

Appendix C
Ecological Assessment Report

Ecological Assessment Report

For

United Illuminating/AVANGRID Old Town Substation

280, 312 & 330 Kaechele Place
Bridgeport, Connecticut

January 9, 2020



FUSS & O'NEILL

146 Hartford Road
Manchester, CT 06040

Project No. 20140774.A12

Table of Contents

Ecological Assessment Report UI/AVANGRID – Old Town Substation

1	Project and Site Overview.....	1
2	Wetland Delineation	1
2.1	Methodology	1
2.2	Findings	2
2.2.1	Wetland/Watercourse A.....	2
2.2.2	Wetland/Watercourse B.....	3
3	Ecological Habitat Evaluation	3
3.1	Wetland Classifications	3
3.2	Vegetation.....	4
3.2.1	Wetland/Watercourse A.....	4
3.2.2	Wetland/Watercourse B.....	4
3.2.3	Upland	4
3.3	Wildlife, Fisheries & Rare Species.....	5
3.3.1	Rare Species and Critical Habitats.....	6
3.3.2	Northern Long-Eared Bat.....	6
3.4	Evaluation of Wetland Function & Value.....	7
3.4.1	Groundwater Recharge/Discharge.....	7
3.4.2	Floodflow Alteration	7
3.4.3	Sediment/Toxicant/Pathogen Retention	8
3.4.4	Nutrient Removal	8
3.4.5	Production Export	8
3.4.6	Wildlife Habitat	8
3.4.7	Uniqueness, Education, Scientific & Recreation Value	8
4	Vernal Pool Assessment.....	9
5	Impact Assessment.....	11
	References.....	12

Table of Contents

Ecological Assessment Report UI/AVANGRID – Old Town Substation

Figures

- 1 Site Location
- 2 NRCS Soils Map
- 3 Wetlands and Watercourse Map
- 4 USFWS NWI Map

Following Page

Appendices

- A Soil Drainage Classes - NRCS Web Soil Survey Mapping
- B CTDEEP NDDDB and USFWS ECOS-IPaC Information
- C USACE Wetland Delineation Data Forms

End of Report

1 Project and Site Overview

AVANGRID d/b/a United Illuminating (UI) proposes to rebuild its existing Old Town Substation, a transmission/ distribution facility located in the northwestern portion of the City of Bridgeport at Kaechele Place to improve the reliability of the electric transmission system and service to its customers in the Greater Bridgeport and Trumbull region. Overall, the need for the new substation stems from the age of the existing Old Town facility and the fact that most of the station's equipment will need to be replaced in the near future in order to conform to industry and UI standards.

Old Town Substation is located on the east side of Kaechele Place (Figure 1). UI's current substation infrastructure is located on the western portion of the 0.9-acre parcel at 280 Kaechele Place. UI owns an additional 2.98 acres of adjacent parcels at 312 and 330 Kaechele Place. Collectively, these three parcels constitute the proposed site at which UI plans to rebuild the Old Town Substation (the Site). Eversource Energy's (Eversource) existing 115-kilovolt (kV) transmission line right-of-way (ROW) extends east-west through the western portion of this existing Old Town Substation Site, with two of the 115-kV lines connecting to the existing substation.

The Old Town Substation will be rebuilt on approximately 2.25 acres of UI-owned property; the site will encompass undeveloped UI land located at 312 and 330 Kaechele Place, as well as the existing substation property. The Project also will involve the installation of transmission line connections to the new substation, involving transmission structure replacements on Eversource's existing transmission line right-of-way immediately adjacent to the site, as well as modifications to certain distribution line connections.

Collectively, the three sites are minimally developed, with the current substation located on the western portion of 280 Kaechele Place and with a lattice transmission tower located on the eastern portion of the site within the Eversource's existing transmission line right-of-way (ROW). The remaining portions of the Site (280, 312 and 330 Kaechele Place, collectively) are occupied by woodlands and wetlands. The surrounding area consists of Elton Rodgers Woodland Park to the east and south and urban/suburban development to the north and west. This ecological assessment report summarizes the findings of the field studies conducted to date including wetland delineations, ecological habitat assessment and vernal pool investigation. The field studies were conducted across all three parcels that make up the Site, as well as areas adjacent to the Site that may have been affected by site activity.

2 Wetland Delineation

2.1 Methodology

On April 23, 2018 Joshua Wilson, PWS and Kristin Connell and conducted an on-site wetland and watercourse investigation of the Site (Figure 2). Wetland flagging was complete at the Site to the extent the boundary of the Site could be ascertained in the field.

The purpose of this investigation was to determine the inland wetland and watercourse limits at the Site. To prepare for this field investigation, the following current literature and mapping were reviewed:

- United States Geological Survey (USGS) 7.5 Minute Topographic Mapping (Stafford Springs, Conn. 1983)
- Natural Resources Conservation Service (NRCS) Web Soil Survey (v.19) (<http://websoilsurvey.nrcs.usda.gov/>)
- Keys to Soil Taxonomy (United States Department of Agriculture (USDA), 2014)
- Soil Survey Manual (USDA, 2017)
- Site mapping from Fuss & O'Neill, Inc.

Inland wetlands and watercourses are regulated in the State of Connecticut by Connecticut General Statutes, Inland Wetlands and Watercourses Act, Chapter 440, sections 22a-36 to 22a-45. Wetlands are defined as “soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey.” Watercourses are defined as “rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private.” Intermittent watercourses are identified by “a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (a) Evidence of scour or deposits of recent alluvium or detritus, (b) the presence of standing or flowing water for a duration longer than a particular storm incident, and (c) the presence of hydrophytic vegetation. “

Federal jurisdictional wetland boundaries are defined by 33 CFR 328-329. Federal jurisdictional wetlands are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Federal wetlands were delineated in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0, January 2012). Activities occurring within Inland Waters and Wetlands within the State of Connecticut are subject to approval by the US Army Corps of Engineers (USACE), New England District.

2.2 Findings

A map depicting wetlands and watercourse identified at the Site is attached as well as typical soils identified by NRCS (Figure 2). A more detailed description of the wetlands and watercourses observed at the Site is provided below. Characterization of the ecological conditions, functions and values is provided in Section 3. In addition, the delineated boundaries of wetlands are depicted in Figure 3.

2.2.1 Wetland/Watercourse A

Located along the northern side of the Site is a 0.49-acre wetland and an unnamed intermittent stream – Wetland A. The unnamed stream flows to the northeast and joins the wetland and watercourse complex (Wetland B) within Elton Rogers Woodland Park, which is located off-site to the south and east. Wetland flags A100 to A113 delineate the southern limits of the wetland and/or watercourse proximal to the Site and the intended area of activity. Hydrology associated with Wetland A originates from shallow, groundwater



seeps. Additionally, surficial runoff and stormwater from the surrounding developed watershed, including paved and unpaved surfaces, contribute to the wetland's hydrology.

Field identified soils observed within the wetland consisted of organic material (mucky or mucky mineral) overlying a depleted fine sandy loam. The NRCS mapping identified soil in this area to be occupied by Charlton-Chatfield Complex, which are well drained loamy soils formed in till; however the soils in this wetland are more accurately classified as Aquents.

2.2.2 Wetland/Watercourse B

Located southeast of the Site is a second unnamed intermittent stream and associated wetland (Wetland B), which is located in the Elton Rogers Woodland Park as well as within the Eversource transmission ROW. The unnamed stream flows to the southwest and ultimately discharges to the



Rooster River (off site). Wetland flags B200 to B217 delineate the northern limits of the wetland and/or watercourse proximal to the Site and the intended area of activity.

Field identified soils observed within the wetland consisted of organic material (mucky or mucky mineral) overlying a depleted fine sandy loam. The NRCS mapping identified soil in this area to be occupied by Timakwa and Natchaug series, which are very poorly drained loamy soils formed in outwash and till plains.

3 Ecological Habitat Evaluation

3.1 Wetland Classifications

Fuss & O'Neill reviewed the City of Bridgeport wetland maps, most recent orthophotographs/satellite figures of the wetlands at the Site, generalized soils maps, and wetland mapping provided by the United States Fish & Wildlife Service to determine the potential occurrences and character of wetlands and watercourses. This review included multiple field inspection with a focus on the wetland areas. The wetlands and watercourses were evaluated based on USACE Highway Methodology to determine the primary wetland functions-values.

The National Cooperative Soil Survey, USDA NRCS inventories, documents, classifies, and interprets soil found in Connecticut (CT). The USDA NRCS Soil Survey shows the upland area dominated (approximately 90%) by the Charlton-Chatfield soil complex. The remainder of soils mapped on the Site include Timakwa and Natchaug soils (Appendix A)

The United States Fish and Wildlife Service (USFWS) maintains a National Wetland Inventory (NWI) and provides "information on the status, extent, characteristics and functions of wetland, riparian, deepwater and related aquatic habitats in priority areas." The areas inventoried are identified based on

USGS topographic quadrangle maps and orthophotographs and are characterized based on the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et. al., 1979). The USFWS National Wetlands Inventory (Figure 4) identifies two types of wetlands on-site or adjacent to the Site. These wetlands mapped by the USFWS are associated with Wetland/Watercourse B:

- Palustrine Emergent Persistent Seasonally flooded/Saturated (PEM1E)
- Palustrine Scrub-Shrub Deciduous Seasonally flooded/Saturated (PSS1E)

Wetland A is not mapped by USFWS NWI. However, classification of this wetland would be Palustrine Forested/Scrub-Shrub Deciduous Seasonally flooded/Saturated (PFO/SS1E).

3.2 Vegetation

An inventory of the vegetation communities occurring in each wetland area was conducted at the Site. The communities occurring in the wetlands on the Site, including the vegetation characteristics of the Eversource ROW southeast of the project site, were determined through field observations. Wetland and upland areas were traversed along their long axis and all observed vegetation species were identified and characterized on the site through field observations. The plants observed in each wetland or watercourse area are reported in Table 1.

3.2.1 Wetland/Watercourse A

Wetland A is formed by an intermittent stream and groundwater seep as well as runoff from adjacent paved and unpaved areas. It flows northeast before it discharges to Watercourse B. Portions of this intermittent stream/seep contains seasonally-flowing, shallow water. Hydrology is attributed to groundwater discharge off the steep hill located to the north. The vegetation community is classified as Red Maple/Skunk Cabbage Seasonally Flooded Forest (Metzler & Barrett, 2006). Dominant vegetation in this wetland include red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), spicebush (*Lindera benzoin*) and skunk cabbage (*Symplocarpus foetidus*).

3.2.2 Wetland/Watercourse B

Wetland B is formed by an intermittent stream and groundwater seep. It flows southwest and off site, ultimately discharging to Rooster River. Portions of this intermittent stream/seep contains standing water and at points flowing water. Hydrology is attributed to groundwater discharge from hillsides to the north and south. The vegetation community is classified as Red Maple/Skunk Cabbage Seasonally Flooded Forest (Metzler & Barrett, 2006). Dominant vegetation in this wetland include red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), spicebush (*Lindera benzoin*), winterberry (*Ilex verticillata*), tussock sedge (*Carex strictia*) and skunk cabbage (*Symplocarpus foetidus*).

3.2.3 Upland

The upland areas are a mixture of recently disturbed land and early successional forest. Evidence of historic farming (e.g., stone walls) and recent activity (e.g., rock piles and borrow areas) have allowed for development of a woodland system with minimal understory. The Eversource ROW southeast of the Project site included vegetation consisting of herbaceous scrub/shrub upland near the existing OT

Substation. The vegetation community in the upland areas is classified as American Beech-White Oak-Northern red oak-Tuliptree Community (Metzler & Barrett, 2006). Dominant vegetation species in the upland areas of the Site include white oak (*Quercus alba*), red oak (*Quercus rubra*), white ash (*Fraxinus americana*), sugar maple (*Acer saccharum*), American beech (*Fagus grandifolia*), witch hazel (*Hamamelis virginiana*), Japanese barberry (*Berberis thunbergii*)(* - invasive), autumn olive (*Elaeagnus umbellata*)*, flase lily-of-the-valley (*Maianthemum canadense*), multiflora rose (*Rosa multiflora*)*, poison ivy (*Toxicodendron radicans*), and oriental bittersweet (*Celastrus orbiculata*)*.

3.3 Wildlife, Fisheries & Rare Species

The following table summarizes the observed or likely wildlife associated with the site. The species observed or expected to occur at or in the general vicinity of the Site are typical of species acclimated to urban/suburban environments.

Common Name	Scientific Name	Occurrence
Reptiles and Amphibians		
Bullfrog	<i>Rana castebeiana</i>	E
Eastern Garter Snake	<i>Thamnophis sirtalis</i>	O
Eastern Ribbon Snake	<i>Thamnophis sauritus</i>	E
Gray Treefrog	<i>Hyla versicolor</i>	E
Green Frog	<i>Rana clamitans</i>	O
Northern Ringneck Snake	<i>Diadophis punctatus edwardsi</i>	E
Spring Peeper	<i>Pseudacris crucifer</i>	O
Mammals		
Coyote	<i>Canis latrans</i>	O
Gray Squirrel	<i>Sciurus carolinensis</i>	O
Little Brown Myotis	<i>Myotis lucifugus</i>	E
Raccoon	<i>Procyon lotor</i>	O
Red Fox	<i>Vulpes vulpes</i>	O
White-Tailed Deer	<i>Odocoileus virginianus</i>	O
Birds		
American Crow	<i>Corvus brachyrhynchus</i>	C, O
American Goldfinch	<i>Carduelis tristis</i>	Po
American Robin	<i>Turdus migratorius</i>	C, O
Barn Swallow	<i>Hirundo rustica</i>	Po
Black Duck	<i>Anas rubripes</i>	O
Black-Capped Chickadee	<i>Parus atricapillus</i>	C, O
Black-Throated Green Warbler	<i>Dendroica virens</i>	C
Blue Jay	<i>Cyanocitta cristata</i>	C, O
Brown Creeper	<i>Certhia americana</i>	Po
Brown-Headed Cowbird	<i>Molothrus ater</i>	Po
Chipping Sparrow	<i>Spizella passerina</i>	C
Common Grackle	<i>Quiscalus quiscula</i>	Pr
Downy Woodpecker	<i>Picoides pubescens</i>	C, O
Eastern Phoebe	<i>Sayornis phoebe</i>	Po
European Starling	<i>Sturnus vulgaris</i>	C
Gray Catbird	<i>Dumetella carolinensis</i>	C, O
Hairy Woodpecker	<i>Picoides villosus</i>	C, O

Common Name	Scientific Name	Occurrence
House Sparrow	<i>Passer domesticus</i>	Pr
House Wren	<i>Troglodytes aedon</i>	Po
Mallard	<i>Anas platyrhynchos</i>	O
Mourning Dove	<i>Zenaida macroura</i>	Pr
Northern Cardinal	<i>Cardinalis cardinalis</i>	C, O
Northern Flicker	<i>Colaptes auratus</i>	Pr
Northern Mockingbird	<i>Mimus polyglottos</i>	O
Red-Tailed Hawk	<i>Buteo jamaicensis</i>	O
Tufted Titmouse	<i>Parus bicolor</i>	C
Turkey Vulture	<i>Cathartes aura</i>	O
White-Breasted Nuthatch	<i>Sitta carolinensis</i>	Po
Wild Turkey	<i>Meleagris gallopavo</i>	Po

Notes: C (Confirmed Breeding Bird); E (Expected based on habitat present); O (Observed on-site); Po (Possible Breeding Bird); Pr (Probable Breeding Bird)

The unnamed intermittent stream associated with Wetland A and Wetland B were assessed for the potential to support finfish and other wildlife species. There was no evidence of finfish in the stream associated with Wetlands A and B. Furthermore, the available stream habitats associated with Wetlands A and B are not conducive to the support of finfish.

