



Appendix II-D2

Wetland and Stream Delineation Report – Larrabee Study Area

May 2024

Wetland and Stream Delineation Report

Atlantic Shores Offshore Wind – Larrabee Study Area

Borough of Sea Girt, Borough of Manasquan, Township of Wall,
and Township of Howell, Monmouth County, New Jersey

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ACRONYM LIST

| | |
|-------------------------|---|
| Atlantic Shores | Atlantic Shores Offshore Wind, LLC |
| CFR | Code of Federal Regulations |
| dbh | Diameter breast height |
| EDR | Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. |
| EPA | Environmental Protection Agency |
| FAC | Facultative |
| FACU | Facultative Upland |
| FACW | Facultative Wetland |
| FEMA | Federal Emergency Management Agency |
| 1989 Interagency Manual | Federal Manual for Identifying and Delineating Jurisdictional Wetlands |
| HUC | Hydrologic Unit Codes |
| LOI | Letter of Interpretation |
| NLCD | National Land Cover Dataset |
| NWI | National Wetlands Inventory |
| NRCS | Natural Resources Conservation Service |
| N.J.A.C. | New Jersey Administrative Code |
| NJDEP | New Jersey Department of Environmental Protection |
| OBL | Obligate |
| PEM | Palustrine emergent wetland |
| PFO | Palustrine forested wetland |
| POW | Palustrine Open Water |
| PSS | Palustrine scrub-shrub wetland |
| POI | Point of Interconnection |
| ROW | Right-of-Way |
| ft ² | Square feet |
| USACE | United States Army Corps of Engineers |
| USFWS | United States Fish & Wildlife Service |
| USGS | United States Geologic Service |
| UPL | Upland |

