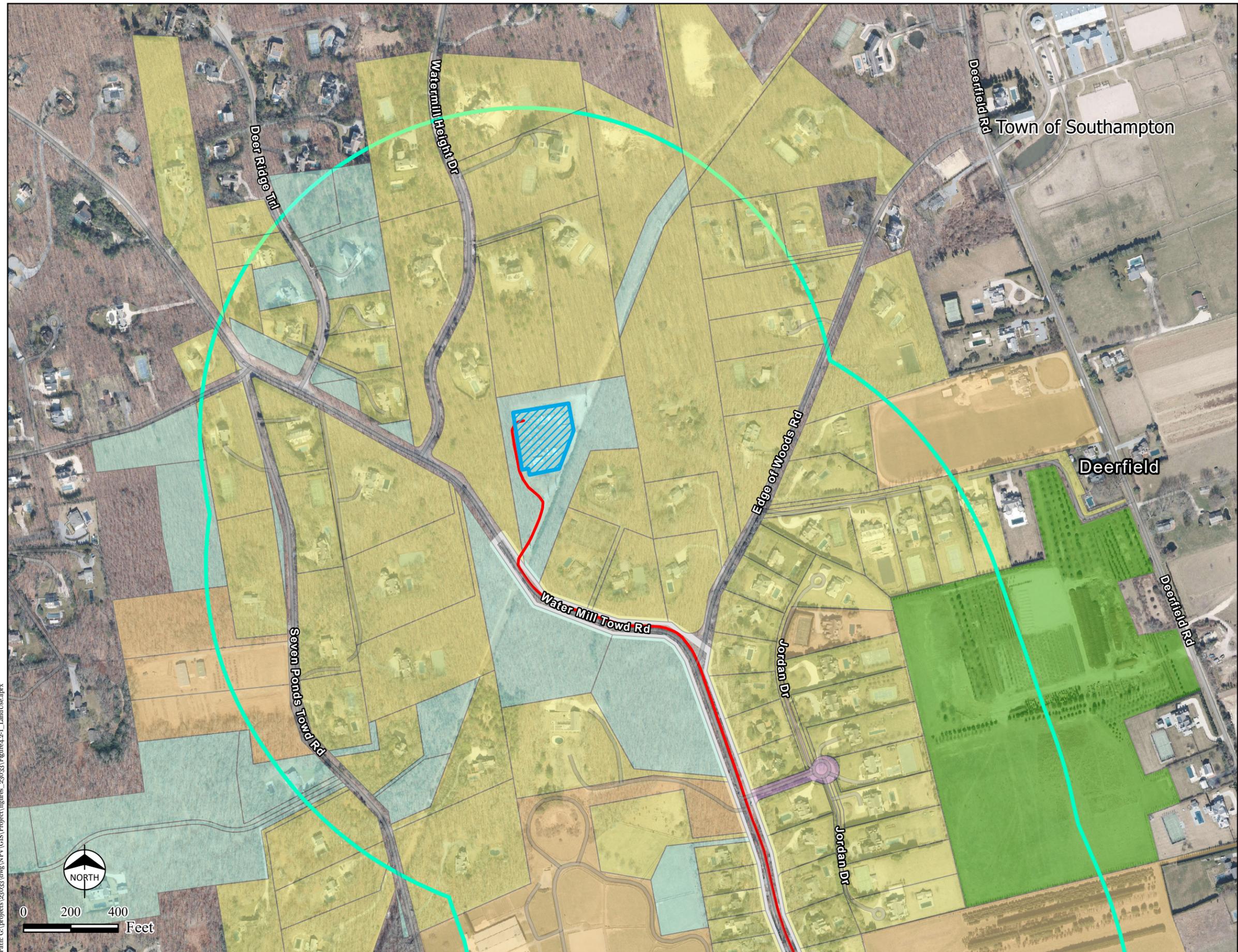
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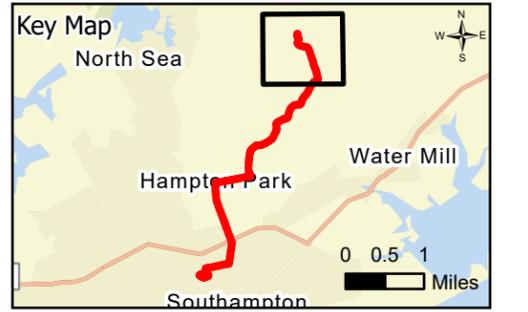