3.3.1 Rare Species and Critical Habitats

Fuss & O'Neill reviewed the State of Connecticut's Natural Diversity Database (NDDDB) online mapping to determine if any endangered, threatened or special concern species have been observed on or in the vicinity of the Site. Natural Diversity Database (NDDDB) mapping (June 2019) was reviewed for this purpose. When an area is located within a NDDDB area, Connecticut Department of Energy & Environmental Protection (CTDEEP) must be queried for a detailed review of potential endangered or threatened species in that Area.

The site is not located within a NDDDB area nor is it located one-half mile upstream or downstream of an NDDDB area. The nearest NDDDB area is approximately 1.9 miles to the northwest of the Site. For this reason a request for further, specific information was not filed with the CTDEEP by Fuss & O'Neill. A request, however, was submitted by HRP Associates, Inc. in October 2019 (Appendix B). CTDEEP responded that known extant populations of eastern box turtle (*Terrapene c. carolina*) have been recorded in this area. Although the area is not specifically mapped for this species, CTDEEP believed that the site is potentially within a home range of an individual. As such, CTDEEP has recommended standard best management practices to exclude eastern box turtles from wandering into the construction site. These management practices can be addressed in the final design and bidding process.



3.3.2 Northern Long-Eared Bat

The northern long-eared bat (NLEB) is a State-listed endangered species and Federal-listed threatened species.

According to the USFWS, the northern long-eared bat (NLEB) 4(d) rule prohibits incidental take that may occur from tree removal activities within 150 feet of a known occupied maternity roost tree during the pup season (June 1 to July 31) or within a 1/4 mile of a hibernation site, year round.

A request for listed endangered or threatened species was submitted to the USFWS to determine if NLEB (or any other federally endangered or threatened species) is present at the Site (Appendix B). USFWS provided a response that no listed endangered or threatened species are located in the vicinity of the Site. Based on existing mapping from the USFWS and CTDEEP, there are no known northern long-eared bat hibernacula located in Bridgeport or in the adjacent municipalities. However, older and trees with trees cavities or peeling/sloughing bark may provide the necessary habitat for summer roosting female bats (several species including NLEB) and their young (Owen et al., 2001, Swigen et al., 2018).

In an effort to protect roosting bat habitat, Fuss & O'Neill evaluated the trees on site as potential habitat for bat roosting. Three to five viable roosting trees were observed throughout the site. In the unlikely event that NLEB use the trees at the Site as roosting or nursery habitat, it is advisable that any tree slated for removal be reviewed prior to clearing as potential maternity roosting habitat. Furthermore, it is recommended that tree clearing occur outside of the pup season (June 1 to July 31).

3.4 Evaluation of Wetland Function & Value

Using the previously described wetland character information, a function-value evaluation of the wetlands was completed. This analysis is a modification of the New England District, Army Corps of Engineers (USACE) Highway Methodology (USACE, 1995) and CTDEEP Bulletin 9 (Ammann et al., 1996). The function and values considered include: groundwater recharge/discharge, floodflow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal, production export, sediment/shoreline stabilization, wildlife habitat, and uniqueness, education, scientific and recreational value. The principal wetland function-value of these wetlands include:

3.4.1 Groundwater Recharge/Discharge

This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge should relate to the potential for the wetland to contribute water to an aquifer. Discharge should relate to the potential for the wetland to serve as an area where groundwater can be discharged to the surface. Both Wetland A and Wetland B have some component of groundwater recharge and/or are hydrologically dependent upon groundwater discharge, specifically, local, shallow groundwater discharge.

3.4.2 Floodflow Alteration

This function is the ability to store in-flowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface. Wetland A does not provide this function. Wetland B, however, is a broad low-lying wetlands with substantial volumetric capacity as well as deep organic soils. As such, this wetland is capable of storing excess groundwater and surface water runoff

from the immediate catchment area. However, neither wetland area is mapped by Federal Emergency Management Agency (FEMA) as designated floodplain.

3.4.3 Sediment/Toxicant/Pathogen Retention

This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens. Wetland A does not provide this function. Wetland B, however, is a broad low-lying wetlands with substantial volumetric capacity as well as deep organic soils. As such, this wetland is capable of retaining surface water runoff and associated sediments from the immediate catchment area.

3.4.4 Nutrient Removal

This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries. Wetland A does not provide this function. Wetland B, however, is a broad low-lying wetlands with substantial volumetric capacity as well as deep organic soils. As such, this wetland is capable of retaining surface water runoff and associated nutrients from the surrounding watershed.

3.4.5 Production Export

This function relates to the effectiveness of the wetland to produce food or usable products for humans or other living organisms. Both Wetland A and Wetland B are both well vegetated wetlands that have a moderately diverse plant community structure that produce various food sources for resident wildlife.

3.4.6 Wildlife Habitat

This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Wetlands A and B provide a diverse habitat for wildlife. Numerous food sources exist throughout these wetlands given the high degree of diversity of vegetation. Some evidence of wildlife usage (e.g., direct observation, tracks, scat, etc) provided a strong indication of usage of these wetland areas by wildlife.

3.4.7 Uniqueness, Education, Scientific & Recreation Value

These criteria consider the suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching). Wetlands A and B provide limited uniqueness, education, scientific & recreation value at the Site. Wetland B, being part of the Elton Rogers Woodland Park, does offer a greater opportunity for education, scientific and recreation value.

4 Vernal Pool Assessment

State and federal agencies, as well as private conservation organizations have developed slightly different definitions to describe vernal pools. The following summarizes the definitions used by Connecticut Department of Energy and Environmental Protection (CT DEEP), the U.S. Army Corps of Engineers (USACE) New England District, and the Metropolitan Conservation Alliance (Calhoun and Klemens 2002).

The CTDEEP defines vernal pools as “small bodies of standing fresh water found throughout the spring that are ‘usually temporary’ and result from various combinations of snowmelt, precipitation and high water tables associated with the spring season”. These depressions can be natural or man-made. In most years, these areas become completely dry, losing water through infiltration and evapotranspiration. Vernal pools vary in many aspects including appearance, water source, hydroperiod, water quality and surrounding habitats. Field investigations must coincide with the amphibian breeding and/or larval development time periods to determine if an area is functioning as a vernal pool.

In Connecticut, to meet the definition of a vernal pool, the following four criteria must be met:

- Contains water for approximately two months during the growing season;
- Occurs within a confined depression or basin that lacks a permanent outlet stream;
- Lacks any fish populations; and
- Dries out most years, usually by late summer.

The USACE’s General Permits (GPs) for the State of Connecticut (USACE 2016) defines vernal pools as: “an often temporary body of water occurring in a shallow depression of natural or human origin that fills during spring rains and snow melt and typically dries up during summer months. Vernal pools support populations of species specially adapted to reproducing in these habitats. Such species may include wood frogs, mole salamanders (*Ambystoma* spp.), fairy shrimp, fingernail clams (*Sphaeriidae*), and other amphibians, reptiles and invertebrates. Vernal pools lack breeding populations of fish.” It is noted in the GP details that the USACE will determine on a case-by-case basis which vernal pools are within their jurisdiction and that all vernal pools are subject to the jurisdiction of the CT DEEP under Connecticut Water Quality Standards.

Calhoun and Klemens (2002) Best Development Practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States (BDP Manual) provides the following operational definition of vernal pools:

Vernal pools are seasonal bodies of water that attain maximum depths in the spring or fall, and lack permanent surface water connections with other wetlands or water bodies. Pools fill with snowmelt or runoff in the spring, although some may be fed primarily by groundwater sources. The duration of surface flooding, known as hydroperiod, varies depending upon the pool and the year; vernal pool hydroperiods range along a continuum from less than 30 days to more than one year. Pools are generally small in size (<2 acres), with the extent of vegetation varying widely. They lack established fish populations, usually as a result of periodic drying, and support communities dominated by animals adapted to living in temporary, fishless pools. In the region, they provide essential breeding habitat for one or

more wildlife species including Ambystomid salamanders (Ambystoma spp., called “mole salamanders” because they live in burrows), wood frogs (Rana sylvatica), and fairy shrimp (Eubbranchipus spp.).

Calhoun and Klemens (2002) go on further to define adjacent habitats as the “Vernal Pool Envelope” (area within 100 feet of the pool’s edge) and the “Critical Terrestrial Habitat” (area within 100-750 feet of the pool’s edge) because avoiding and minimizing impacts to these areas are necessary to protect the functionality and integrity of the pool itself, and to protect the individuals residing within or passing through (i.e., during immigration and emigration from the vernal pool) these areas.

Many organisms rely upon vernal pool habitat for reproductive success. These species are referred to as obligate or indicator vernal pool species. Obligate or indicator species that may have ranges within the Project area include the following:

- Wood frog (*Lithobates sylvatica*)
- Eastern spadefoot toad (*Scaphiopus holbrookii*)
- Spotted salamander (*Ambystoma maculatum*)
- Jefferson salamander (*Ambystoma jeffersonianum*)
- Marbled salamander (*Ambystoma opacum*)
- Fairy shrimp (*Branchiopoda anostraca*)

Facultative or secondary vernal pool species are fauna that utilize, but do not necessarily require, vernal pools for reproductive success. Examples of facultative species include spring peeper (*Pseudacris crucifer*), American toad (*Anaxurus americanus*), gray treefrog (*Hyla versicolor*) and spotted turtle (*Clemmys guttata*). Facultative or secondary species such as these can utilize vernal pool habitats; however, they can also breed successfully in the margins of permanent water bodies including streams, rivers, ponds and lakes.

Ultimately, this vernal pool survey was conducted to provide scientifically-based observations to guide future structure replacement at the Site and develop best management practices for Federal, State, and local permits.

Wetlands and watercourses on the Site were delineated by Fuss & O'Neill in April 2018. Based on observations made during the delineation and a review of available aerial imagery Wetland B was identified as a potential habitat for breeding amphibians. Wetland A was not identified as potential habitat for breeding amphibians due to inadequate hydrology (i.e., depth and duration). In 2018 breeding activity had not started at the time of the delineation and no direct observations of obligate vernal pool species were made.

On April 5, 2019 Fuss & O'Neill conducted a follow-up survey of these areas using the methods of the Connecticut Amphibian Monitoring Project (CAMP) and those methods accepted by the North American Amphibian Monitoring Project (NAAMP) and the USGS Patuxent Wildlife Research Center. These protocols are recognized and followed by the DEEP.

A cover search was conducted in Wetland B to identify the presence of egg masses and developing larvae of amphibians, counting of egg masses and breeding adults, dip netting for aquatic invertebrates, and general observations. In Wetland B no obligate vernal pool species were identified. The lack of obligate vernal pool species suggests that Wetland B is not considered viable vernal pool habitat.

5 Impact Assessment

To improve the reliability of the electric transmission system and service to its customers in the Greater Bridgeport region, UI proposes to rebuild its existing Old Town Substation, a transmission/distribution facility. The need for the Project was identified as a result of detailed analyses of the condition of the existing substation, taking into consideration both existing and future requirements for assuring the reliability of the electric system. Overall, the need for the new substation stems from the age of the existing Old Town facility and the fact that most of the station's equipment will need to be replaced in the near future in order to conform to industry and UI standards.

Preliminary design of the new Old Town Substation indicate that there will be no direct impacts on wetland or watercourses on or adjacent to the Site. The potential for indirect impacts is minimal. Typical substation construction activities include excavation, removal of existing wooded conditions, grading and filling, and installation of new equipment. The type of equipment to be used for work would include conventional construction equipment including backhoes, bulldozers, bobcats, loaders and dump trucks. To minimize construction related impacts, UI will use standard best management practices. The project will be subject to the General Permit for Stormwater from Construction Activities.

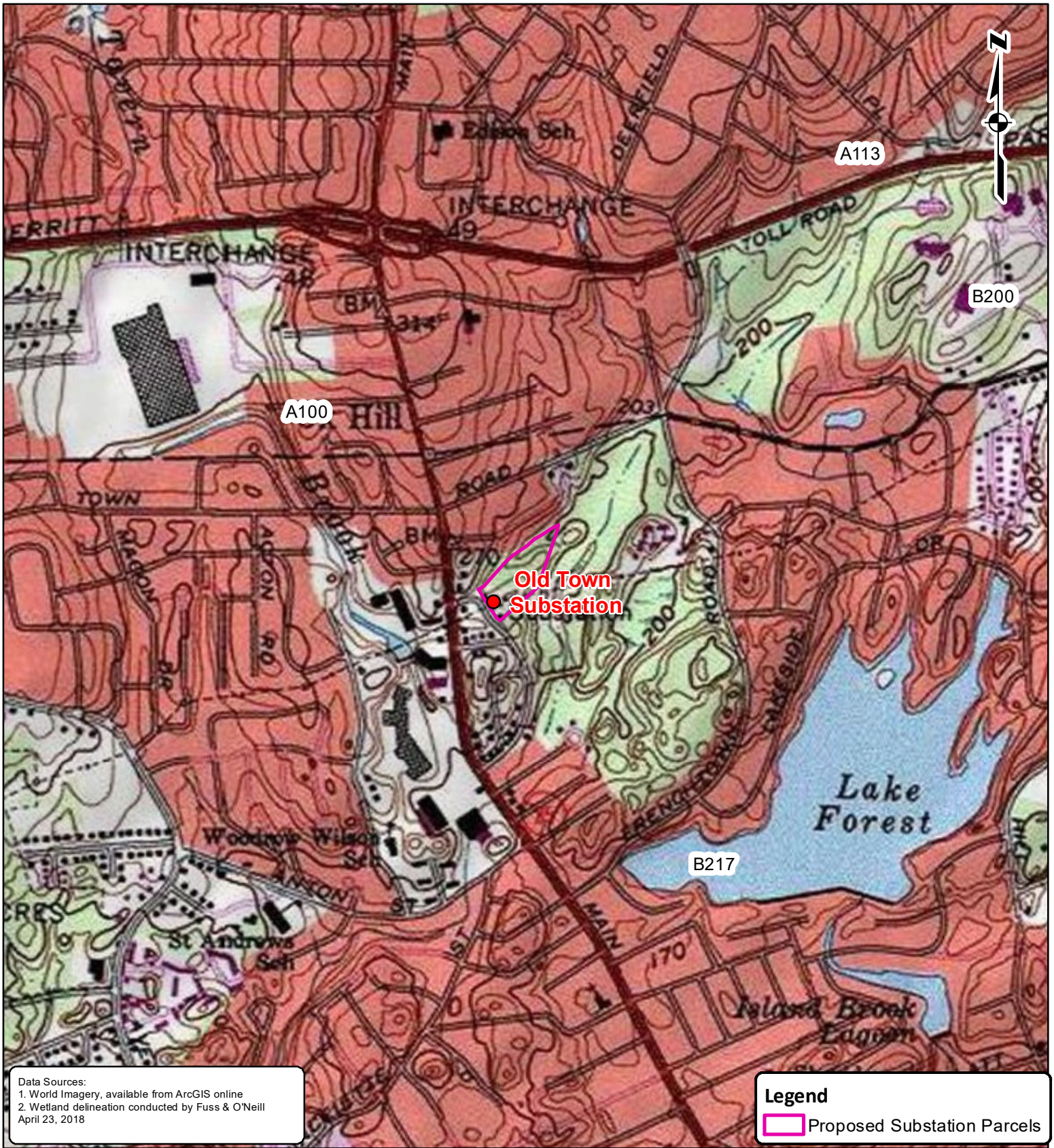
With regard to alteration of upland areas, clearing and regrading will affect the habitat of local wildlife to a limited extent at the Site. However, the impact will not substantially affect the overall populations of species that utilize the Site. The surrounding landscape to the north and east is largely fragmented by urban and suburban development. With Elton Rogers Woodland Park located adjacent to the Site, there continues to be sufficient habitat for wildlife species otherwise displaced by the proposed construction.