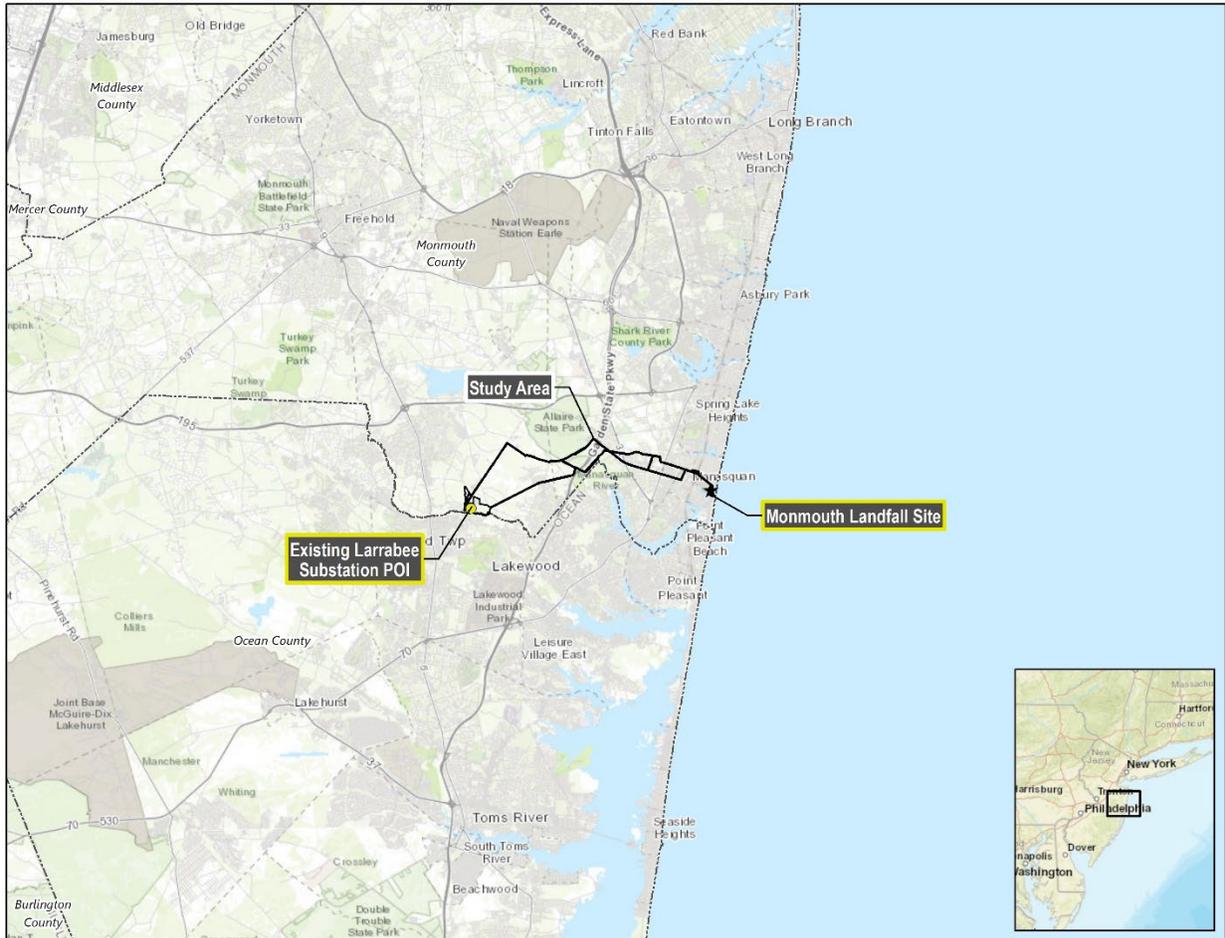
1.0 INTRODUCTION

Atlantic Shores Offshore Wind, LLC (Atlantic Shores) is a 50/50 joint venture between EDF-RE Offshore Development, LLC (a wholly owned subsidiary of EDF Renewables, Inc. [EDF Renewables]) and Shell New Energies US LLC (Shell). Atlantic Shores is developing a Construction and Operations Plan for submittal to the Bureau of Ocean Energy Management for two offshore wind energy generation projects within the southern portion of Lease Area OCS-A 0499 (the Lease Area) off the coast of New Jersey with onshore interconnections in two areas of New Jersey.

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., was contracted by Atlantic Shores to conduct wetland and stream delineations associated with the onshore infrastructure necessary to support the Projects' interconnection to the existing Larrabee Substation located in Howell Township, New Jersey. The delineation Study Area (herein referred to as the Larrabee Study Area) includes the proposed onshore interconnection route rights-of-ways (ROWS) from the Monmouth Landfall in the Borough of Sea Girt, New Jersey; and the Larrabee point of interconnection (POI) (Figure 1).

This report characterizes the Larrabee Study Area and identifies and discusses the evaluation of the three wetland parameters (i.e., hydrology, soils, and vegetation) involved in determining the location and extent of jurisdictional wetland area boundaries.

Exhibit 1: Larrabee Study Area Location (not drawn to scale)



1.1 Regulatory Framework

Wetlands are defined as “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. Wetlands generally include swamps, marshes, bogs and similar areas” (Environmental Protection Agency, 40 Code of Federal Regulations [CFR] 239.3 and Army Corps of Engineers, 33 CFR 328.3).

Navigable waters of the United States are “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity” (Army Corps of Engineers, 33 CFR 320.4).

Freshwater wetlands and waterbodies are typically under the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) subject to Section 404 of the Clean Water Act; however, the New Jersey Legislature,

in July 1987, passed the state's Freshwater Wetlands Protection Act, which provided protection for inland and coastal wetlands. This act provided the framework for New Jersey to establish a comprehensive permitting program to regulate all activities in freshwater and tidal wetlands and wetland transition areas under N.J.A.C. 7:7 et. seq. As a result of this comprehensive permitting program, a memorandum of understanding between the United States Environmental Protection Agency (EPA), United States Fish & Wildlife Service (USFWS), and the New Jersey Department of Environmental Protection (NJDEP) and a memorandum of agreement between the USACE and NJDEP has provided New Jersey delegated federal authority over non-tidal freshwater wetlands within the state. Navigable waters of the U.S. and other wetlands within 1,000 feet of the head of tide remain under the regulatory jurisdiction of the USACE subject to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act but are also under NJDEP jurisdiction through the Freshwater Wetlands Protection Act.