LEGEND

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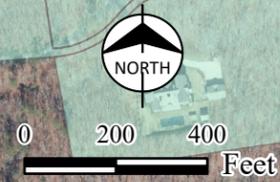
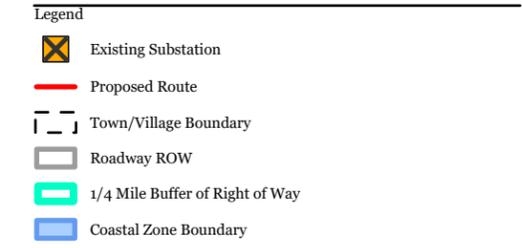
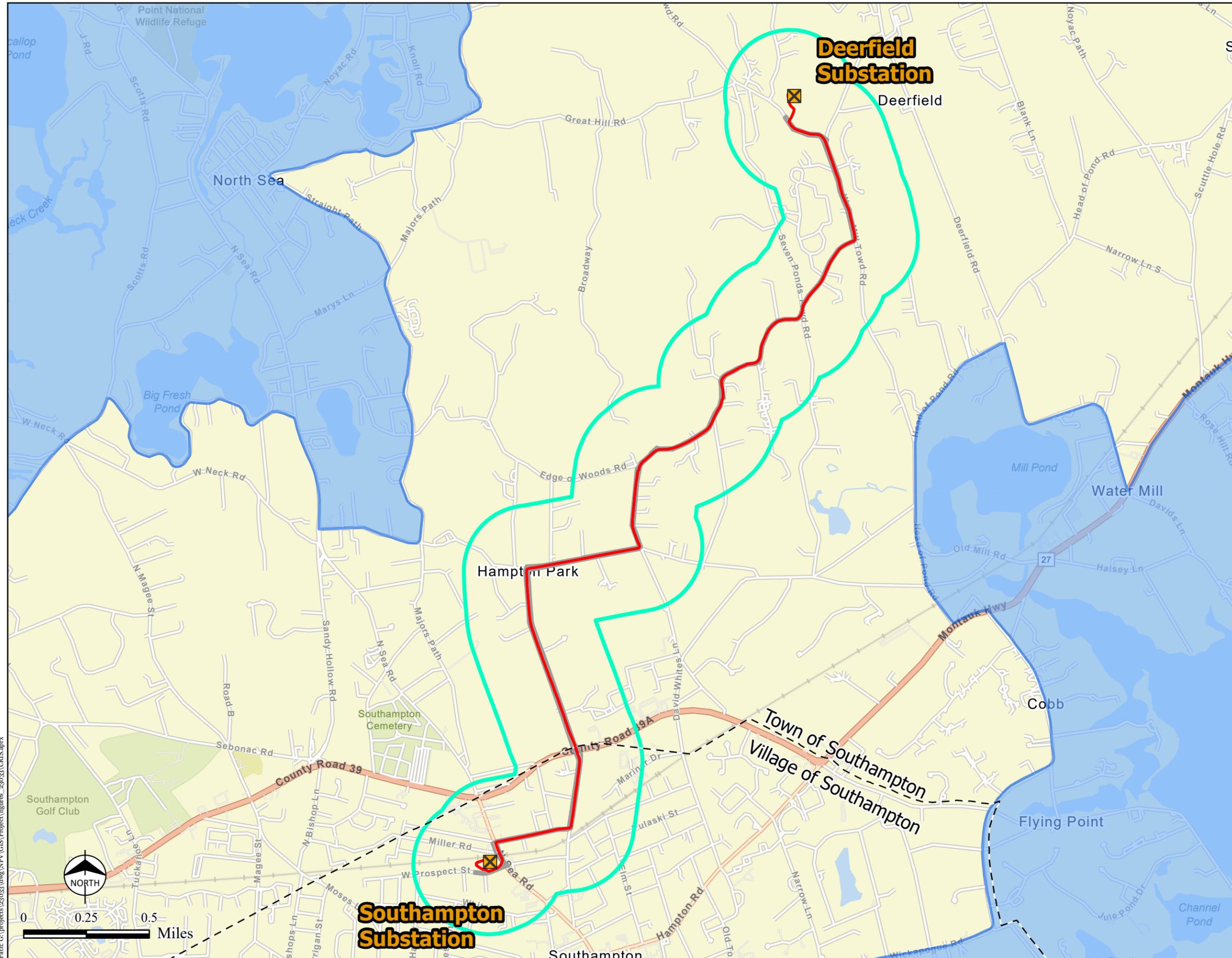
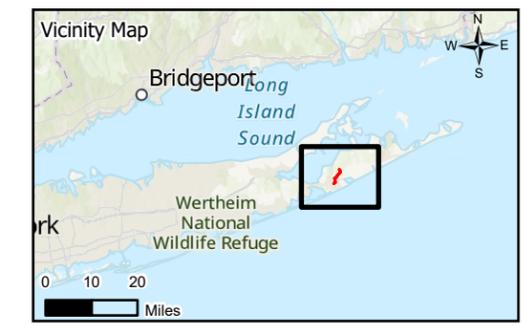


FIGURE 4.2-2

Coastal Zone



- Sources:**
1. Proposed Route prepared by Burns & McDonnell, July 2023.
 2. NYS Civil Boundary Feature Server, April 2020
 3. Coastal Area Boundary, New York State Department of State, 2013
 4. Esri Streets Map, 2017



PROJECT TITLE



**Southampton to Deerfield
Transmission Project
Article VII Application**

SHEET TITLE

Coastal Zone

SCALE 1" = 2000' (Printed on 11"x17")

