

A. INTRODUCTION

This section considers the potential impact of the Proposed Action on natural resources including groundwater, floodplains, wetlands, vegetation, wildlife, and federal- and state-listed species at and within the vicinity of the Proposed Action.

B. METHODOLOGY

STUDY AREA

Natural resources and the potential impacts of the Proposed Action on natural resources were evaluated for the Proposed Action.

Natural resource field investigations were not conducted for the C&R components of the Proposed Action, as the C&R work will occur within previously disturbed utility rights-of-way through densely developed suburban areas that are not likely to support regulated resources or protected species, and are not located within or adjacent to any regulated wetlands areas. Similarly, the UG 13kV distribution exit feeders will be installed within previously disturbed public roadway rights-of-way that are not likely to support regulated resources or protected species.

EXISTING CONDITIONS

Existing natural resource conditions were identified through direct field observations, published literature, government agency datasets and other sources of information, including the following:

- Federal Emergency Management Agency (FEMA) effective Flood Insurance Rate maps (FIRMs).
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps and Information, Planning, and Conservation (IPaC) System Official Species List of threatened, endangered or candidate species.
- New York State Department of Environmental Conservation (NYSDEC) references, including tidal and freshwater wetland maps, the 2000–2005 Breeding Bird Atlas and the Amphibian and Reptile Atlas Project database.
- New York Natural Heritage Program (NYNHP) correspondence.
- The NYNHP publication *Ecological Communities of New York State* (Edinger et. al., 2014).
- Observations made during field surveys of the expansion area conducted on August 11, 2017 and October 24, 2018.

FUTURE WITH THE PROPOSED ACTION

The potential impacts of the Proposed Action on natural resources were evaluated by considering:

- Potential impacts to groundwater resources during land-disturbing construction activities;

- Potential direct impacts to vegetation, ecological communities, terrestrial wildlife and protected species/communities due to land-disturbing construction activities and site operations;
- Potential indirect impacts to wildlife from increased human activity during project construction and site operations.

C. EXISTING CONDITIONS

GROUNDWATER

The expansion area is located within the Nassau-Suffolk Aquifer System, which is a designated Sole Source Aquifer (USEPA 1975). It consists of deposits of unconsolidated gravel, sand, silt, and clay from the Holocene, Pleistocene, and Late Cretaceous age that have a maximum total thickness of about 1,500 feet. Precipitation is the sole source of groundwater recharge. The system is comprised of the Upper Glacial, Magothy, and Lloyd aquifers.

The groundwater table associated with the Upper Glacial Aquifer is located at 78± feet below ground surface beneath the expansion area and distribution feeder locations. Potable water supply is provided by the Roslyn Water District and is drawn from the Magothy Aquifer, which provides the majority of the public drinking water supply for the Roslyn Water District's customers.

As described in the Wetlands subsection below, three groundwater recharge basins are present in the vicinity of the expansion area; however, groundwater recharge basins are not located on or adjacent to the expansion area.

FLOODPLAINS

Based upon a review of the effective Flood Insurance Rate Maps (FIRMs) (see **Figure C- 1**), no areas of the expansion area or distribution exit feeders lie within the 100-year floodplain (the area with a 1 percent probability of flooding each year) or the 500-year floodplain (the area with a 0.2 percent probability of flooding each year). In addition, the distribution pole replacement/installation and C&R work activities do not lie within the 100 or 500-year floodplain.

WETLANDS

The expansion area is not located within or immediately adjacent to any National Wetlands Inventory (NWI) wetlands, or within or adjacent to any NYSDEC-mapped freshwater or tidal wetlands or their adjacent areas. Further, no wetlands or surface waters were observed on or adjacent to the expansion area during the field surveys. Three mapped NWI features are present in the vicinity of the expansion area. Two of the features comprise a groundwater recharge basin located 0.09± mile to the northeast of the expansion area, and the third NWI feature is a groundwater recharge basin located 0.19± mile to the southwest of the expansion area (see **Figure C-2**). The three groundwater recharge basins are separated from the expansion area by roadways and/or residential development. According to the NWI, the three groundwater recharge basins are defined as: PEM1C (Palustrine, Emergent, Persistent, Seasonally Flooded), PUBHx (Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated) and PUBHh (Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded) features.