References

- Ammann, A.P., R.W. Frazen, and J.L. Johnson. 1996. Method for the Evaluation of Inland Wetlands in Connecticut. DEP Bulletin 9. Connecticut Department of Environmental Protection, Hartford CT.
- Barbour, M.G., J.H. Burk, and W.D. Pitts. 1987. Terrestrial Plant Ecology. Chapter 9: Method of sampling the plant community. Menlo Park, CA: Benjamin/Cummings Publishing Co.
- Bevier, L. 1994. The Atlas of Breeding Birds of Connecticut. State Geological and Natural History Survey of Connecticut, Department of Environmental Protection. Bulletin 113. Hartford, CT.
- Calhoun, A. J. K. and M. W. Klemens. 2002. Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.
- Cowardin, L.M., Carter, V., Golet, F.C., and LaRoe, E.T., 1979. Classification of wetlands and deepwater habitats of the United States. US Department of the Interior, Fish and Wildlife Service, Washington, DC.
- Gruner, H. 1998. Toward an Effective Amphibian Monitoring Program. Pp. 18-20, In Our Hidden Wetlands: The Proceedings of a Symposium on Vernal Pools in Connecticut. Yale University and the Connecticut Department of Environmental Protection.
- Metzler K.J. and J.P. Barrett. 2006. The vegetation of Connecticut: A preliminary classification. State Geological & Natural History Survey of Connecticut, Department of Environmental Protection. Report Investigation 12. Hartford, CT. 116 pp.
- Owen, S.F., M.A. Menzel, W.M. Ford, J.W. Edwards, B.R. Chapman, K.V. Miller, P.B. Woods. 2002. Roost tree selection by maternal colonies of northern long-eared myotis in an intensively managed forest. USDA Forest Service, Northeastern Research Station. General Technical Report NE-292.
- Swingen, M., R. Moen, M. Walker, R. Baker, G. Nordquist, T. Catton, K. Kirschbaum, B. Dirks, and N. Dietz. 2018. Northern Long-eared Bat Roost Tree Characteristics 2015-2017. Natural Resources Research Institute, University of Minnesota Duluth, Technical Report NRRI/TR-2018/41, 88 pp.
- U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station, United States. Army. Corps of Engineers Wetlands Research Program. Technical Report Y-87-1.
- USACE. 1995. The highway methodology workbook supplement, Wetland functions and values: a descriptive approach, NENEP-360-1-30a, US Army Corps of Engineers, New England Division.

- USACE. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0). U.S. Army Engineer Research and Development Center Environmental Laboratory, Vicksburg, MS. Technical Report: ERDC/EL TR-12-1.
- USACE. 2016. Department of the Army General Permits for the State of Connecticut & Lands Located within the Boundaries of an Indian Reservation. Effective Date: August 19, 2016. Expiration Date: August 19, 2021.
- U.S. Department of Agriculture (USDA) Soil Survey Staff. 2014. Keys to Soil Taxonomy, 12th ed. USDA-Natural Resources Conservation Service, Washington, DC.
- USDA Soil Science Division Staff. 2017. Soil survey manual. C. Ditzler, K. Scheffe, and H.C. Monger (eds.). USDA Handbook 18. Government Printing Office, Washington, D.C.
- USGS North American Amphibian Monitoring Project (NAAMP). Protocol. USGS Patuxent Wildlife Research Center, Laurel MD. <http://www.pwrc.usgs.gov/NAAMP/protocol/index.html>

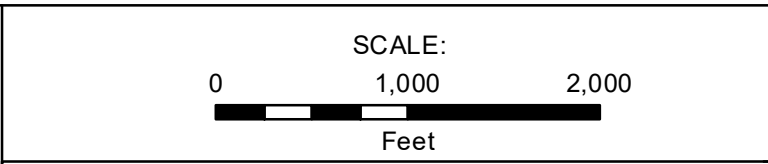
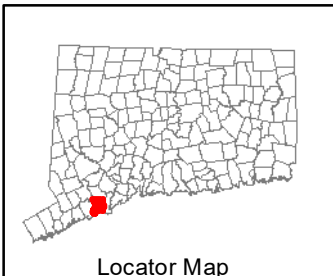
Figures



Data Sources:
 1. World Imagery, available from ArcGIS online
 2. Wetland delineation conducted by Fuss & O'Neill
 April 23, 2018

Legend

Proposed Substation Parcels



Site Location
 Old Town Substation

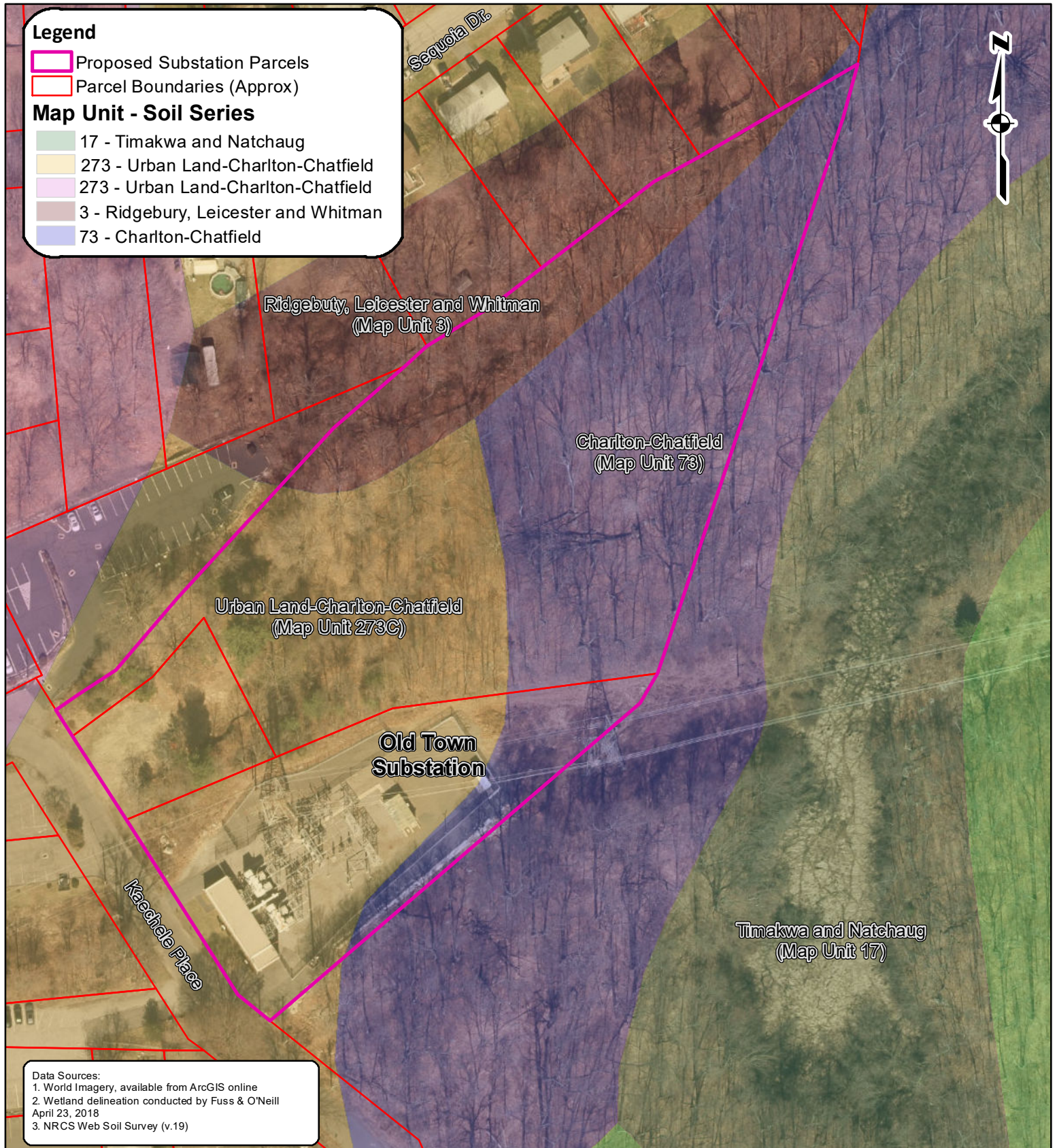
Bridgeport Connecticut

Project No.: 20140774.A12 Oct. 2019

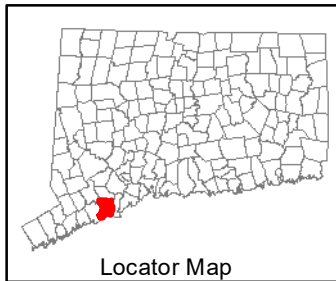
Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

FUSS & O'NEILL

Fig. 1



Data Sources:
 1. World Imagery, available from ArcGIS online
 2. Wetland delineation conducted by Fuss & O'Neill
 April 23, 2018
 3. NRCS Web Soil Survey (v.19)



SCALE:
 0 100 200
 Feet

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

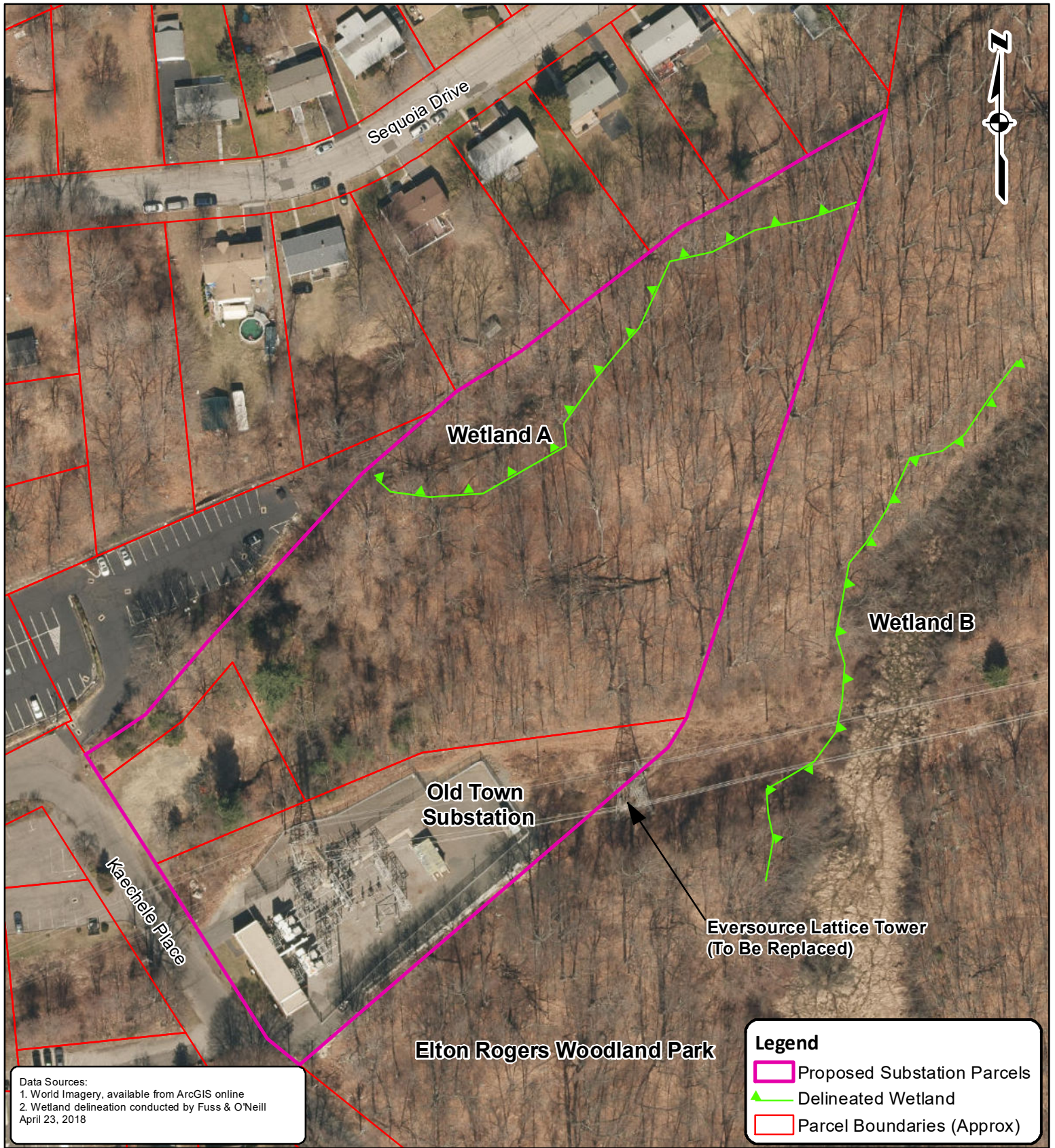
NRCS SOIL TYPES
 Old Town Substation

Bridgeport Connecticut

Project No.: 20140774.A12 Oct. 2019

FUSSELL & O'NEILL

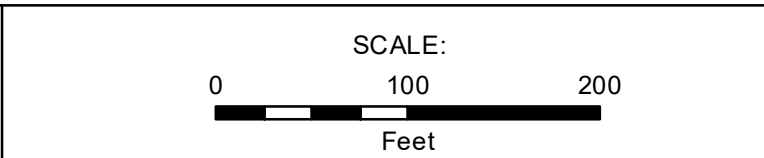
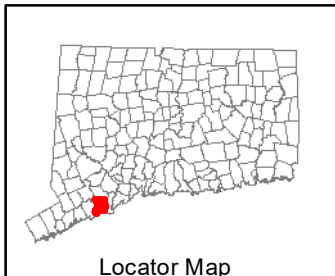
Fig. 2