DATE 1/29/2024
 DRN. BY RB
 CHK. BY AC



FIGURE NO. 4.2-2

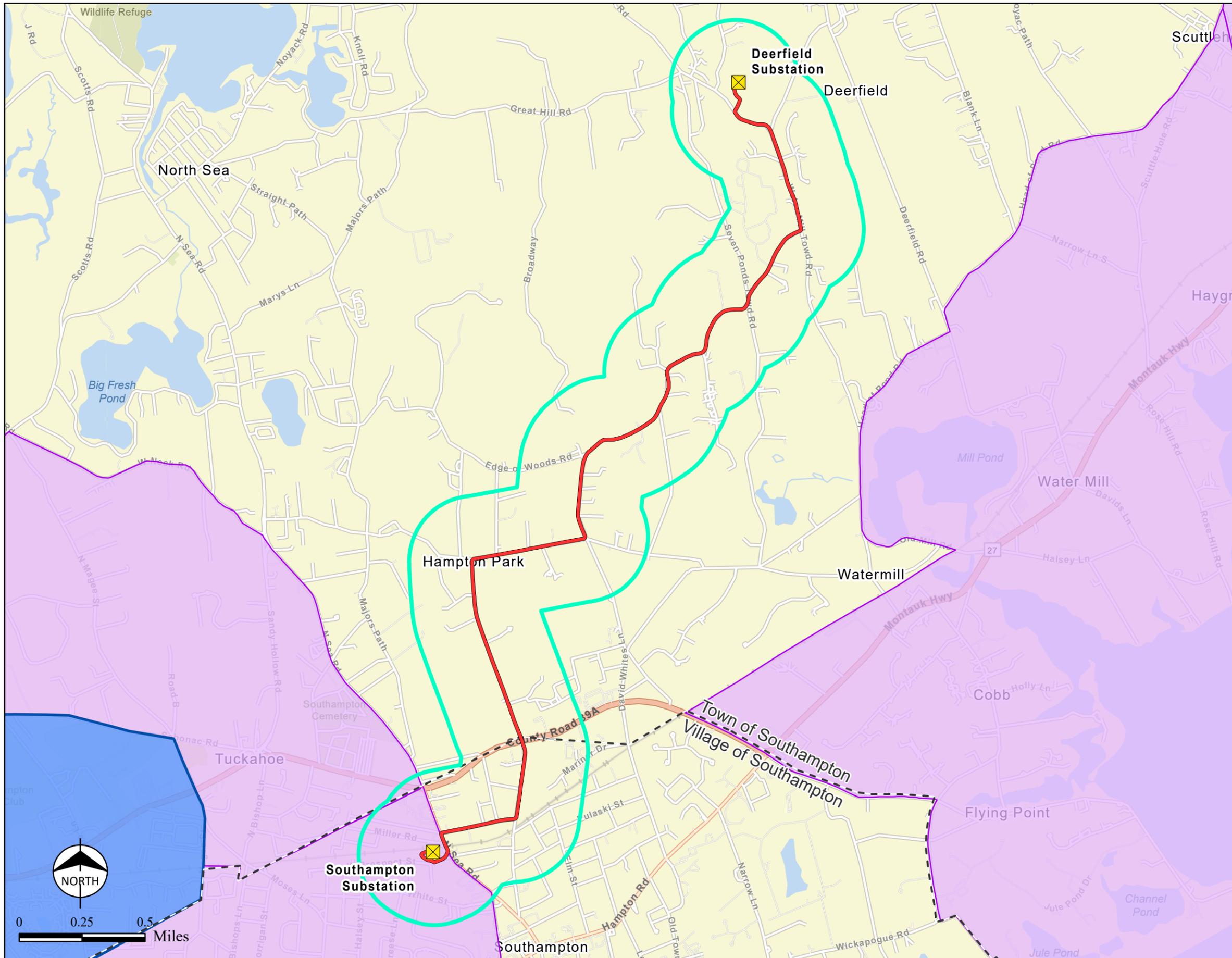
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FIGURE 4.2-3

Environmental Justice and

Disadvantaged Community Areas



LEGEND

-  Existing Substation
-  Proposed Route
-  1/4 Mile Buffer of Right of Way
-  Town/Village Boundary
-  Disadvantaged Communities (DAC)
-  Potential Environmental Justice Area (PEJA) Communities

Sources:
 1. Proposed Route prepared by Burns & McDonnell, July 2023.
 2. New York State Energy Research and Development Authority, Environmental Justice data, accessed January 2024.
 3. NYS Civil Boundary Feature Server, April 2020.
 4. Esri Streets Map, 2017.