In addition, Coastal Wetlands are regulated according to the Wetlands Act of 1970, which authorized the NJDEP to regulated activities on coastal wetlands that have been delineated and mapped by the Department. Generally, these wetlands are also regulated by the USACE under Section 10 of the Rivers and Harbors Act.

Wetland transition areas, established under N.J.A.C. 7:7-9.28 and N.J.A.C. 7:7A-3.3(d), varies depending on the resource value classification of the associated wetland or surface water based on surface water quality standards, special area protections and fish and wildlife requirements. The following are the resource classifications and their associated wetland transition areas:

- Ordinary Resource Value (0-foot transition area) wetlands are those that are smaller than 5,000 square feet (ft²), is considered a drainage ditch or swale, a detention facility created for stormwater purposes or existing in lawns, maintained landscaped areas and other disturbed locations.
- Intermediate Resource Value (50-foot transition area) wetlands are those wetlands that are not classified as either exceptional or ordinary resource value.
- Exceptional Resource Value (150-foot transition area in freshwater wetland systems and 300-foot in tidal wetland systems) wetlands are those that discharge into trout production waters or their tributaries or Category One waters and are a present or documented habitat for threatened and endangered species.

Depending on project design and assessed impacts to the wetlands and waters identified, the NJDEP permits and/or Section 10/404 permits from the USACE may be required.¹

1.2 Purpose

This report describes the results of the wetland and stream delineations conducted which includes identification of the federal and/or state jurisdictional wetland and water resources within the Study Area,

¹ According to N.J.A.C. 7:9B-1.4 "Category one waters" means those waters designated in the tables in N.J.A.C. 7:9B-1.15(c) through (i), for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B1.5(d), for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality and biological functions).

discussion of the evaluation of the three wetland parameters (i.e., hydrology, soils, and vegetation), and the process of evaluating the three parameters to determine the location and extent of the federal and/or state jurisdictional boundaries of wetlands and waters. This report also includes a preliminary evaluation of the resource value of each wetland according to NJDEP regulations for the purpose of supporting required permit applications.

2.0 GENERAL SITE CONDITIONS

Publicly available information used in determining the presence and approximate boundaries of wetlands and waters of the United States were obtained and reviewed prior to commencing field investigations and are summarized in the following sub-sections.

Materials and data supporting this investigation have been derived from United States Geological Survey (USGS) topographic mapping (i.e., Point Pleasant, Asbury Park, Farmingdale, and Lakewood NJ 7.5 minute quadrangles), USFWS National Wetlands Inventory (NWI) mapping, NJDEP Wetlands mapping, the Natural Resources Conservation Service (NRCS) Web Soil Survey (Web Soil Survey 2020), the NRCS List of Hydric Soils of the State of New Jersey (NRCS, 2020), the National Land Cover Dataset (NLCD) land cover and vegetation classes (Yang et al., 2018), and recent aerial photography.

Vascular plant names follow nomenclature found in the Integrated Taxonomic Information System (ITIS 2020), and wetland indicator status for plant species was determined by reference to the National Wetland Plant List (Lichvar et al., 2016). Jurisdictional areas were characterized according to the wetlands and deepwater habitats classification system used in NWI mapping (Cowardin et al., 1979).

2.1 Physiography and Soils

The Larrabee Study Area is located within the Outer Coastal Plain physiographic province of New Jersey. The local geography includes materials that are marine deposited sedimentary sands, gravels and clays overlain with later deposits of the interglacial Pleistocene time. The area is dominated by the Pinelands ecoregion which contains sandy and excessively well drained soils that have natural undulations in elevation, and are generally low fertility soils. The coastal plain province is also an important aquifer area due to the shallow depth to groundwater which supports a diverse system of drainages and wetlands (NCTC, 2020).