Data Sources:
 1. World Imagery, available from ArcGIS online
 2. Wetland delineation conducted by Fuss & O'Neill
 April 23, 2018

Legend

- Proposed Substation Parcels
- ▲ Delineated Wetland
- Parcel Boundaries (Approx)



Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

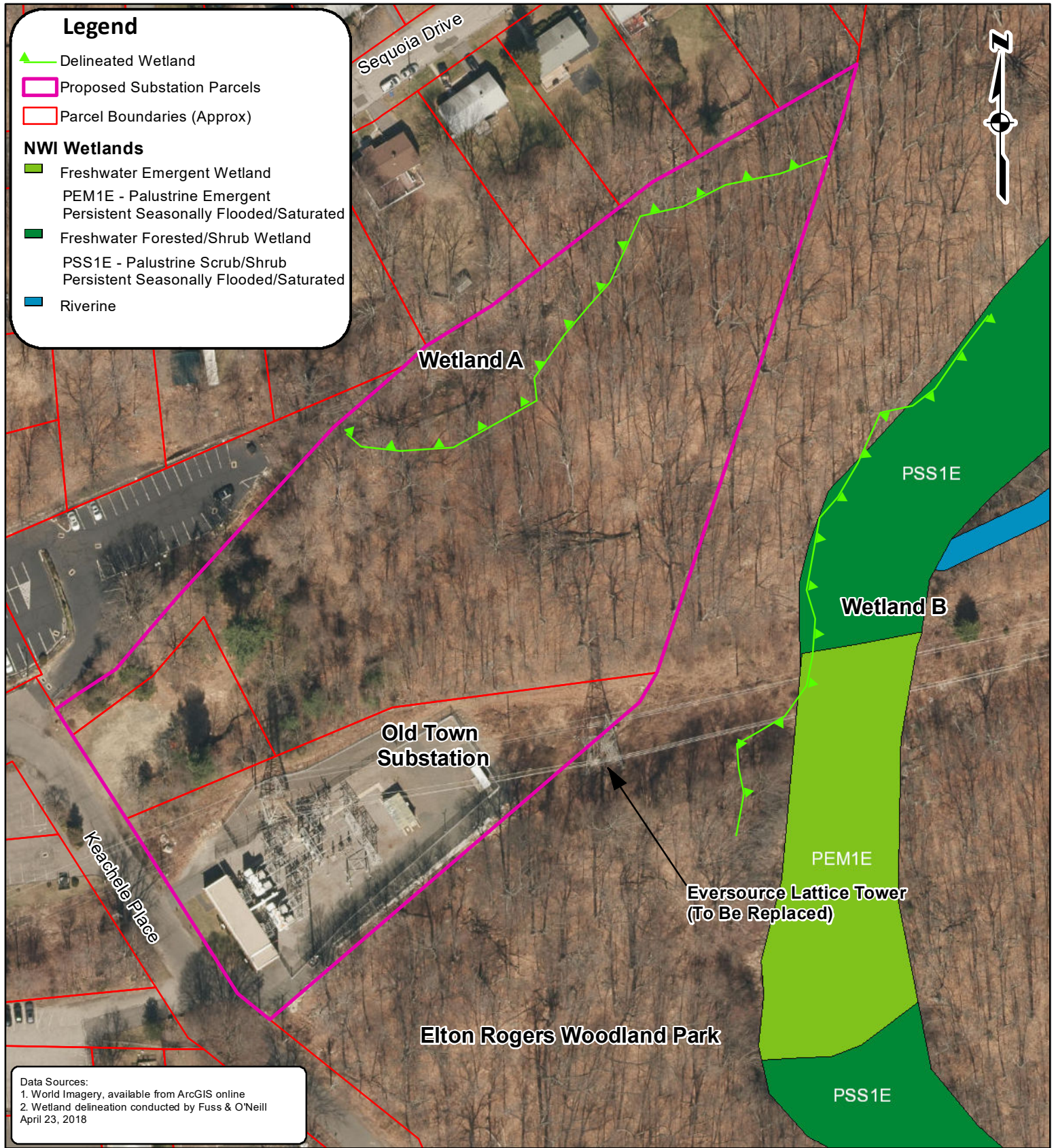
WETLAND DELINEATION
Old Town Substation

Bridgeport Connecticut

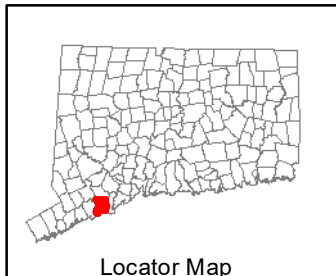
Project No.: 20140774.A12 Oct. 2019

FUSS & O'NEILL

Fig. 3



Data Sources:
 1. World Imagery, available from ArcGIS online
 2. Wetland delineation conducted by Fuss & O'Neill
 April 23, 2018



SCALE:
 0 100 200
 Feet

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

USFWS NWI WETLANDS
 Old Town Substation

Bridgeport Connecticut

Project No.: 20140774.A12 Oct. 2019

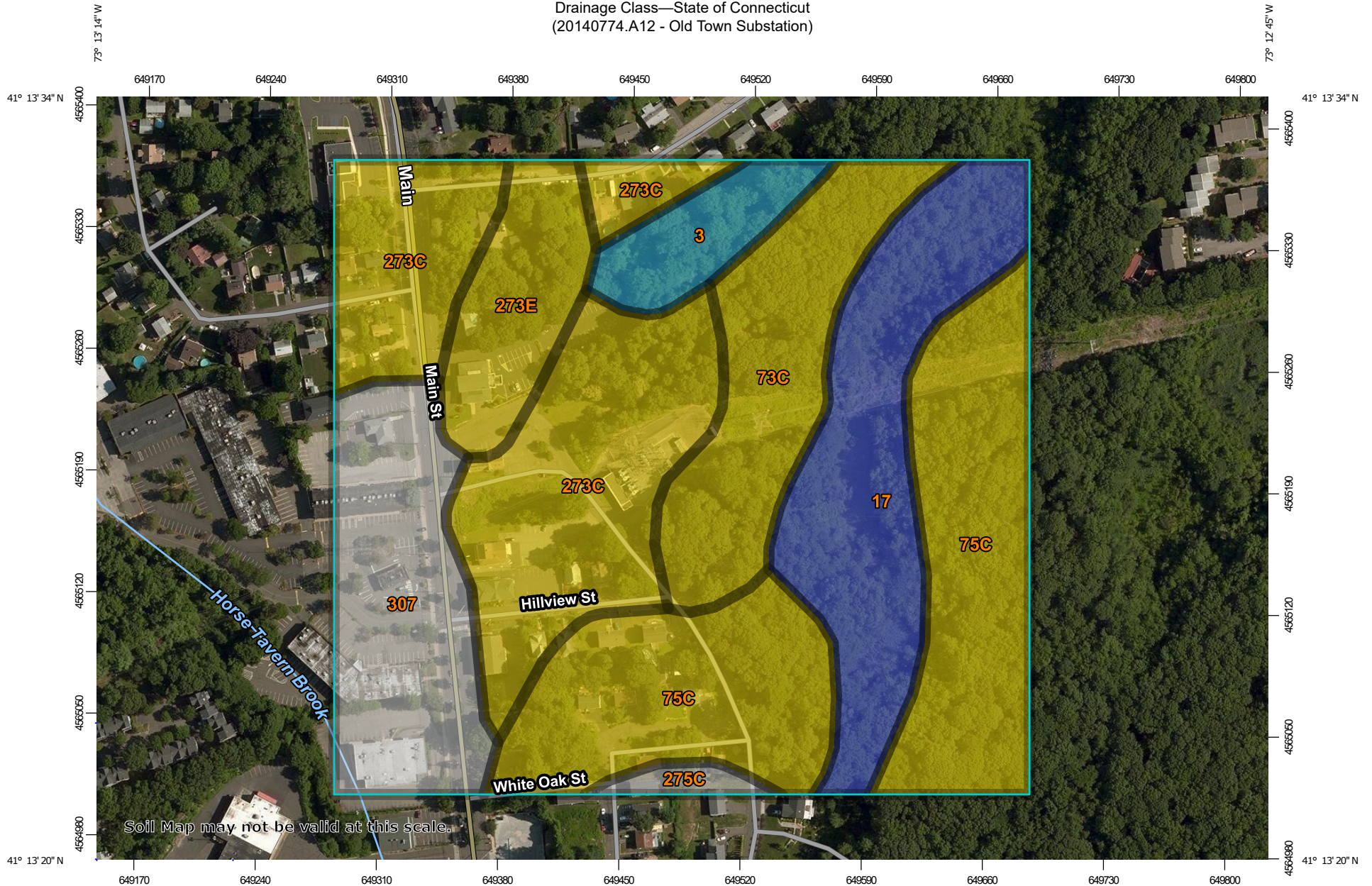
FUSSELL & O'NEILL

Fig. 4

Appendix A

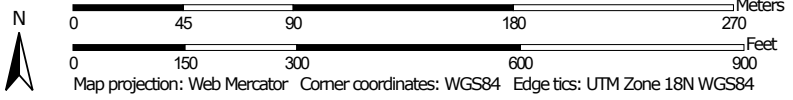
Soil Drainage Classes NRCS Web Soil Survey Mapping

Drainage Class—State of Connecticut
(20140774.A12 - Old Town Substation)




Soil Map may not be valid at this scale.

Map Scale: 1:3,090 if printed on A landscape (11" x 8.5") sheet.









MAP LEGEND

Area of Interest (AOI)





 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  Excessively drained
-  Somewhat excessively drained
-  Well drained
-  Moderately well drained
-  Somewhat poorly drained
-  Poorly drained
-  Very poorly drained
-  Subaqueous
-  Not rated or not available


Soil Rating Lines

-  Excessively drained
-  Somewhat excessively drained
-  Well drained
-  Moderately well drained
-  Somewhat poorly drained
-  Poorly drained
-  Very poorly drained
-  Subaqueous
-  Not rated or not available






Soil Rating Points

-  Excessively drained
-  Somewhat excessively drained
-  Well drained
-  Moderately well drained
-  Somewhat poorly drained
-  Poorly drained
-  Very poorly drained
-  Subaqueous
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 19, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 27, 2014—Jul 22, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Drainage Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	Poorly drained	1.5	4.1%
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	Very poorly drained	5.5	15.2%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	Well drained	4.2	11.5%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	Well drained	9.3	25.5%
273C	Urban land-Charlton-Chatfield complex, rocky, 3 to 15 percent slopes	Well drained	8.6	23.7%
273E	Urban land-Charlton-Chatfield complex, rocky, 15 to 45 percent slopes	Well drained	2.4	6.6%
275C	Urban land-Chatfield complex, rocky, 3 to 15 percent slopes		0.3	1.0%
307	Urban land		4.5	12.4%
Totals for Area of Interest			36.4	100.0%

Description

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B

CTDEEP NDDB and USFWS ECOS-IPaC Information





NATURAL DIVERSITY DATA BASE (NDDB) REQUEST

FOR

OLD TOWN SUBSTATION REBUILD PROJECT

PROJECT NO. UNI3999.EE

THE UNITED ILLUMINATING COMPANY

180 MARSH HILL ROAD

ORANGE, CT 06505

280/312/330 KAECEHELE PLACE

BRIDGEPORT, CT 06606

SUBMITTED TO:

CENTRAL PERMIT PROCESSING UNIT

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

BUREAU OF NATURAL RESOURCES

79 ELM STREET

HARTFORD, CT 06106

DATE:

OCTOBER 1, 2019



NDDDB REQUEST

OLD TOWN SUBSTATION REBUILD PROJECT

PROJECT NO: UNI3999.EE

280/312/330 KAECEHELE PLACE

<u>ATTACHMENT</u>	<u>SECTION</u>	<u>NO. PAGES</u>
ATTACHMENT A	REQUEST FOR NATURAL DIVERSITY DATA BASE (NDDDB) REVIEW	6 pages
ATTACHMENT B	OVERVIEW MAP	1 page
ATTACHMENT B	DETAILED SITE MAP	1 page
ATTACHMENT C	SUPPLEMENTAL INFORMATION	6 pages
	• EXISTING CONDITIONS PLAN	
	• SITE PHOTOGRAPHS	
	• ANNOTATED SITE PLAN	
ATTACHMENT D	SAFE HARBOR REQUEST (<i>Not Applicable</i>)	N/A
ATTACHMENT E	NATURAL DIVERSITY DATA BASE AREA – BRIDGEPORT	1 page



Connecticut Department of
 Energy & Environmental Protection
 Bureau of Natural Resources
 Wildlife Division

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #:	No fee required
Program:	Natural Diversity Database Endangered Species
Hardcopy	_____ Electronic _____

Request for Natural Diversity Data Base (NDDDB) State Listed Species Review

Please complete this form in accordance with the [instructions](#) (DEEP-INST-007) to ensure proper handling of your request.

There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening & Request Type

<p>Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. These maps are updated twice a year, usually in June and December.</p> <p>Does your site, including all affected areas, fall in an NDDB Area according to the map instructions: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Enter the date of the map reviewed for pre-screening: <u>June 2019</u></p>	
This form is being submitted for a :	
<input checked="" type="checkbox"/> New NDDDB request <input type="checkbox"/> <i>Renewal/Extension of a NDDDB Request, without modifications and within two years of issued NDDB determination (no attachments required)</i>	<input type="checkbox"/> New Safe Harbor Determination (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities <input type="checkbox"/> <i>Renewal/Extension of an existing Safe Harbor Determination</i> <input type="checkbox"/> With modifications <input type="checkbox"/> Without modifications (no attachments required)
<small>[CPPU Use Only - NDDB-Listed Species Determination # 1736]</small> Enter NDDDB Determination Number for Renewal/Extension:	<small>[CPPU Use Only - NDDB-Safe Harbor Determination # 1736]</small> Enter Safe Harbor Determination Number for Renewal/Extension:

Part II: Requester Information

If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD. (www.concord-sots.ct.gov/CONCORD/index.jsp)*

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the [Request to Change company/Individual Information](#) to the address indicated on the form.

1. Requester*

Company Name: **The United Illuminating Company**

Contact Name: **Todd Berman**

Address: **180 Marsh Hill Rd**

City/Town: **Orange**

State: **CT**

Zip Code: **06505**

Business Phone: **203-926-4729**

ext.

E-mail: **todd.berman@uinet.com

**By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

a) Requester can best be described as:

Individual Federal Agency State agency Municipality Tribal

business entity (if a business entity complete i through iii):

i) Check type corporation limited liability company limited partnership

limited liability partnership statutory trust Other:

ii) Provide Secretary of the State Business ID #: 0159106 This information can be accessed at the

Secretary of the State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

Property owner Consultant Engineer Facility owner Applicant

Biologist Pesticide Applicator Other representative:

2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name: **HRP Associates**

Contact Person: **Darin Lemire, PE**

Title: **Senior Project Manager**

Mailing Address: **197 Scott Swamp Rd**

City/Town: **Farmington**

State: **CT**

Zip Code: **06032**

Business Phone: **(860) 674-9570**

ext.