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**Environmental Justice and
Disadvantaged Community Areas**

SCALE 1" = 2,000' (Printed on 11"x17")

DATE 1/19/2024
 DRN. BY KC
 CHK. BY SH

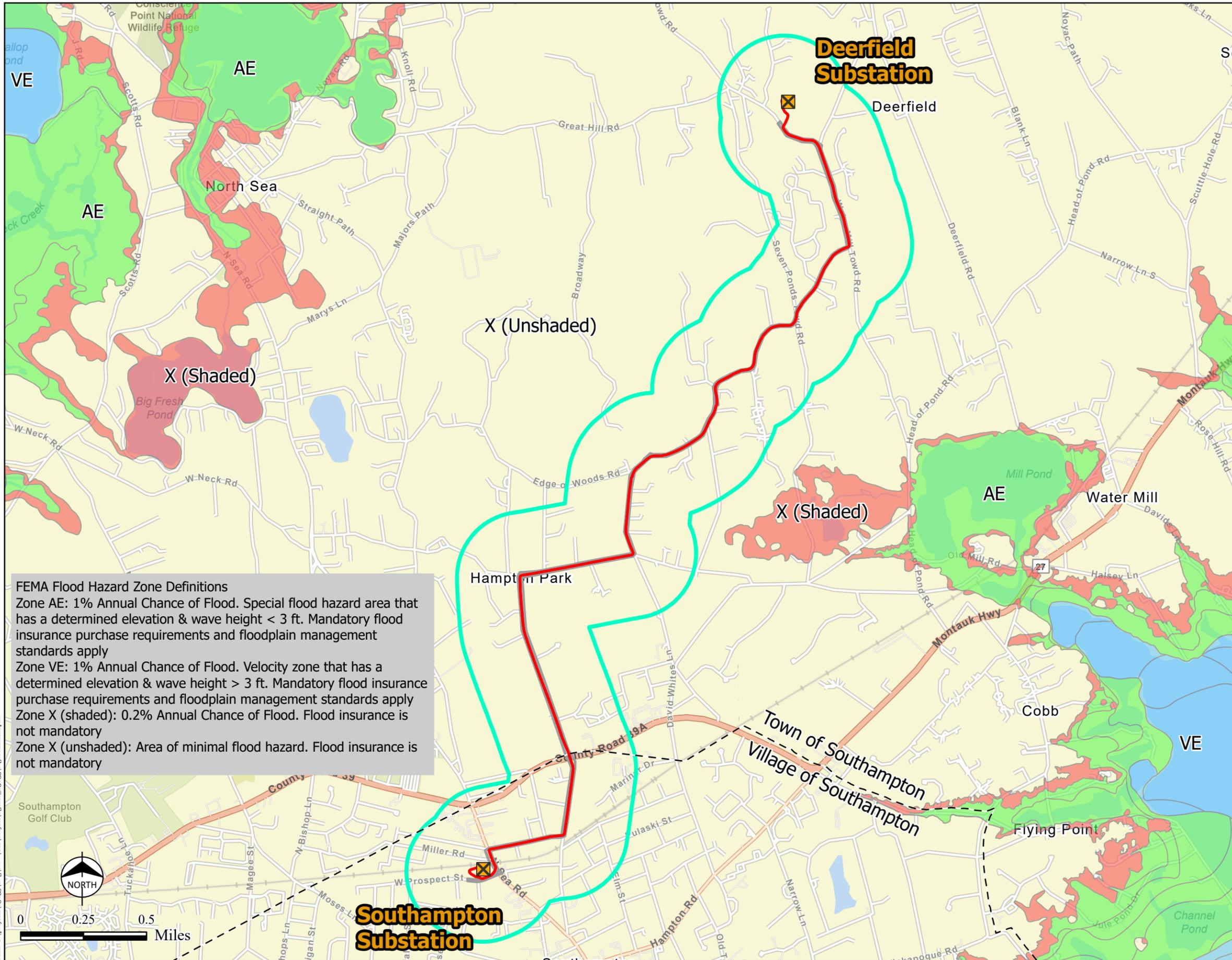


FIGURE NO. 4-2-3

PRELIMINARY - NOT FOR DISTRIBUTION

FIGURE 4.2-4

FEMA - Designated Flood Hazard Areas



FEMA Flood Hazard Zone Definitions
 Zone AE: 1% Annual Chance of Flood. Special flood hazard area that has a determined elevation & wave height < 3 ft. Mandatory flood insurance purchase requirements and floodplain management standards apply
 Zone VE: 1% Annual Chance of Flood. Velocity zone that has a determined elevation & wave height > 3 ft. Mandatory flood insurance purchase requirements and floodplain management standards apply
 Zone X (shaded): 0.2% Annual Chance of Flood. Flood insurance is not mandatory
 Zone X (unshaded): Area of minimal flood hazard. Flood insurance is not mandatory

- Legend**
- Existing Substation
 - Proposed Route
 - Town/Village Boundary
 - 1/4 Mile Buffer of Right of Way
 - Roadway ROW
- FEMA Flood Zones**
- Zone AE
 - Zone VE
 - Zone X (shaded)
 - Zone X (unshaded)

- Sources:**
1. Proposed Route prepared by Burns & McDonnell, July 2023.
 2. NYS Civil Boundary Feature Server, April 2020
 3. FEMA National Flood Hazard Layer, 2017
 4. Esri Streets Map, 2017