Hydric soils are defined as a "soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part" (USDA-SCS 1987) and is typically indicative of a wetland. Extended periods of inundation/saturation cause chemical reactions in the soil that alter the physical characteristics and soil color within the matrix. These properties are used to identify hydric soils and can often be observed during field investigations. Hydric mineral soils generally have a gleyed matrix, low chroma matrix and/or brightly colored redox concentrations (mottles). A representative gleyed soil will have blue, green, or gray coloration directly below the A-horizon, reflecting consistent long-term saturation. A soil containing redox concentrations with a low chroma matrix is usually a strong indicator of a fluctuating water table. Although soil series may be generally classified as hydric or potentially hydric in the online databases, this is for general use and does not supersede specific conditions documented in the field. Within the Larrabee Study Area, elevations range from approximately sea level at the Monmouth Landfall location to 135 feet above mean sea level near Allaire State Park associated with a large sandy knoll. The USGS map presented in Figure 1 shows the approximate range of mapped elevations within the Larrabee Study Area.

The Web Soil Survey of Monmouth County (Soil Survey Staff, 2020) indicates the occurrence of 27 soil series within the Study Area (Figure 2). Klej lomy sand (KkgB) is the dominant soils series mapped within the Larrabee Study Area with significant areas of Downer sandy loam (DoeBo) , Lakewood sand (LasB) and

Downer urban land complex (DouB) also mapped. Soils range from very poorly drained to excessively drained, and soil textures range from sand to loam. Table 1 lists the soil series found within the Study Area and their characteristics. "Hydric" and "Potentially Hydric" designations are based on information obtained on the NRCS Web Soil Survey (Soil Survey Staff, 2020) and the National Hydric Soils List (NRCS, 2020).

Table 1. Study Area Soils

| Mapping Unit Symbol | Series | Slope (%) | Drainage ¹ | Hydric Percentage | Hydric Rating ² |
|---------------------|---|-----------|-----------------------|-------------------|----------------------------|
| AtsAO | Atsion sand, Northern Tidewater Area | 0-2 | PD | 95 | Hydric |
| BerAt | Berryland sand, frequently flooded | 0-2 | VPD | 100 | Hydric |
| DocBO | Downer loamy sand, Northern Tidewater Area | 0-5 | WD | 5 | Partially Hydric |
| DocCO | Downer loamy sand, Northern Tidewater Area | 5-10 | WD | 0 | Not Hydric |
| DoeAO | Downer sandy loam, Northern Tidewater Area | 0-2 | WD | 0 | Not Hydric |
| DoeBO | Downer sandy loam, Northern Tidewater Area | 2-5 | WD | 0 | Not Hydric |
| DouB | Downer urban land complex | 0-5 | WD | 0 | Not Hydric |
| EveB | Evesboro sand | 0-5 | ED | 10 | Partially Hydric |
| EveC | Evesboro sand | 5-10 | ED | 0 | Not Hydric |
| EveD | Evesboro sand | 10-15 | ED | 0 | Not Hydric |
| EveE | Evesboro sand | 15-25 | ED | 0 | Not Hydric |
| FapA | Fallsington loams, Northern Coastal Plain | 0-2 | PD | 85 | Hydric |
| HboB | Hammonton sandy loam | 2-5 | MWD | 5 | Partially Hydric |
| HumAt | Humaquepts, frequently flooded | 0-3 | PD | 100 | Hydric |
| KkgB | Klej loamy sand | 0-5 | SPD | 10 | Partially Hydric |
| LakB | Lakehurst sand | 0-5 | MWD | 10 | Partially Hydric |
| LasB | Lakewood sand | 0-5 | ED | 5 | Partially Hydric |
| PHG | Pits, sand and gravel | N/A | N/A | 0 | Not Hydric |
| SacBO | Sassafras sandy loam, Northern Tidewater Area | 2-5 | WD | 0 | Not Hydric |

| Mapping Unit Symbol | Series | Slope (%) | Drainage ¹ | Hydric Percentage | Hydric Rating ² |
|---------------------|--|-----------|-----------------------|-------------------|----------------------------|
| SacC | Sassafras sandy loam, Northern Coastal Plain | 5-10 | WD | 4 | Partially Hydric |
| SacD | Sassafras sandy loam | 10-15 | WD | 0 | Not Hydric |
| SacE | Sassafras sandy loam | 15-25 | WD | 0 | Not Hydric |
| SadC | Sassafras gravelly sandy loam | 5-10 | WD | 0 | Not Hydric |
| SafA | Sassafras loam | 0-2 | WD | 4 | Partially Hydric |
| UdaB | Udorthents | 0-8 | WD | 0 | Not Hydric |
| UdauB | Udorthents-Urban land complex | 0-8 | WD | 0 | Not Hydric |
| WATERS | Water, saline | N/A | N/A | Water | Water |