TERRESTRIAL ECOLOGICAL COMMUNITIES AND VEGETATION

The Substation will be expanded to the south within an area that is currently utilized for vehicular parking and equipment storage. Following the ecological community classification system used by Edinger et al. (2014), this area is best described as an “Urban Vacant Lot,” which is defined as an open site in a developed urban area that has been cleared for either construction or following the demolition of a building. Vegetation is typically sparse and there may be large areas of exposed soil, often with rubble or other debris. The Urban Vacant Lot community is classified as an “unranked cultural” community, with distribution throughout New York State.

As observed during the field surveys on August 11, 2017, and October 24, 2018, the majority of the expansion area consists of unvegetated surfaces. Vegetation is limited to isolated patches along perimeter areas of the existing easement with National Grid. Vegetative species observed in these areas are dominated by commonly abundant herbaceous plants, turf grasses and trees. Vegetation observed within the expansion area during field surveys is included on **Table C-1**. The observed vegetation includes a number of non-native/invasive species, including four species included on the NYS Prohibited and Regulated Invasive Plants List (NYSDEC 2014).

Table C-1 - Vegetation Identified During Field Surveys

Common Name	Scientific Name	Stratum
Tree-of-Heaven*	<i>Ailanthus altissima</i>	Tree
Mimosa	<i>Albizia julibrissin</i>	Shrub
Ragweed	<i>Ambrosia sp.</i>	Herb
Mugwort*	<i>Artemisia vulgaris</i>	Herb
Aster	<i>Aster sp.</i>	Grass
Bindweed	<i>Calystegia sepium</i>	Vine
Common Chicory	<i>Cichorium intybus</i>	Herb
Canada Thistle	<i>Cirsium arvense</i>	Herb
Hawthorn	<i>Crataegus Sp.</i>	Shrub
Queen Anne's Lace	<i>Daucus carota</i>	Herb
Large Crabgrass	<i>Digitaria sanguinalis</i>	Herb
Common Fleabane	<i>Erigeron philadelphicus</i>	Herb
Birdsfoot Trefoil	<i>Erigeron philadelphicus</i>	Herb
Wild Buckwheat	<i>Eriogonum annuum</i>	Herb
Fescue	<i>Festuca sp.</i>	Herb
Honey Locust	<i>Gleditsia triacanthos</i>	Tree

Common Name	Scientific Name	Stratum
English Ivy	<i>Hedera helix</i>	Vine
Common St. John's Wort	<i>Hypericum perforatum</i>	Herb
Ivy leaf Morning Glory	<i>Ipomoea hederacea</i>	Vine
Prickly Lettuce	<i>Lactuca serriola</i>	Herb
Ryegrass	<i>Lolium</i> sp.	Herb
White Mulberry	<i>Morus alba</i>	Tree
Common Evening Primrose	<i>Oenothera biennis</i>	Herb
Common Yellow Woodsorrel	<i>Oxalis stricta</i>	Herb
Princess Tree	<i>Paulownia tomentosa</i>	Tree
Common Reed	<i>Phragmites australis</i>	Grass
Pokeweed	<i>Phytolacca americana</i>	Shrub
White Pine	<i>Pinus strobus</i>	Tree
Broadleaf Plantain	<i>Plantago major</i>	Herb
Japanese Knotweed*	<i>Polygonum cuspidatum</i>	Shrub
Bluegrass	<i>Poa</i> sp.	Herb
Black Oak	<i>Quercus velutina</i>	Tree
Dwarf Sumac	<i>Rhus copallinum</i>	Shrub
Sumac	<i>Rhus</i> sp.	Shrub
Black Locust	<i>Robinia pseudoacacia</i>	Tree
Multiflora Rose*	<i>Rosa multiflora</i>	Shrub
Sassafras	<i>Sassafras albidum</i>	Tree
Giant Foxtail	<i>Setaria faberi</i>	Herb
Yellow Foxtail	<i>Setaria glauca</i>	Herb
Greenbriar	<i>Smilax rotundifolia</i>	Vine
Dandelion	<i>Taraxacum</i> sp.	Herb
Poison Ivy	<i>Toxicodendron radicans</i>	Vine

Common Name	Scientific Name	Stratum
Red Clover	<i>Trifolium pratense</i>	Herb
Common Mullein	<i>Verbascum thapsus</i>	Herb
Summer Grape	<i>Vitis aestivalis</i>	Vine
Common Cocklebur	<i>Xanthium strumarium</i>	Herb
Source: VHB Field Surveys *Indicates a non-native/invasive species included on the NYS Prohibited and Regulated Invasive Plats List		