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**FEMA-Designated Flood Hazard
Areas**

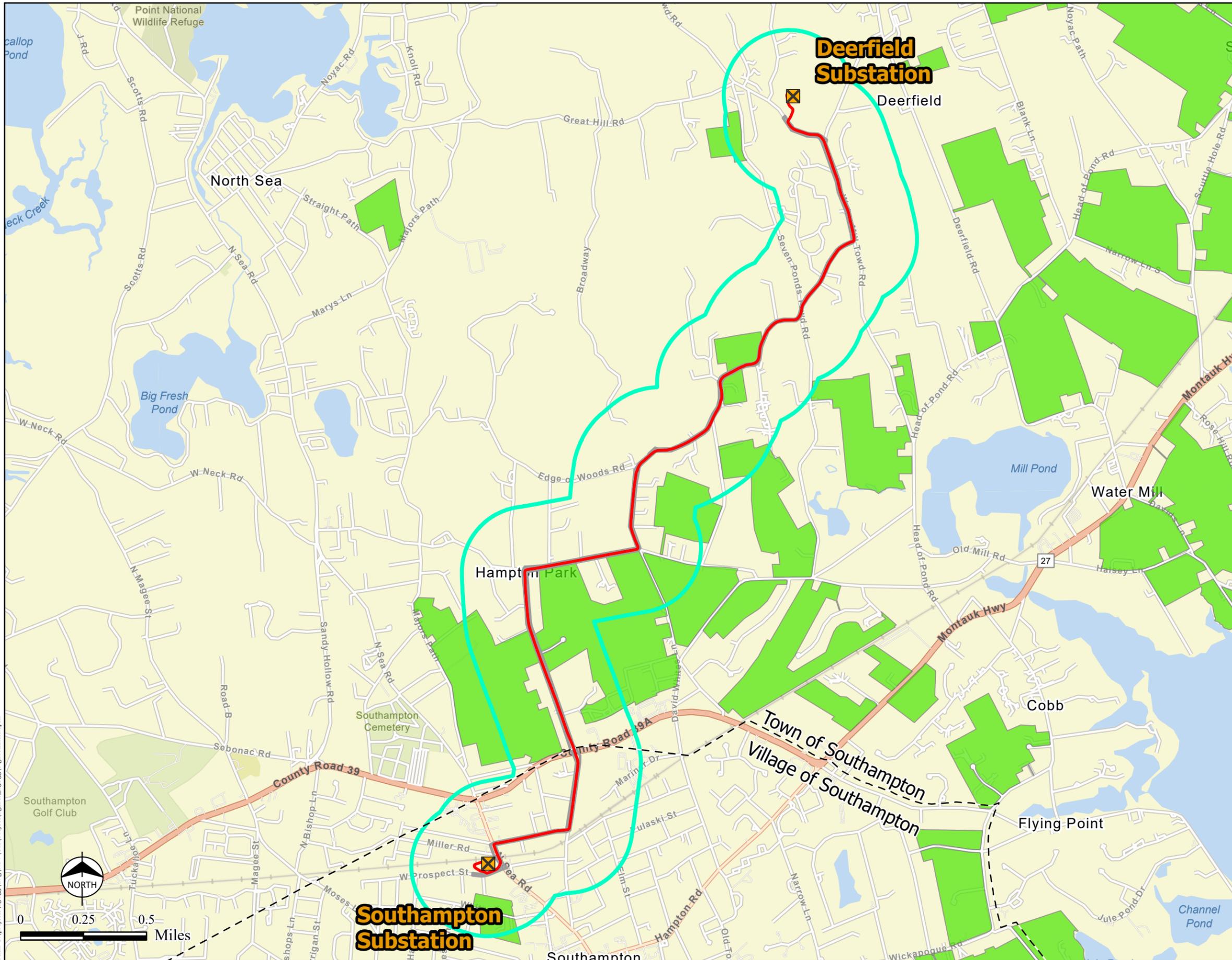
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DATE	1/29/2024	
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CHK. BY	AC	
FIGURE NO.	4.2-4	

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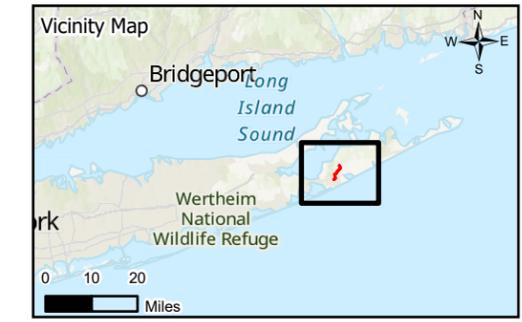
FIGURE 4.2-5
Agricultural Districts



Legend

-  Existing Substation
-  Proposed Route
-  Roadway ROW
-  Town/Village Boundary
-  1/4 Mile Buffer of Right of Way
-  Agricultural Districts (Easthampton, Southampton)