E-mail: **darin.lemire@hrpassociates.com

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. SITE NAME AND LOCATION

Site Name or Project Name: **Old Town Substation Rebuild Project**

Town(s): **Bridgeport**

Street Address or Location Description:

312 and 330 Kaechele Place, Bridgeport, CT 06606 - undeveloped parcels adjacent to existing substation

280 Kaechele Place, Bridgeport, CT 06606 - existing Old Town Substation

Size in acres, or site dimensions: **3.95-acres total (280, 312, & 330 Kaechele Place)**

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude: **41.225 N**

Longitude: **73.216 W**

Method of coordinate determination (check one):

GPS Photo interpolation using [CTECO map viewer](#) Other (specify): **Google Earth**

2a. Describe the current land use and land cover of the site.

330 Kaechele Place (2.77-acres) is undeveloped and wooded. 312 Kaechele Place (0.28-acres) is adjacent to 330 Kaechele Place and is undeveloped and wooded. Both properties border the existing Old Town Substation at 280 Kaechele Place (0.9-acres).

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

<input checked="" type="checkbox"/> Industrial/Commercial <u>0.9-acres</u>	<input type="checkbox"/> Residential _____	<input checked="" type="checkbox"/> Forest <u>3.05-acres</u>
<input checked="" type="checkbox"/> Wetland <u>0.48-acres</u>	<input type="checkbox"/> Field/grassland _____	<input type="checkbox"/> Agricultural _____
<input type="checkbox"/> Water _____	<input checked="" type="checkbox"/> Utility Right-of-way _____	
<input type="checkbox"/> Transportation Right-of-way _____	<input type="checkbox"/> Other (specify): _____	

Part IV: Project Information

1. PROJECT TYPE:

Choose Project Type: Utility construction/modification , If other describe: _____

2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? Yes No If yes, explain.

Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

To improve the reliability of the electric transmission system and service to its customers in the Greater Bridgeport region, UI proposes to rebuild its existing Old Town Substation, a transmission/distribution facility located in the northwestern portion of the City of Bridgeport at 280 Kaechele Place. The existing Old Town Substation, which occupies an approximately 0.9-acre site, has been in service for approximately 50 years. The need for the Project was identified as a result of detailed analyses of the condition of the existing substation, taking into consideration both existing and future requirements for assuring the reliability of the electric system. Overall, the need for the new substation stems from the age of the existing Old Town facility and the fact that most of the station's equipment will need to be replaced in the near future in order to conform to industry and UI standards. The Old Town Substation will be rebuilt on approximately 2.25 acres of UI-owned property; the site will encompass undeveloped UI land located at 312 and 330 Kaechele Place, as well as the existing substation property. The Project also will involve the installation of transmission line connections to the new substation, involving transmission structure replacements on Eversource's existing transmission line rights-of-way (ROW) immediately adjacent to the site, as well as modifications to certain distribution line connections (typically within local streets). After energization of the new substation, the existing substation will be demolished.

Typical substation construction activities include excavation, removal of existing wooded conditions, grading and filling, and installation of new equipment. The type of equipment to be used for work would include typical construction equipment including backhoes, bulldozers, bobcats, loaders and dump trucks. To minimize construction related impacts, UI will use standard best management practices. The project will be subject to the General Permit for Stormwater from Construction Activities.

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

N/A

5. Provide a contact for questions about the project details if different from Part II primary contact.

Name:

Phone:

E-mail:

Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 *or* Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- Preliminary screening was negative but an NDDB review is still requested
- Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- Request regards a preliminary site assessment or project feasibility study
- Request relates to land acquisition or protection
- Request is associated with a *renewal* of an existing permit or authorization, with no modifications

Group 2. If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, and C.

- Request is associated with a *new* state or federal permit or authorization application or registration
- Request is associated with modification of an existing permit or other authorization
- Request is associated with a permit enforcement action
- Request regards site management or planning, requiring detailed species recommendations
- Request regards a state funded project, state agency activity, or CEPA request

Group 3. If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s):

CT DEEP - General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Related State DEEP Permit Number(s), if applicable: _____

State DEEP Enforcement Action Number, if applicable: _____

State DEEP Permit Analyst(s)/Engineer(s), if known: _____

Is this request related to a previously submitted NDDB request? Yes No

If yes, provide the previous NDDB Determination Number(s), if known: _____

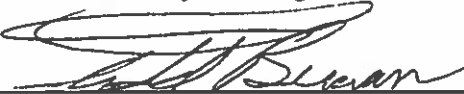

Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

<input checked="" type="checkbox"/> Attachment A:	Overview Map: an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
<input checked="" type="checkbox"/> Attachment B:	Detailed Site Map: fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
<input checked="" type="checkbox"/> Attachment C:	Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C) <input checked="" type="checkbox"/> Section i: Supplemental Site Information and supporting documents <input checked="" type="checkbox"/> Section ii: Supplemental Project Information and supporting documents
<input type="checkbox"/> Attachment D:	Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

<p>"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."</p>	
 Signature of Requester (a typed name will substitute for a handwritten signature)	Date <u>10/6/19</u>
Todd Berman Name of Requester (print or type)	Environmental Project Manager Title (if applicable)
 Signature of Preparer (if different than above)	Date <u>10/7/19</u>
Darin Lemire, PE, CPSWQ, CPESC Name of Preparer (print or type)	Senior Project Manager Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

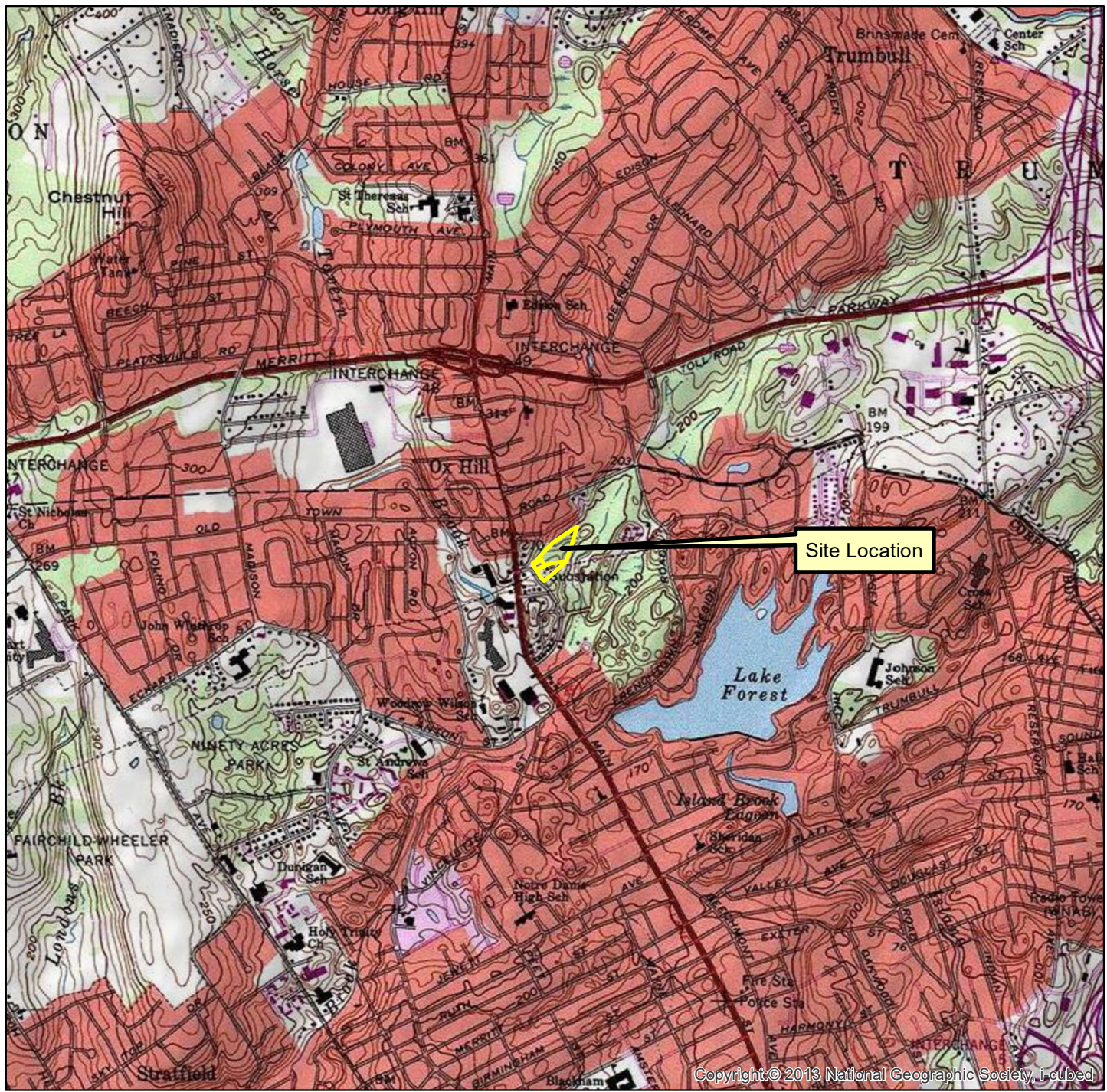
CENTRAL PERMIT PROCESSING UNIT
 DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127

Or email request to: deep.nddbrequest@ct.gov

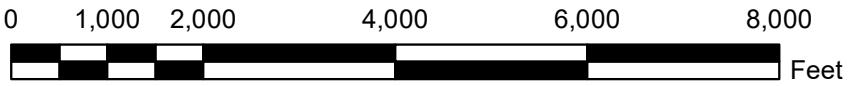


ATTACHMENT A
OVERVIEW MAP

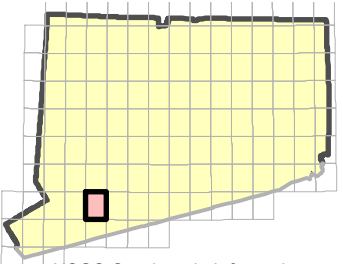
ATTACHMENT A - OVERVIEW MAP



Copyright © 2013 National Geographic Society, Inc.



1 inch = 2,000 feet



USGS Quadrangle Information
 Quad ID: 41073-B2
 Name: Bridgeport, Connecticut
 Date Pub: 1985
 Date Rev: 1982
 Map Edit: 1

Figure 1
Site Location
312 & 330 Kaechele Place
Bridgeport, Connecticut
HRP# UNI3999.EE
Scale 1" = 2,000'



999 ORONOQUE LANE
 SECOND FLOOR
 STRATFORD, CT 06614
 (203) 380-1395
 HRPASSOCIATES.COM



ATTACHMENT B
DETAILED SITE MAP

Path: J:\UUI\UJHO - UJL HOLDING CORPORATION\312 & 330 KAECHELE PLACE, BRIDGEPORT, CT\UNI3999EE\GIS\Figure 2 - Detailed Site Map - 500 scale.mxd



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- - - - - Eversource ROW
- Approximate Property Boundary

HRP
MOVE YOUR ENVIRONMENT FORWARD
 999 ORONOQUE LANE
 SECOND FLOOR
 STRATFORD, CT 06614
 (203) 380-1395
 HRPASSOCIATES.COM

North

Revisions	
No.	Date

Designed By:	Drawn By:	Reviewed By:
LAB	DML	BPL

Issue Date:	Project No:	Sheet Size:
08/09/2019	UNI3999.EE	11X17

Detailed Site Map

 280, 312 & 330
 Kaechele Place
 Bridgeport, Connecticut

ATTACHMENT

B



ATTACHMENT C
SUPPLEMENTAL INFORMATION

Attachment C: Supplemental Information, Group 2 requirement

Section i: Supplemental Site Information

1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

330 Kaechele Place (2.77-acres) is undeveloped and wooded. 312 Kaechele Place (0.28-acres) is adjacent to 330 Kaechele Place and is undeveloped and wooded. The are wetlands reportedly in the northern portion of 320 Kaechele Place. The existing Old Town Substation at 280 Kaechele Place (0.9-acres) is mostly impervious cover consisting of the substation foundation and access road. This impervious area will be expanded into 312 and 330 Kaechele Place for the new, larger substation.

Site Photographs (optional) attached

Site Plan/sketch of existing conditions attached

2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species Yes No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name: _____

Habitat and/or species targeted by survey: _____

Dates when surveys were conducted: _____

Reports of biological surveys attached

Documentation of biologist's qualifications attached

[NDDB Survey forms](#) for any listed species observations attached

Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

The Project is in the planning stages and will be subject to comprehensive review by the CT Siting Council. An application to the Council is expected to be submitted in the first quarter of 2020. The actual schedule for construction will depend on Council review, but assuming that all regulatory approvals are received in a timely fashion, construction of the Project is expected to begin in 2021 and be completed in 2021.

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

A total of 2.25 acres will be developed for the new substation - this will include the 0.9 acre of the existing substation and the remainder will involve the conversion of upland forest to utility use. The approximate footprint of the new substation is depicted on the Annotated Site Plan.

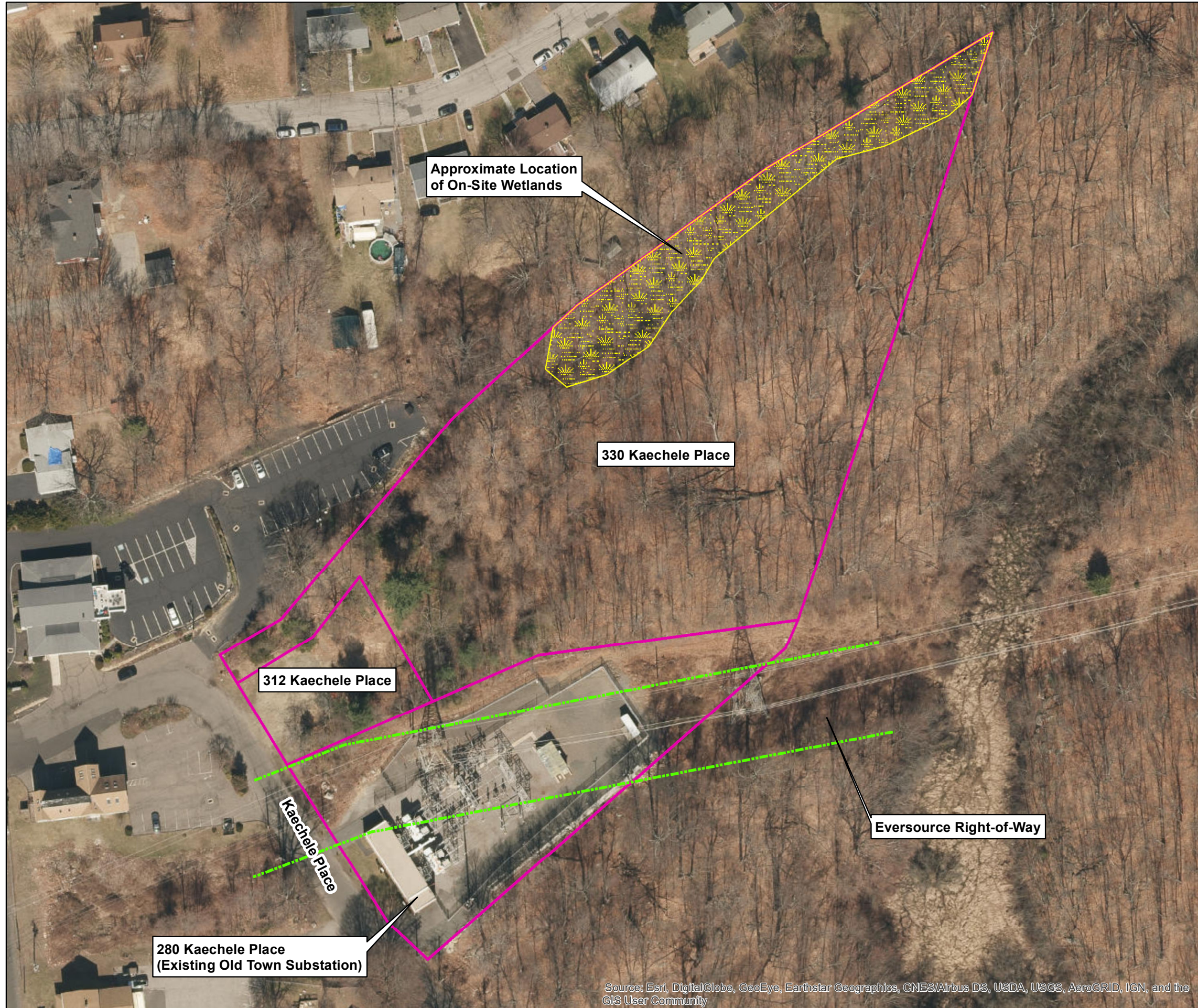
All work activities on the Eversource ROW will be temporary. After replacement of the transmission line structure interconnections to the new substation, the areas of the ROW affected by Project activities will be restored (the ROW is managed by Eversource in low-growing vegetation consistent with overhead transmission line use.)