WILDLIFE

Due to the disturbed and largely unvegetated conditions described previously, there is limited natural habitat available to support terrestrial wildlife at the expansion area. Combined with the high levels of human activity and predominance of invasive species, the limited vegetative habitats are of poor quality and have minimal potential as wildlife habitat. Based on these factors, wildlife use of the expansion area is limited by a scarcity of vegetated habitat and the disturbed, suburban nature of the surrounding area. Wildlife use in such settings is typically restricted to a limited assemblage of suburban-adapted, habitat generalist species that can tolerate developed environments and high levels of human activity.

BIRDS

The NYSDEC New York State Breeding Bird Atlas Projects (BBA) are comprehensive statewide surveys designed to document the distribution of breeding birds within New York State. The two BBA surveys were conducted from 1980-1985 and from 2000-2004. Mapping for the BBA is based on a grid system that divided the state into discreet atlas blocks measuring 10km by 10km. The expansion area is located within BBA Block 6051B. The 2000-2004 BBA survey documented 70 species as confirmed or probable/possible breeders within BBA Block 6051B (see **Table C-2**). However, unlike the predominantly developed and unvegetated conditions that occur within the expansion area, BBA Block 6051B also includes natural areas with suitable habitat to support many of the identified species. The expansion area and immediate surroundings contain habitat that is suitable primarily for a limited number of avian species adapted to disturbed, suburban conditions. These species include common species listed on **Table C-2** such as European Starling (*Sturnus vulgaris*), House Sparrow (*Passer domesticus*), Rock Pigeon (*Columbia livia*), American Robin (*Turdus migratorius*), Northern Cardinal (*Cardinalis cardinalis*), and Song Sparrow (*Melospiza melodia*).

MAMMALS

Habitat for mammals is limited within the expansion area, which is expected to be used primarily by a limited number of common, suburban-adapted species. These species include Raccoon (*Procyon*

litor), House Mouse (*Mus musculus*), Norway Rat (*Rattus norvegicus*), Gray Squirrel (*Sciurus carolinensis*), and feral Domestic Cats (*Felis catus*). No mammals were observed at the expansion area during the field surveys.

REPTILES AND AMPHIBIANS

No reptile or amphibian species were observed at the expansion area during the field inspections. In order to identify herpetofauna that may occur, an evaluation of existing site conditions was performed and the NYSDEC New York State Amphibian and Reptile Atlas Project (NYSARAP) was consulted. According to the NYSARAP data (collected from 1990 to 1999), 18 amphibian and reptile species have been identified within the Sea Cliff, New York Quadrangle that the expansion area occurs within. The majority of the eighteen listed species require aquatic habitats for a least a portion of their life cycles or undisturbed vegetated habitats such as forests, wetlands and grasslands. Although these habitats occur elsewhere within the Sea Cliff, New York Quadrangle, they do not occur at or adjacent to the expansion area. Considering the observed largely unvegetated conditions at the expansion area and taking into account the predominantly developed conditions within the general surrounding area, the expansion area does not provide habitat for the NYSARAP-listed species and does not represent a significant herpetofauna habitat area overall.

Table C-2 - 200-2004 BBA Survey Results for Block 6051B

Common Name	Scientific Name
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Wood Duck	<i>Aix sponsa</i>
Mallard	<i>Anas platyrhynchos</i>
Mallard x Am. Black Duck Hybrid	<i>Anas platyrhynchos x A. rubripes</i>
Gadwall	<i>Anas strepera</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Tufted Titmouse	<i>Baeolophus bicolor</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Canada Goose	<i>Branta canadensis</i>
Great Horned Owl	<i>Bubo virginianus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Green Heron	<i>Butorides virescens</i>
Northern Cardinal	<i>Cardinalis</i>
House Finch	<i>Carpodacus mexicanus</i>
Chimney Swift	<i>Chaetura pelagica</i>