- Sources:**
1. Proposed Route prepared by Burns & McDonnell, July 2023.
 2. NYS Civil Boundary Feature Server, April 2020
 3. Cornell Institute for Resource Information Sciences (Cornell IRIS), 2017
 4. Esri Streets Map, 2017



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Agricultural Districts

SCALE 1" = 2000' (Printed on 11"x17")

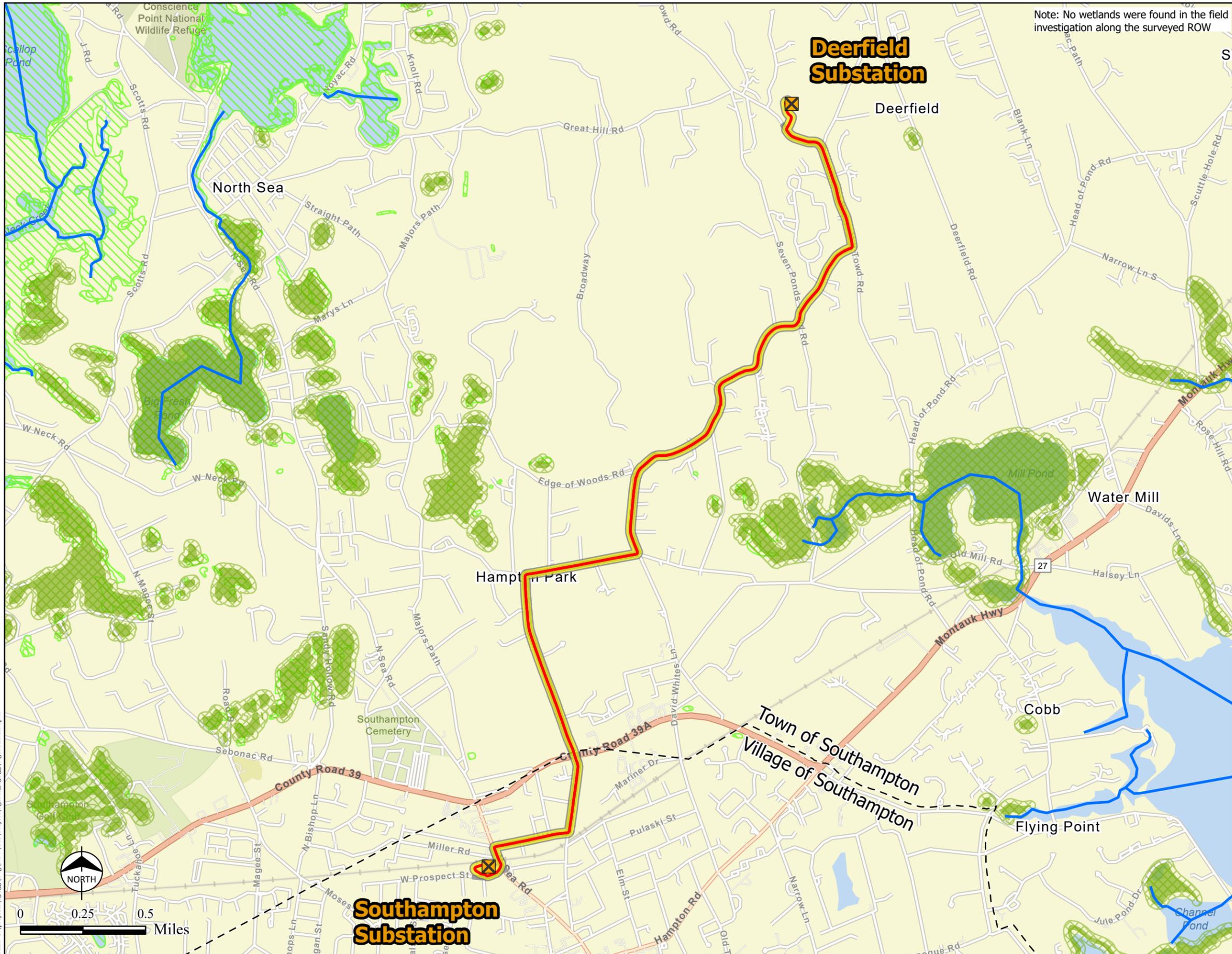
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FIGURE NO.	4.2-5	

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FIGURE 4.5-1

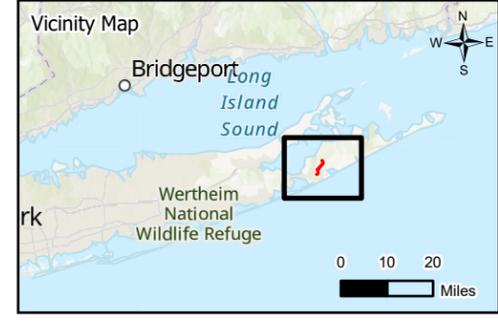
Wetlands and Surface Waters



Note: No wetlands were found in the field investigation along the surveyed ROW

- Legend**
- Existing Substation
 - Proposed Route
 - Town/Village Boundary
 - Roadway ROW
 - 100 Foot Buffer of Right of Way
 - NYSDEC Wetland
 - NYSDEC Wetland Checkzone
 - USFWS NWI Wetland
 - Streams