Annotated Site Plan attached





EXISTING CONDITIONS PLAN


Path: J:\U\UJLHO - UJL HOLDING CORPORATION\312 & 330 KAECHELE PLACE, BRIDGEPORT, CT\UNI3999EE\GIS\Attachment C - Existing Conditions Plan.mxd




Legend

-  Eversource ROW
-  Approximate Property Boundary

HRP
 MOVE YOUR ENVIRONMENT FORWARD
 999 ORONOQUE LANE
 SECOND FLOOR
 STRATFORD, CT 06614
 (203) 380-1395
 HRPASSOCIATES.COM

 North

 Feet

Revisions	No.	Date		
Designed By:	LAB	Drawn By:	DML	Reviewed By:
Issue Date:	08/09/2019	Project No:	UNI3999.EE	Sheet Size:
				11X17

Existing Conditions Plan
 280, 312 & 330 Kaechele Place
 Bridgeport, Connecticut

ATTACHMENT C

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

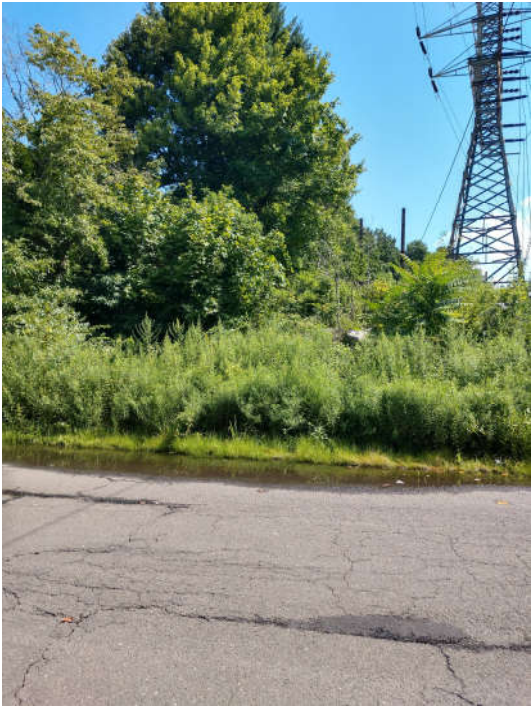


PHOTOGRAPHS OF EXISTING CONDITIONS

ATTACHMENT C - PHOTOGRAPHS OF EXISTING CONDITIONS



Western portion of Site adjacent to Kaechele Place, facing NE



Southern border of Site adjacent to United Illuminating substation, facing east. Storm water ponding is observed on Kaechele Place



Historical stone wall features in the east-central portion of the Site (330 Kaechele Place), facing ESE.



Remnants of the former residential property in the western region of the Site (312 Kaechele Place)

ATTACHMENT C - PHOTOGRAPHS OF EXISTING CONDITIONS

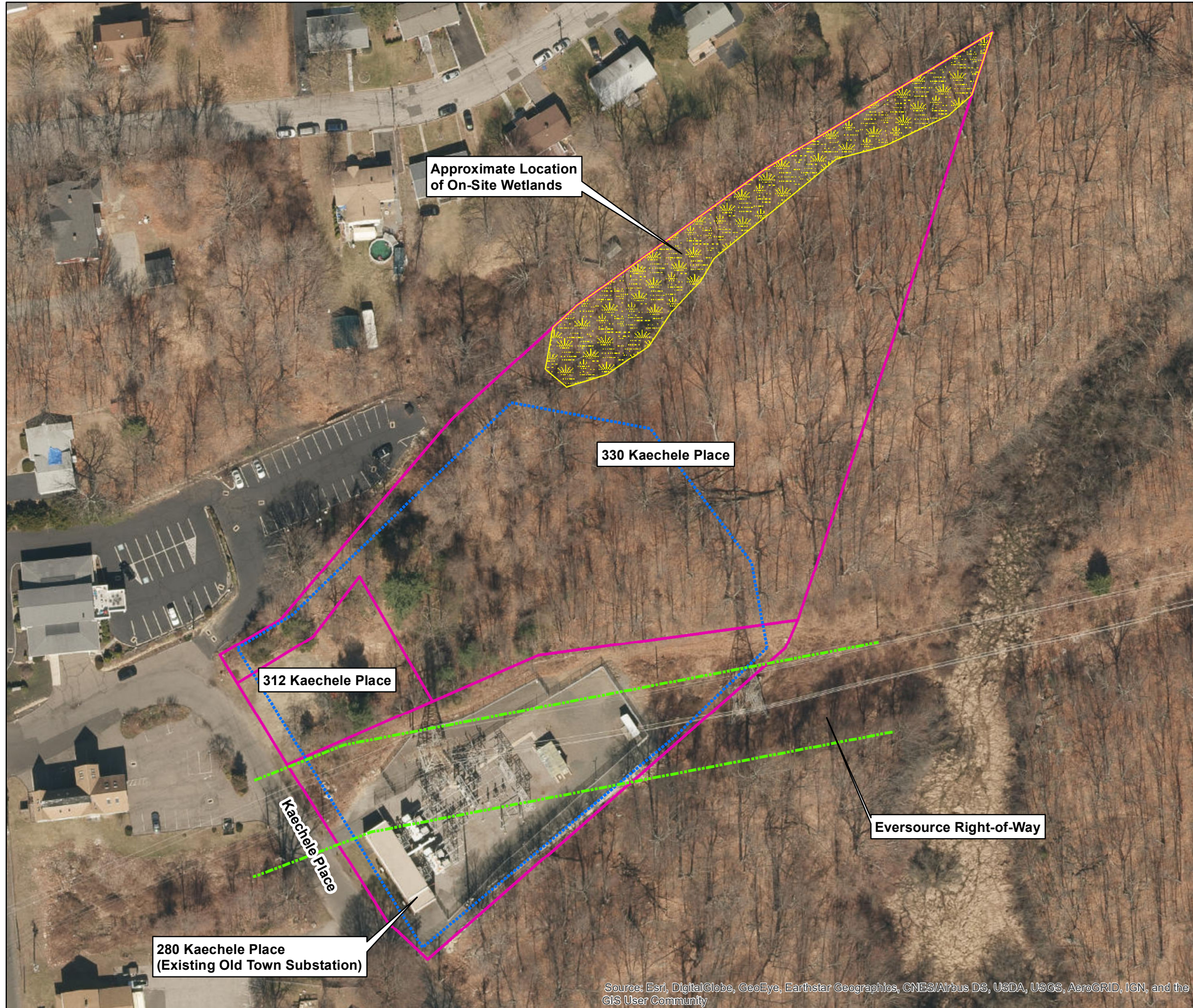


Eastern region of the Site (330 Kaechele Place), facing east.



ANNOTATED SITE PLAN

Path: J:\U\U\U\HO - U\I\HOLDING CORPORATION\312 & 330 KAECEHELE PLACE, BRIDGEPORT, CT\UNI3999EE\GIS\Attachment C - Annotated Site Plan.mxd



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Eversource ROW
- Proposed Substation Rebuild Boundary
- Approximate Property Boundary

HRP
 MOVE YOUR ENVIRONMENT FORWARD
 999 ORONOQUE LANE
 SECOND FLOOR
 STRATFORD, CT 06614
 (203) 380-1395
 HRPASSOCIATES.COM

North

0 40 80
 Feet

Revisions	No.	Date

Designed By:	LAB	Drawn By:	DML	Reviewed By:	BPL
Issue Date:	08/09/2019	Project No:	UNI3999.EE	Sheet Size:	11x17

Annotated Site Plan
 280, 312 & 330
 Kaechele Place
 Bridgeport, Connecticut

ATTACHMENT
C



ATTACHMENT D
SITE HARBOR REPORT
(NOT APPLICABLE)






ATTACHMENT E

NATURAL DIVERSITY DATA BASE AREA - BRIDGEPORT

Natural Diversity Data Base Areas

BRIDGEPORT, CT

June 2019

-  State and Federal Listed Species
-  Critical Habitat
-  Town Boundary

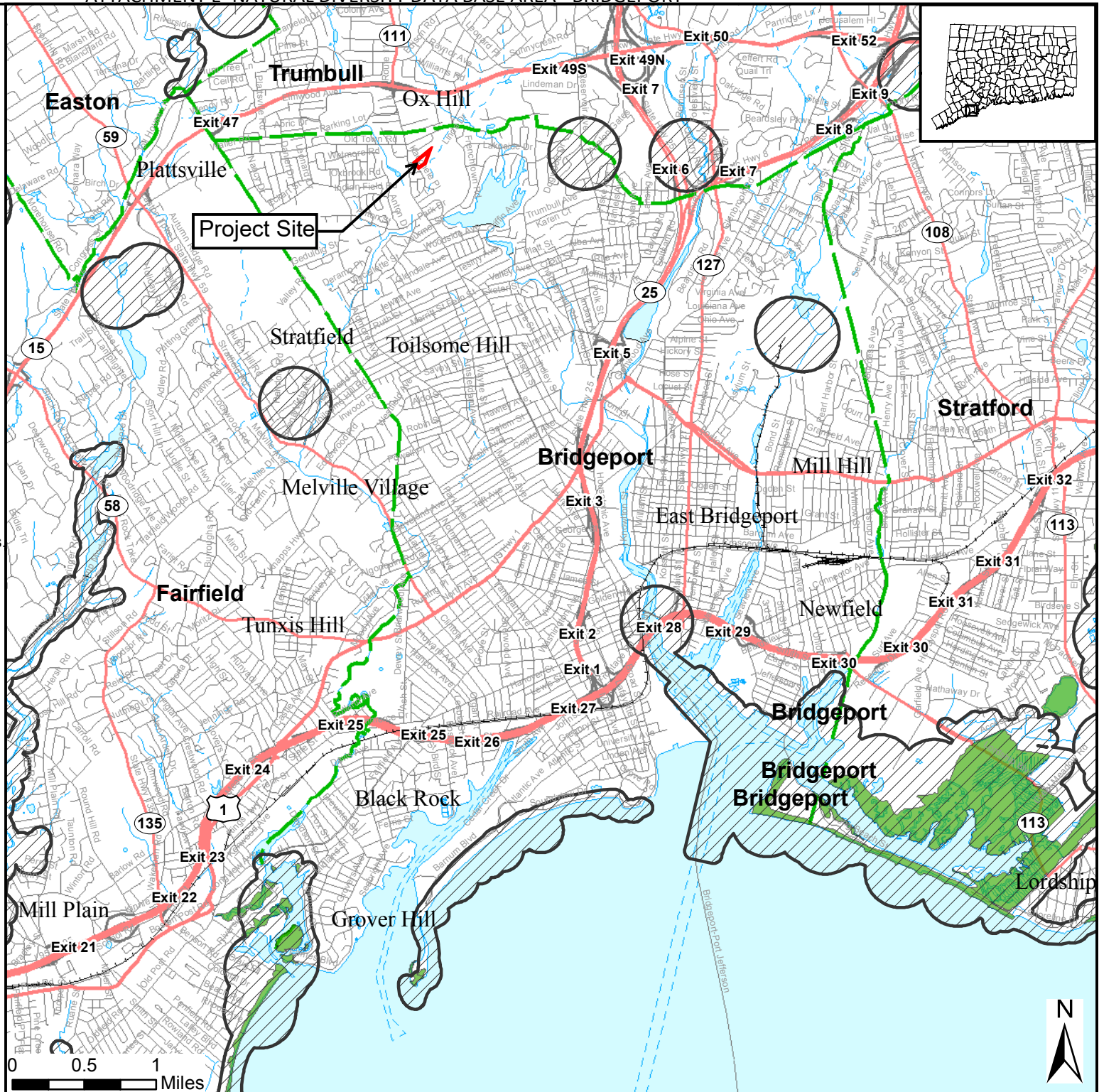
NOTE: This map shows general locations of State and Federal Listed Species and Critical Habitats. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDDB) from a variety of data sources. Exact locations of species have been buffered to produce the generalized locations.

This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a hatched area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

www.ct.gov/deep/nddbrequest

Use the CTECO Interactive Map Viewers at www.cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St, Hartford, CT 06106
email: deep.nddbrequest@ct.gov
Phone: (860) 424-3011



Connecticut Department of Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

October 18, 2019

Darin Lemire PE
HRP Associates
197 Scott Swamp Rd
Farmington CT 06032
Darin.lemire@hrpassociates.com

Project: Old Town Substation Rebuild Project, 312, 330 and 280 Kaechele Place in Bridgeport, CT
NDDDB Determination No.: 201912257

Dear Mr. Lemire,

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the proposed expansion and reconstruction of Old Town Substation at 312, 330 and 280 Kaechele Place in Bridgeport, Connecticut. According to our records we have known extant population of state special concern *Terrapene c. carolina* (eastern box turtle) from this area.

Eastern Box Turtle (*Terrapene c. carolina*): Eastern box turtles inhabit old fields and deciduous forests, which can include power lines and logged woodlands. They are often found near small streams and ponds. The adults are completely terrestrial but the young may be semiaquatic, and hibernate on land by digging down in the soil from October to April. They have an extremely small home range and can usually be found in the same area year after year. Eastern box turtles have been negatively impacted by the loss of suitable habitat. Some turtles may be killed directly by construction activities, but many more are lost when important habitat areas for shelter, feeding, hibernation, or nesting are destroyed. As remaining habitat is fragmented into smaller pieces, turtle populations can become small and isolated. Reducing the frequency that motorized vehicles enter box turtle habitat would be beneficial in minimizing direct mortality of adults.