Common Name	Scientific Name
Killdeer	<i>Charadrius vociferus</i>
Marsh Wren	<i>Cistothorus palustris</i>
Northern Flicker	<i>Colaptes auratus</i>
Rock Pigeon	<i>Columba livia</i>
Eastern Wood-Pewee	<i>Contopus virens</i>
American Crow	<i>Corvus brachyrhynchos</i>
Fish Crow	<i>Corvus ossifragus</i>
Blue Jay	<i>Cyanocitta cristata</i>
Mute Swan	<i>Cygnus olor</i>
Yellow Warbler	<i>Dendroica petechia</i>
Pine Warbler	<i>Dendroica pinus</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Willow Flycatcher	<i>Empidonax traillii</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Barn Swallow	<i>Hirundo rustica</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Baltimore Oriole	<i>Icterus galbula</i>
Orchard Oriole	<i>Icterus spurius</i>
Eastern Screech-Owl	<i>Megascops asio</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Song Sparrow	<i>Melospiza melodia</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Black-and-white Warbler	<i>Mniotilta varia</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Osprey	<i>Pandion haliaetus</i>
House Sparrow	<i>Passer domesticus</i>
Indigo Bunting	<i>Passerina cyanea</i>
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>

Common Name	Scientific Name
Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Eastern Towhee	<i>Pipilo erythrophthalmus</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Common Grackle	<i>Quiscalus quiscula</i>
Eastern Phoebe	<i>Sayornis phoebe</i>
American Woodcock	<i>Scolopax minor</i>
Ovenbird	<i>Seiurus aurocapilla</i>
American Redstart	<i>Setophaga ruticilla</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>
White-breasted Nuthatch	<i>Sitta carolinensis</i>
American Goldfinch	<i>Spinus tristis</i>
Chipping Sparrow	<i>Spizella passerina</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
European Starling	<i>Sturnus vulgaris</i>
Carolina Wren	<i>Thryothorus ludovicianus</i>
House Wren	<i>Troglodytes aedon</i>
American Robin	<i>Turdus migratorius</i>
Eastern Kingbird	<i>Tyrannus</i>
Blue-winged Warbler	<i>Vermivora pinus</i>
Brewster's Warbler	<i>Vermivora pinus x V. chrysoptera</i>
Warbling Vireo	<i>Vireo gilvus</i>
White-eyed Vireo	<i>Vireo griseus</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Mourning Dove	<i>Zenaida macroura</i>
Source: NYS Breeding Bird Atlas (2000-2005) Blocks 6051B	

THREATENED, ENDANGERED, SPECIAL CONCERN SPECIES AND SIGNIFICANT HABITATS

No federal or New York State threatened, endangered or special concern species, or significant habitats were observed at the expansion area during the field surveys.

Consultations were undertaken with the NYNHP to determine whether records exist for known occurrences of other rare or New York State-listed animals, plants or significant natural communities at or in the immediate vicinity of the expansion area. In correspondence dated August 16, 2017 and November 9, 2018, the NYNHP reported that no such records currently exist (see correspondence in Appendix A).

A United States Fish and Wildlife Service (USFWS) IPaC Official Species List was generated on October 25, 2018 (see Appendix A). The IPaC Official Species list includes six federally-listed species that occur within Nassau County, New York. The species, their federal status and New York State status are summarized on **Table C-3**.

Table C-3 - Summary IPaC Official Species List

Common Name	Scientific Name	Classification	Federal Status	New York State Status
Piping Plover	<i>Charadrius melodus</i>	Bird	Threatened	Endangered
Red Knot	<i>Calidris canutus rufa</i>	Bird	Threatened	Species of Greatest Conservation Need
Roseate Tern	<i>Sterna dougallii</i>	Bird	Endangered	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Mammal	Threatened	Threatened
Sandplain Gerardia	<i>Agalinis acuta</i>	Flowering Plant	Endangered	Endangered
Seabeach Amaranth	<i>Amaranthus pumilus</i>	Flowering Plant	Threatened	Threatened

No federal critical habitats have been designated at, or in the vicinity of the expansion area for the six species included on the IPaC Official Species List. Based on field observations, the marine open water, marine shoreline or tidal wetland habitat necessary to support the three listed marine shorebirds (piping plover, red knot and roseate tern) are not present within the expansion area. The two plant species on the IPaC list, sandplain gerardia (*Agalinis acuta*) and seabeach amaranth (*Amaranthus pumilus*), are plants of undisturbed native grass prairies and marine shorelines, respectively. These habitats were not observed within the expansion area during the field surveys.