- Sources:**
1. Proposed Route prepared by Burns & McDonnell, July 2023.
 2. NYS Civil Boundary Feature Server, April 2020
 3. New York State Regulatory Freshwater Wetlands, NYSDEC 2013
 4. USFWS NWI Wetlands & Waterbodies, National Wetlands Inventory, Wetlands Project, U.S. Fish & Wildlife Service, 2012
 5. Esri Streets Map, 2017
 6. Water Quality Classifications (WQC) - NYSDEC, 2023



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**Wetlands and
Surface Waters**

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FIGURE NO. 4-5-1

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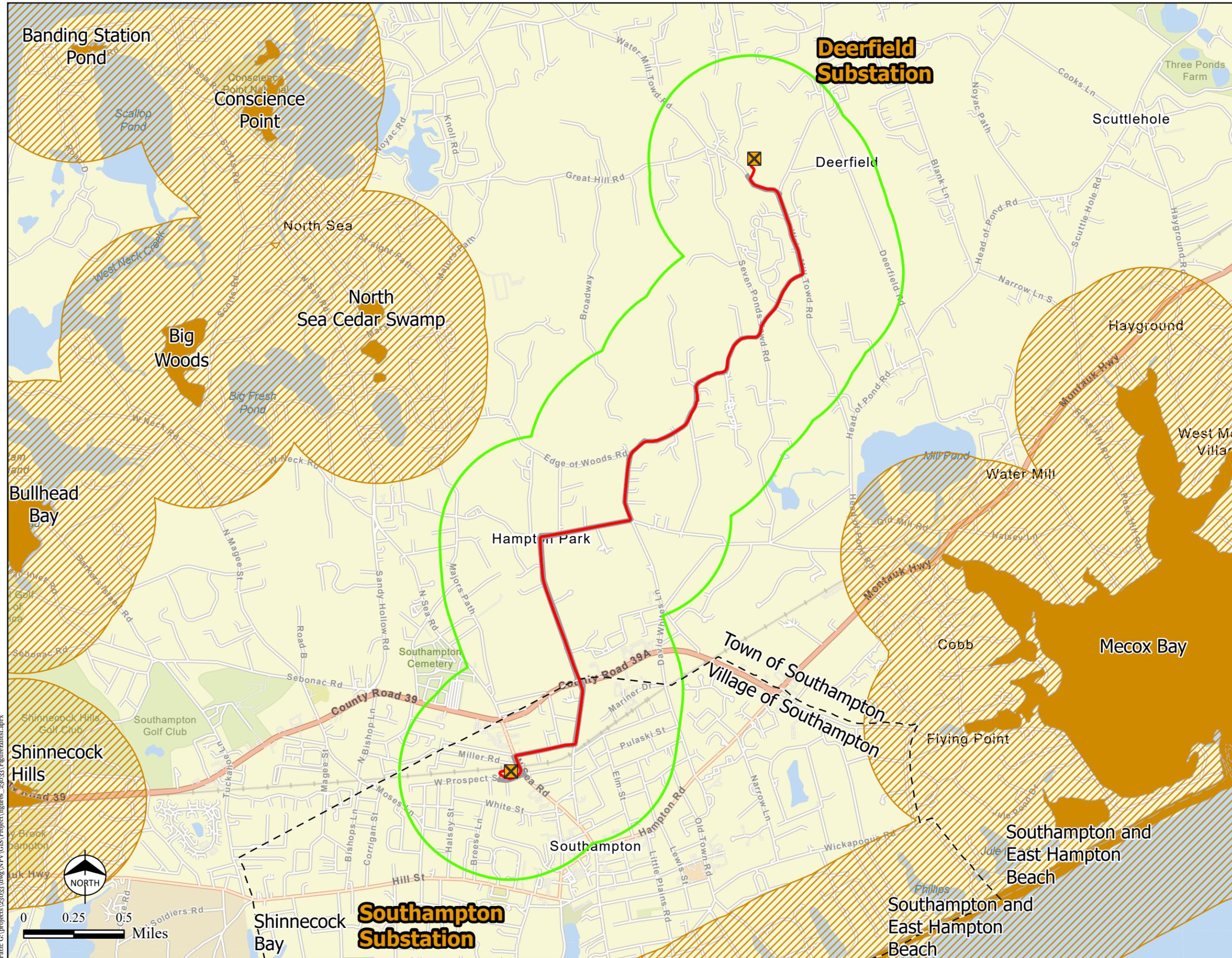
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FIGURE 4.6-1

Significant Natural Communities



- Legend**
- Existing Substation
 - Proposed Route
 - Roadway ROW
 - 1/2 Mile Buffer of Right of Way
 - Town/Village Boundary
 - Significant Natural Communities
 - Natural Communities Vicinity (0.5 Mile Buffer)