Recommended Protection Strategies for Turtles:

Work should occur when these turtles are active (April 1st to October 30th). Conducting land clearing while the turtle is active will allow the animal to move out of harm's way and minimize mortality to hibernating individuals. I recommend the additional following protection strategies in order to protect these turtles:

- Hiring a qualified herpetologist to be on site to ensure these protection guidelines remain in effect and to prevent turtles from being run over when moving heavy equipment. This is especially important in the month of June when turtles are selecting nesting sites.
- Exclusionary practices will be required to prevent any turtle access into construction areas. These measures will need to be installed at the limits of disturbance.
- Exclusionary fencing must be at least 20 in tall and must be secured to and remain in contact with the ground and be regularly maintained (at least bi-weekly and after major weather events) to secure any gaps or openings at ground level that may let animal pass through. Do not use plastic or netted silt-fence.
- All staging and storage areas, outside of previously paved locations, regardless of the duration of time they will be utilized, must be reviewed to remove individuals and exclude them from re-entry.
- All construction personnel working within the turtle habitat must be apprised of the species description and the possible presence of a listed species, and instructed to relocate turtles found inside work areas or notify the appropriate authorities to relocate individuals.
- Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and fencing should be inspected to identify and remove access point.

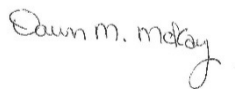
- In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable to allow for reptile and amphibian passage to resume.
- No heavy machinery or vehicles may be parked in any turtle habitat.
- Special precautions must be taken to avoid degradation of wetland habitats including any wet meadows and seasonal pools.
- The Contractor and consulting herpetologist must search the work area each morning prior to any work being done.
- When felling trees adjacent to brooks and streams please cut them to fall away from the waterway and do not drag trees across the waterway or remove stumps from banks.
- Avoid and limit any equipment use within 50 feet of streams and brooks.
- Any confirmed sightings of box, wood or spotted turtles should be reported and documented with the NDDB (deep.nddbrequest@ct.gov) on the appropriate special animal form found at (http://www.ct.gov/deep/cwp/view.asp?a=2702&q=323460&depNav_GID=1641)

If these protection strategies are followed then the proposed activities will lessen the impact on this state-listed species. This determination is good for two years. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by October 18, 2021.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEEP for the proposed site.

Sincerely,



Dawn M. McKay
Environmental Analyst 3

WILDLIFE IN CONNECTICUT

STATE SPECIES OF SPECIAL CONCERN

Eastern Box Turtle

Terrapene carolina carolina

Description

The eastern box turtle is probably the most familiar of the 8 species of turtles found in Connecticut's landscape. It is known for its high-domed carapace (top shell). The carapace has irregular yellow or orange blotches on a brown to black background that mimic sunlight dappling on the forest floor. The plastron (under shell) may be brown or black and may have an irregular pattern of cream or yellow. The length of the carapace usually ranges from 4.5 to 6.5 inches, but can measure up to 8 inches long. The shell is made up of a combination of scales and bones, and it includes the ribs and much of the backbone.

Each individual turtle has distinctive head markings. Males usually have red eyes and a concave plastron, while females have brown eyes and a flat plastron. Box turtles also have a horny beak, stout limbs, and feet that are webbed at the base. This turtle gets its name from its ability to completely withdraw into its shell, closing itself in with a hinged plastron. Box turtles are the only Connecticut turtle with this ability.

Range

Eastern box turtles are found throughout Connecticut, except at the highest elevations. They range from southeastern Maine to southeastern New York, west to central Illinois, and south to northern Florida.

Habitat and Diet

In Connecticut, this terrestrial turtle inhabits a variety of habitats, including woodlands, field edges, thickets, marshes, bogs, and stream banks. Typically, however, box turtles are found in well-drained forest bottomlands and open deciduous forests. They will use wetland areas at various times during the season. During the hottest part of a summer day, they will wander to find springs and seepages where they can burrow into the moist soil. Activity is restricted to mornings and evenings during summer, with little to no nighttime activity, except for egg-



laying females. Box turtles have a limited home range where they spend their entire life, ranging from 0.5 to 10 acres (usually less than 2 acres).

Box turtles are omnivorous and will feed on a variety of food items, including earthworms, slugs, snails, insects, frogs, toads, small snakes, carrion, leaves, grass, berries, fruits, and fungi.

Life History

From October to April, box turtles hibernate by burrowing into loose soil, decaying vegetation, and mud. They tend to hibernate in woodlands, on the edge of woodlands, and sometimes near closed canopy wetlands in the forest. Box turtles may return to the same place to hibernate year after year. As soon as they come out of hibernation, box turtles begin feeding and searching for mates.

The breeding season begins in April and may continue through fall. Box turtles usually do not breed until they are about 10 years old. This late maturity is a result of their long lifespan, which can range up to 50 to even over 100 years of age. The females do not have to mate every year to lay eggs as they can store sperm for up

to 4 years. In mid-May to late June, the females will travel from a few feet to more than a mile within their home range to find a location to dig a nest and lay their eggs. The 3 to 8 eggs are covered with dirt and left to be warmed by the sun. During this vulnerable time, skunks, foxes, snakes, crows, and raccoons often raid nests. Sometimes, entire nests are destroyed. If the eggs survive, they will hatch in late summer to early fall (about 2 months after being laid). If they hatch in the fall, the young turtles may spend the winter in the nest and come out the following spring.

As soon as the young turtles hatch, they are on their own and receive no care from the adults. This is a dangerous time for young box turtles because they do not develop the hinge for closing into their shell until they are about 4 to 5 years old. Until then, they cannot entirely retreat into their shells. Raccoons, skunks, foxes, dogs, and some birds will prey on young turtles.

Conservation Concerns

The eastern box turtle was once common throughout the state, mostly in the central Connecticut lowlands. However, its distribution is now spotty, although where found, turtles may be locally abundant. Because of the population decline in Connecticut, the box turtle was added to the state's List of Endangered, Threatened, and Special Concern Species when it was revised in 1998. It is currently listed as a species of special concern. The box turtle also is protected from international trade by the 1994 CITES treaty. It is of conservation concern in all the states where it occurs at its northeastern range limit, which includes southern New England and southeastern New York.

Many states have laws that protect box turtles and prohibit their collection. In Connecticut, eastern box turtles **cannot** be collected from the wild (DEP regulations 26-66-14A). Another regulation (DEP regulations 26-55-3D) "grandfathers" those who have a **box turtle collected before 1998**. This regulation limits possession to a single turtle collected before 1998. These

regulations provide some protection for the turtles, but not enough to combat some of the even bigger threats these animals face. The main threats in Connecticut (and other states) are loss and fragmentation of habitat due to deforestation and spreading suburban development; vehicle strikes on the busy roads that bisect the landscape; and indiscriminate (and now illegal) collection of individuals for pets.

Loss of habitat is probably the greatest threat to turtles. Some turtles may be killed directly by construction activities, but many more are lost when important habitat areas for shelter, feeding, hibernation, or nesting are destroyed. As remaining habitat is fragmented into smaller pieces, turtle populations can become small and isolated.

Adult box turtles are relatively free from predators due to their unique shells. The shell of a box turtle is extremely hard. However, the shell is not hard enough to survive being run over by a vehicle. Roads bisecting turtle habitat can seriously deplete the local population. Most vehicle fatalities are pregnant females searching for a nest site.

How You Can Help

- *Leave turtles in the wild. They should never be kept as pets. Whether collected singly or for the pet trade, turtles that are removed from the wild are no longer able to be a reproducing member of a population. Every turtle removed reduces the ability of the population to maintain itself.*
- *Never release a captive turtle into the wild. It probably would not survive, may not be native to the area, and could introduce diseases to wild populations.*
- *Do not disturb turtles nesting in yards or gardens.*
- *As you drive, watch out for turtles crossing the road. Turtles found crossing roads in June and July are often pregnant females and they should be helped on their way and not collected. Without creating a traffic hazard or compromising safety, drivers are encouraged to avoid running over turtles that are crossing roads. Also, still keeping safety precautions in mind, you may elect to pick up turtles from the road and move them onto the side they are headed. Never relocate a turtle to another area that is far from where you found it.*
- *Learn more about turtles and their conservation concerns. Spread the word to others on how they can help Connecticut's box turtle population.*



State of Connecticut
Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
www.ct.gov/dep



The production of this Endangered and Threatened Species Fact Sheet is made possible by donations to the Connecticut Endangered Species/Wildlife Income Tax Checkoff Fund.

Darin M. Lemire

From: DEEP Nddbrequest <DEEP.Nddbrequest@ct.gov>
Sent: Wednesday, October 23, 2019 3:10 PM
To: Correne M. Auer
Cc: TODD BERMAN; Darin M. Lemire
Subject: Re: NDDB Determination No. 201912257

Correne,

We have several records of eastern box turtle in this area. We base our decision on including protection strategies for these turtles based on the turtles home range and proximity to where your work is occurring. If you are rebuilding a substation there is a good likelihood that turtles may wonder onto the worksite. The turtles from this area (Bridgeport, Easton, Trumbull, Fairfield) were found in 2005 all the way through 2012. So they are current records. If you hire a herpetologist to help you protect turtles from project activities we would be happy to share our data with them. Please have them contact our program for details. We believe the protection protocols in our letter are not burdensome to project activities but are a conservation tool to help prevent the accidental death of turtles in the area.

Take care,

Dawn

Dawn M. McKay
Wildlife Division
Bureau of Natural Resources
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
P: 860.424.3592 | E: dawn.mckay@ct.gov

From: Correne M. Auer <Correne.Auer@hrpassociates.com>
Sent: Wednesday, October 23, 2019 2:39 PM
To: DEEP Nddbrequest
Cc: TODD BERMAN; Darin M. Lemire
Subject: NDDB Determination No. 201912257

Hi Dawn,

I was wondering if you could provide us with the field reports or data that supports this determination for the presence of the Eastern Box Turtle in our project area. We are just curious as the NDDB mapping does not show our site within a NDDB area. Any information you can provide would be great so that we can get a better understanding.

Thanks for your help,

Correne



Correne M. Auer, P.E.
Senior Project Engineer

HRP Associates, Inc.
197 Scott Swamp Road, Farmington, CT 06032

O 860.674.9570 Ext. 1156
D 860.773.3623
M 860.558.6947

hrpassociates.com

Move Your Environment Forward.

The information contained in this communication may be confidential and is intended only for the use of the recipient named above. If you are not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication, or any of its contents, is strictly prohibited. Nothing in this communication is intended to constitute a waiver of any privilege or the confidentiality of this message. If you have received this communication in error, please notify the sender immediately by return e-mail or telephone and delete the original message and any copy of it from your computer system. HRP accepts no responsibility for any loss or damage from the use of this message and/or any attachments, including damage from any viruses.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>

In Reply Refer To:

October 25, 2019

Consultation Code: 05E1NE00-2020-SLI-0255

Event Code: 05E1NE00-2020-E-00744

Project Name: Old Town Substation Rebuild Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2020-SLI-0255

Event Code: 05E1NE00-2020-E-00744

Project Name: Old Town Substation Rebuild Project

Project Type: TRANSMISSION LINE

Project Description: 330 Kaechele Place (2.77-acres) is undeveloped and wooded. 312 Kaechele Place (0.28-acres) is adjacent to 330 Kaechele Place and is undeveloped and wooded. There are wetlands reportedly in the northern portion of 320 Kaechele Place. The existing Old Town Substation at 280 Kaechele Place (0.9-acres) is mostly impervious cover consisting of the substation foundation and access road. This impervious area will be expanded into 312 and 330 Kaechele Place for the new, larger substation.

The Old Town Substation will be rebuilt on approximately 2.25 acres of UI-owned property; the site will encompass undeveloped UI land located at 312 and 330 Kaechele Place, as well as the existing substation property. The Project also will involve the installation of transmission line connections to the new substation, involving transmission structure replacements on Eversource's existing transmission line rights-of-way (ROW) immediately adjacent to the site, as well as modifications to certain distribution line connections (typically within local streets). After energization of the new substation, the existing substation will be demolished.

Typical substation construction activities include excavation, removal of existing wooded conditions, grading and filling, and installation of new equipment. The type of equipment to be used for work would include typical construction equipment including backhoes, bulldozers, bobcats, loaders and dump trucks. To minimize construction related impacts, UI will use standard best management practices. The project will be subject to the General Permit for Stormwater from Construction Activities

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.2250576198152N73.21641905701605W>



Counties: Fairfield, CT

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Old Town Substation Rebuild Project

LOCATION

Fairfield County, Connecticut



DESCRIPTION

330 Kaechele Place (2.77-acres) is undeveloped and wooded. 312 Kaechele Place (0.28-acres) is adjacent to 330 Kaechele Place and is undeveloped and wooded. The are wetlands reportedly in the northern portion of 320 Kaechele Place. The existing Old Town Substation at 280 Kaechele Place (0.9-acres) is mostly impervious cover consisting of the substation foundation and access road. This impervious area will be expanded into 312 and 330 Kaechele Place for the new, larger substation.

The Old Town Substation will be rebuilt on approximately 2.25 acres of UI-owned property; the site

will encompass undeveloped UI land located at 312 and 330 Kaechele Place, as well as the existing substation property. The Project also will involve the installation of transmission line connections to the new substation, involving transmission structure replacements on Eversource's existing transmission line rights-of-way (ROW) immediately adjacent to the site, as well as modifications to certain distribution line connections (typically within local streets). After energization of the new substation, the existing substation will be demolished.