The IPaC Official Species List also includes the Northern Long-eared Bat, which is listed as federally threatened by the USFWS under section 4(d) of the federal Endangered Species Act of 1973, due to significant population declines as a result of the white-nose syndrome fungal disease. The current USFWS and NYSDEC protections and prohibitions for Northern Long-eared Bat are based upon the existence of known winter hibernacula or summer maternity roosts located at or within the vicinity of a location where an activity that might result in potential take of this species is proposed. The above-referenced NYNHP correspondence indicates that no agency records currently exist for Northern Long-eared Bat winter hibernacula or summer maternity roost trees at or in the vicinity of the expansion area (see Appendix A). Moreover, as observed during the field surveys, the expansion area does not include wooded habitat, which the bat requires and contains only a limited number of trees located along the perimeter of the Substation. Based on the foregoing, no NYNHP records for northern long-eared bat currently exist for the expansion area, which does not represent a significant potential habitat area for Northern Long-eared Bat.

D. PROBABLE IMPACTS OF THE PROPOSED ACTION

GROUNDWATER

Excavation of up to approximately 15 feet below ground surface, related to the Proposed Action will not disturb the groundwater table, which is located at 78± feet below ground surface at the expansion area. Three groundwater recharge basins are located in the vicinity of the expansion area; however, these are located at a significant distance from the Substation Site and separated by roadways and/or residential development. Due to this distance, no impacts to the groundwater recharge basins will occur as a result of construction activities. Therefore, operation of the Proposed Action will not result in significant adverse impacts to groundwater.

FLOODPLAINS

As described in Existing Conditions, no portions of the Proposed Action lie within the 100-year floodplain or the 500-year floodplain. Therefore, the Proposed Action will not result in significant adverse impacts to flood levels, flood risk, or the flow of floodwaters on the site of the Proposed Action or within the vicinity.

WETLANDS

As described in Existing Conditions, the expansion area is not located within or immediately adjacent to any NWI- mapped wetlands, or any NYSDEC-regulated wetlands or wetland adjacent areas. Therefore, the Proposed Action will not impact wetlands.

TERRESTRIAL ECOLOGICAL COMMUNITIES AND VEGETATION

As described in Existing Conditions, the expansion area is comprised of an unranked cultural community with wide distribution throughout New York State. The Substation expansion area is comprised of

largely unvegetated land with vegetation located along the perimeter. The surrounding area is comprised primarily of the disturbed and developed communities of the existing National Grid facility, residential and commercial development, and surface roads. The Proposed Action will result in disturbance or removal of the limited existing vegetation and the addition of landscape vegetation along the southern Substation perimeter, to the north of the existing southern property fence, and to the south of the expanded Substation perimeter fence. Operation of the Proposed Action will not result in significant adverse impacts to terrestrial ecological communities and vegetation within the expansion area or in the areas around the new distribution feeders and C&R work.

WILDLIFE

Terrestrial wildlife use of the expansion area is limited due to disturbed and largely unvegetated conditions and high levels of human activity. Due these existing conditions, implementation of the Proposed Action will not result in the elimination of high quality or otherwise undisturbed wildlife habitat and will not adversely affect the limited suburban species assemblage observed and expected to occur at the expansion area. Suburban species are able adapt quickly to changes in habitat with any displacement being temporary in nature, and therefore are tolerant of disturbance. Individuals of these species that may temporarily be displaced from the expansion area during construction and will likely ultimately occupy surrounding suitable habitats. The feeder installation and C&R work will not require disturbance to any habitats that support suburban species. Therefore, the Proposed Action will not result in significant adverse impacts to wildlife.

THREATENED, ENDANGERED AND SPECIAL CONCERN SPECIES AND SIGNIFICANT HABITATS

No federal or New York State threatened, endangered, or special concern species, or significant habitats, were observed at the expansion area or in the areas around the new distribution feeders and C&R work. Although USFWS IPaC records identify six federally listed species potentially occurring in the vicinity of the Substation, based on field observations and regulatory agency records, habitats necessary to support these species do not occur at the expansion area or in the areas around the new distribution feeders and C&R work. Additionally, no records for New York State-listed species currently exist for the expansion area or vicinity or in the areas around the new distribution feeders and C&R work. Therefore, the Proposed Action will not result in significant adverse impacts to threatened, endangered or special concern species, or significant habitats.