- Sources:**
1. Proposed Route prepared by Burns & McDonnell, July 2023.
 2. NYS Civil Boundary Feature Server, April 2020
 3. Esri Streets Map, 2017
 4. Significant Natural Community Occurrences - Long Island & NYC, New York Department of Environmental Conservation, New York Natural Heritage Program, 2013



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Significant Natural Communities

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FIGURE NO. 4.6-1

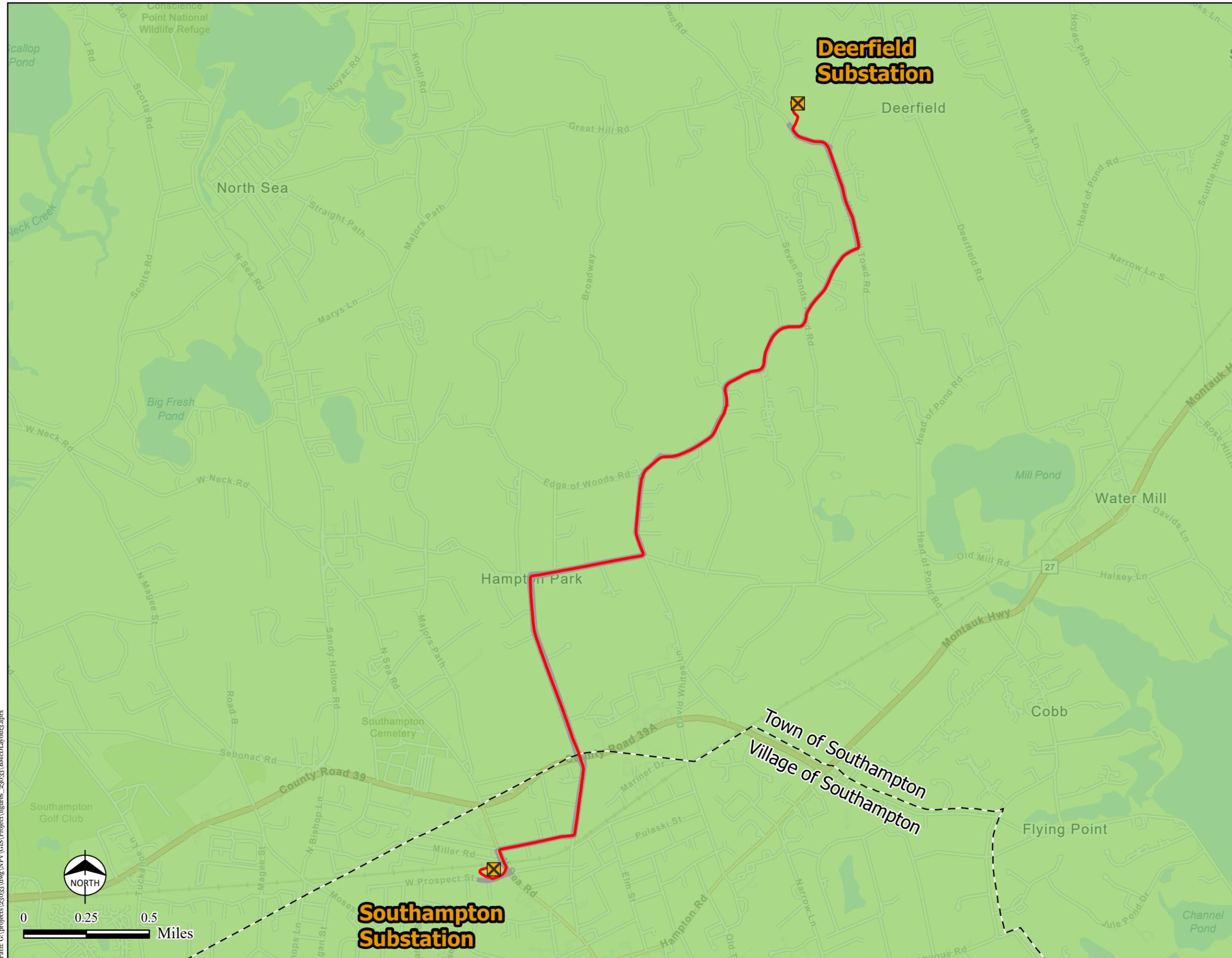
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FIGURE 4.7-1

Depth to Bedrock



LEGEND

-  Existing Substation
-  Proposed Route
-  Roadway ROW
-  Town/Village Boundary
- Depth to Bedrock
-  Greater than 6.5 feet

Sources:

1. Proposed Route prepared by Burns & McDonnell, July 2023.
2. NYS Civil Boundary Feature Server, April 2020
3. Soil Survey Geographic (SSURGO) database for Suffolk County, New York, U.S. Department of Agriculture, Natural Resources Conservation Service, 2013
4. Esri Streets Map, 2017



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Depth to Bedrock

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FIGURE NO. 4-7-1



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