Typical substation construction activities include excavation, removal of existing wooded conditions, grading and filling, and installation of new equipment. The type of equipment to be used for work would include typical construction equipment including backhoes, bulldozers, bobcats, loaders and dump trucks. To minimize construction related impacts, UI will use standard best management practices. The project will be subject to the General Permit for Stormwater from Construction Activities

Local office

New England Ecological Services Field Office

☎ (603) 223-2541

📠 (603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

<http://www.fws.gov/newengland>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE

BIRD DOES NOT LIKELY BREED IN
YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Oct 15 to Aug 31

Black-billed Cuckoo *Coccyzus erythrophthalmus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Breeds May 15 to Oct 10

Bobolink *Dolichonyx oryzivorus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Jul 31

Canada Warbler *Cardellina canadensis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Aug 10

Eastern Whip-poor-will *Antrostomus vociferus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Aug 20

Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

Prairie Warbler *Dendroica discolor*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 31

Prothonotary Warbler *Protonotaria citrea*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 1 to Jul 31

Red-throated Loon *Gavia stellata*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Rusty Blackbird *Euphagus carolinus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

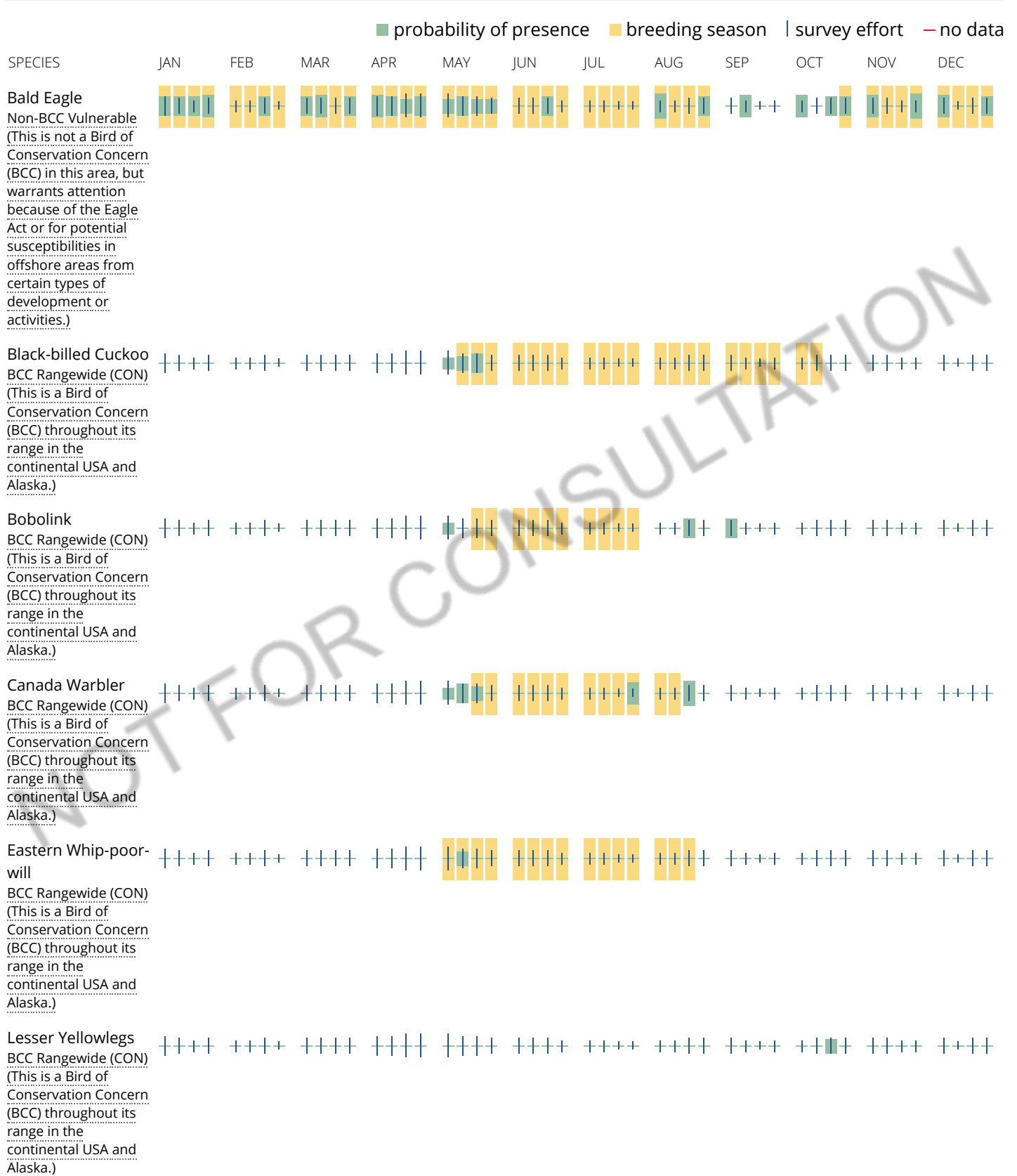
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects,

and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review.

Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

USACE Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Old Town Substation City/County: Bridgeport Sampling Date: 4/23/18
 Applicant/Owner: United Illuminating Company State: CT Sampling Point: A1U1
 Investigator(s): Kristin Connell Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): convex Slope (%): _____
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Charlton-Chatfield NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION– Use scientific names of plants.

Sampling Point: A1U1

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Acer rubrum</i></u>	10	No	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 0 </u> (A) Total Number of Dominant Species Across All Strata: <u> 5 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 0.0% </u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 0 </u></td> <td>x 2 = <u> 0 </u></td> </tr> <tr> <td>FAC species <u> 10 </u></td> <td>x 3 = <u> 30 </u></td> </tr> <tr> <td>FACU species <u> 167 </u></td> <td>x 4 = <u> 668 </u></td> </tr> <tr> <td>UPL species <u> 15 </u></td> <td>x 5 = <u> 75 </u></td> </tr> <tr> <td>Column Totals: <u> 192 </u></td> <td>(A) <u> 773 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u> 4.03 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 0 </u>	x 2 = <u> 0 </u>	FAC species <u> 10 </u>	x 3 = <u> 30 </u>	FACU species <u> 167 </u>	x 4 = <u> 668 </u>	UPL species <u> 15 </u>	x 5 = <u> 75 </u>	Column Totals: <u> 192 </u>	(A) <u> 773 </u> (B)	Prevalence Index = B/A = <u> 4.03 </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																			
FACW species <u> 0 </u>	x 2 = <u> 0 </u>																			
FAC species <u> 10 </u>	x 3 = <u> 30 </u>																			
FACU species <u> 167 </u>	x 4 = <u> 668 </u>																			
UPL species <u> 15 </u>	x 5 = <u> 75 </u>																			
Column Totals: <u> 192 </u>	(A) <u> 773 </u> (B)																			
Prevalence Index = B/A = <u> 4.03 </u>																				
2. <u><i>Quercus alba</i></u>	60	Yes	FACU																	
3. <u><i>Fraxinus</i></u>	5	No																		
4. _____																				
5. _____																				
6. _____																				
7. _____																				
<u> 75 </u> =Total Cover																				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u><i>Berberis thunbergii</i></u>	2	No	FACU																	
2. <u><i>Fagus grandifolia</i></u>	30	Yes	FACU																	
3. <u><i>Elaeagnus umbellata</i></u>	15	Yes	UPL																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
<u> 47 </u> =Total Cover																				
<u>Herb Stratum</u> (Plot size: _____)																				
1. <u><i>Maianthemum canadense</i></u>	70	Yes	FACU																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
<u> 70 </u> =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: _____)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
1. <u><i>Rosa multiflora</i></u>	5	Yes	FACU																	
2. _____																				
3. _____																				
4. _____																				
<u> 5 </u> =Total Cover																				
				Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A1U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-4	10YR 3/2	100					
4-16	10YR 4/6	95	10YR 4/3	5			
16-24	10YR 5/6	100					Saturated @ 16"

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Marl (F10) (LRR K, L) |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) | |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Old Town Substation City/County: Bridgeport Sampling Date: 4/23/18
 Applicant/Owner: United Illuminating Company State: CT Sampling Point: A1W1
 Investigator(s): Kristin Connell Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Ridgebury, Leicester, and Whitman NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION– Use scientific names of plants.

Sampling Point: A1W1

Tree Stratum (Plot size: <u>30ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	20	Yes	FACU
2. <u>Acer rubrum</u>	25	Yes	FAC
3. <u>Quercus alba</u>	50	Yes	FACU
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	95 =Total Cover		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ =Total Cover		

Herb Stratum (Plot size: <u>5ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Symplocarpus foetidus</u>	40	Yes	OBL
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	40 =Total Cover		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u> 40 </u>	x 1 = <u> 40 </u>
FACW species <u> 0 </u>	x 2 = <u> 0 </u>
FAC species <u> 25 </u>	x 3 = <u> 75 </u>
FACU species <u> 70 </u>	x 4 = <u> 280 </u>
UPL species <u> 0 </u>	x 5 = <u> 0 </u>
Column Totals: <u> 135 </u> (A)	<u> 395 </u> (B)
Prevalence Index = B/A = <u> 2.93 </u>	

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ____ No <u>X</u>
---	---

Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Old Town Substation City/County: Bridgeport Sampling Date: 4/23/18
 Applicant/Owner: United Illuminating Company State: CT Sampling Point: U1B1
 Investigator(s): Kristin Connell Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): convex Slope (%): _____
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Charlton-Chatfield NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION– Use scientific names of plants.

Sampling Point: U1B1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: _____)																				
1. <u>Quercus alba</u>	80	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>82</u></td> <td>x 4 = <u>328</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>84</u></td> <td>(A) <u>338</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.02</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>82</u>	x 4 = <u>328</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>84</u>	(A) <u>338</u> (B)	Prevalence Index = B/A = <u>4.02</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>82</u>	x 4 = <u>328</u>																			
UPL species <u>2</u>	x 5 = <u>10</u>																			
Column Totals: <u>84</u>	(A) <u>338</u> (B)																			
Prevalence Index = B/A = <u>4.02</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
80 =Total Cover																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. <u>Elaeagnus umbellata</u>	2	No	UPL	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Fagus grandifolia</u>	2	No	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
4 =Total Cover																				
Herb Stratum (Plot size: _____)																				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
_____ =Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
_____ =Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U1B1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
---	---

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Old Town Substation City/County: Bridgeport Sampling Date: 4/23/18
 Applicant/Owner: United Illuminating Company State: CT Sampling Point: B1W1
 Investigator(s): Kristin Connell Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Timakawa and Natchaug NWI classification: PSS1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u>X</u> Surface Water (A1) _____ Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) <u>X</u> Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) <u>X</u> Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
---	--

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION– Use scientific names of plants.

Sampling Point: B1W1

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer rubrum</u>	90	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 3 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 33.3% </u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
90 =Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 0 </u></td> <td>x 2 = <u> 0 </u></td> </tr> <tr> <td>FAC species <u> 90 </u></td> <td>x 3 = <u> 270 </u></td> </tr> <tr> <td>FACU species <u> 0 </u></td> <td>x 4 = <u> 0 </u></td> </tr> <tr> <td>UPL species <u> 0 </u></td> <td>x 5 = <u> 0 </u></td> </tr> <tr> <td>Column Totals: <u> 90 </u></td> <td>(A) <u> 270 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u> 3.00 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 0 </u>	x 2 = <u> 0 </u>	FAC species <u> 90 </u>	x 3 = <u> 270 </u>	FACU species <u> 0 </u>	x 4 = <u> 0 </u>	UPL species <u> 0 </u>	x 5 = <u> 0 </u>	Column Totals: <u> 90 </u>	(A) <u> 270 </u> (B)	Prevalence Index = B/A = <u> 3.00 </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																			
FACW species <u> 0 </u>	x 2 = <u> 0 </u>																			
FAC species <u> 90 </u>	x 3 = <u> 270 </u>																			
FACU species <u> 0 </u>	x 4 = <u> 0 </u>																			
UPL species <u> 0 </u>	x 5 = <u> 0 </u>																			
Column Totals: <u> 90 </u>	(A) <u> 270 </u> (B)																			
Prevalence Index = B/A = <u> 3.00 </u>																				
_____ =Total Cover																				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: _____)																				
1. <u>Carex</u>	50	Yes	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Sphagnum</u>	40	Yes	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
90 =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																				
Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: B1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10YR 3/1	98	10YR 4/6	2		Muck	
6-11	10YR 4/1	50	10YR 3/2	40			
			10YR 5/6	10			
11-14	10YR 5/2	90	10YR 5/6	10			

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Marl (F10) (LRR K, L) |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) | |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Old Town Substation City/County: Bridgeport Sampling Date: 4/23/18
 Applicant/Owner: United Illuminating Company State: CT Sampling Point: U1B1
 Investigator(s): Kristin Connell Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): convex Slope (%): _____
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Charlton-Chatfield NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION– Use scientific names of plants.

Sampling Point: U1B1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: _____)																				
1. <u>Quercus alba</u>	80	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>82</u></td> <td>x 4 = <u>328</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>84</u></td> <td>(A) <u>338</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.02</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>82</u>	x 4 = <u>328</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>84</u>	(A) <u>338</u> (B)	Prevalence Index = B/A = <u>4.02</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>82</u>	x 4 = <u>328</u>																			
UPL species <u>2</u>	x 5 = <u>10</u>																			
Column Totals: <u>84</u>	(A) <u>338</u> (B)																			
Prevalence Index = B/A = <u>4.02</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
80 =Total Cover																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. <u>Elaeagnus umbellata</u>	2	No	UPL	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Fagus grandifolia</u>	2	No	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
4 =Total Cover																				
Herb Stratum (Plot size: _____)																				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
_____ =Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																
2. _____																				
3. _____																				
4. _____																				
_____ =Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U1B1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Marl (F10) (LRR K, L) |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) | |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Old Town Substation City/County: Bridgeport Sampling Date: 4/23/18
 Applicant/Owner: United Illuminating Company State: CT Sampling Point: A1W1
 Investigator(s): Kristin Connell Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Ridgebury, Leicester, and Whitman NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION– Use scientific names of plants.

Sampling Point: A1W1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u> 30ft radius </u>)				
1.	20	Yes	FACU	<i>Fagus grandifolia</i>
2.	25	Yes	FAC	<i>Acer rubrum</i>
3.	50	Yes	FACU	<i>Quercus alba</i>
4.				
5.				
6.				
7.				
	95	=Total Cover		
Sapling/Shrub Stratum (Plot size: <u> </u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		=Total Cover		
Herb Stratum (Plot size: <u> 5ft radius </u>)				
1.	40	Yes	OBL	<i>Symplocarpus foetidus</i>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	40	=Total Cover		
Woody Vine Stratum (Plot size: <u> </u>)				
1.				
2.				
3.				
4.				
		=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40	
FACW species	0	x 2 =	0	
FAC species	25	x 3 =	75	
FACU species	70	x 4 =	280	
UPL species	0	x 5 =	0	
Column Totals:	135	(A)	395	(B)
		Prevalence Index = B/A = <u> 2.93 </u>		

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Marl (F10) (LRR K, L) |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) | |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Old Town Substation City/County: Bridgeport Sampling Date: 4/23/18
 Applicant/Owner: United Illuminating Company State: CT Sampling Point: B1W1
 Investigator(s): Kristin Connell Section, Township, Range: _____
 Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Timakawa and Natchaug NWI classification: PSS1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION– Use scientific names of plants.

Sampling Point: B1W1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: _____)																				
1. <u>Acer rubrum</u>	90	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>90</u></td> <td>x 3 = <u>270</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>90</u></td> <td>(A) <u>270</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>90</u>	x 3 = <u>270</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>90</u>	(A) <u>270</u> (B)	Prevalence Index = B/A = <u>3.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>90</u>	x 3 = <u>270</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>90</u>	(A) <u>270</u> (B)																			
Prevalence Index = B/A = <u>3.00</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
90 =Total Cover																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
_____ =Total Cover																				
Herb Stratum (Plot size: _____)																				
1. <u>Carex</u>	50	Yes		Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>																
2. <u>Sphagnum</u>	40	Yes																		
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
90 =Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
_____ =Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: B1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10YR 3/1	98	10YR 4/6	2		Muck	
6-11	10YR 4/1	50	10YR 3/2	40			
			10YR 5/6	10			
11-14	10YR 5/2	90	10YR 5/6	10			

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