1 Soil drainage is represented by the following abbreviation: "ED" = excessively drained, "WD" = well drained, "MWD" = moderately well drained, and "SPD" = somewhat poorly drained, "PD" = poorly drained, and "VPD" = very poorly drained.

2 Hydric = 50-100, Partially Hydric = 1-49, Not Hydric = 0, Water = Water

2.2 Hydrology

The Study Area is located in the NJDEP Barnegat Bay and Monmouth Watershed Management Areas (WMAs) as shown in Figure 3. In addition, the Study Area spans across the following Hydrologic Unit Codes (HUC) that are within the two WMAs (Figure 3):

- HUC 8:
 - Mullica-Toms 02010301
- HUC 10:
 - Manasquan River-Frontal Atlantic Ocean (0204030101)
 - Metedeconk River (0204030104)
- HUC 12:
 - Lower Manasquan River-Atlantic Ocean (020403010800)
 - Middle Manasquan River (020103010105)
 - North Branch Metedeconk River (020403010202)
 - Shark River-Frontal Atlantic Ocean (020403010104).

Most of the surface hydrology within the Larrabee Study Area is generated by precipitation and surface water run-off from adjacent land. Due to the sandy texture of the soil and portions of the Study Area near sea level, there are likely some areas where surface hydrology is influenced by groundwater discharge (particularly associated with the Manasquan River). Total annual precipitation (from 2000 to 2022) averages 48.83 inches at Trenton, New Jersey, and 47.48 inches in the Atlantic City Region (NOAA, 2022). The on-site

wetland delineation took place during and after the growing season between June 24 and 26, December 7, 8, and 10, 2020; September 14 and 15, 2021; June 12 through the 14, 2022; and February 15, 16 and 21, 2023. Precipitation for the month of May 2020 was below average (1.62 inches [Atlantic City]/1.62 inches [Trenton]) compared to the typical monthly average in the Atlantic City (3.39 inches) and Trenton, New Jersey (3.97 inches). Precipitation for the month of November 2020 was above average (5.60 inches [Atlantic City]/ 4.14 inches [Trenton]) compared to the monthly average of 3.69 inches (Atlantic City) and 3.18 inches (Trenton). Precipitation for September 2021 was above average (6.28 inches [Atlantic City]/5.06 inches [Trenton]) compared to the monthly average of 3.15 inches (Atlantic City) and 4.25 inches (Trenton). Precipitation for May 2022 was above average (4.57 [Atlantic City]/ 7.17 [Trenton] inches) compared to the monthly average of 3.39 inches (Atlantic City) and 3.97 inches (Trenton). Precipitation for January 2023 was slightly above average (3.74 inches [Atlantic City]/3.60 inches [Trenton]) compared to the monthly average of 3.38 inches (Atlantic City) and 3.29 inches (Trenton).

2.3 Federal- and State-Mapped Wetlands and Streams

New Jersey State-mapped wetlands indicate that there are 79 mapped wetlands totaling approximately 79 acres within the Larrabee Study Area (Figure 4). The mapped wetlands include deciduous wooded wetlands (46.8 acres), modified agricultural wetlands (7.1 acres), mixed wooded wetlands (16.6 acres deciduous dominant, 4.3 acre coniferous dominant), deciduous scrub/shrub wetland (0.78 acre), wetland rights-of-way (1.5 acre), coniferous wooded wetlands (0.9 acre), vegetated dune communities (0.5 acre), herbaceous wetlands (0.1 acre), modified disturbed wetlands (0.05 acre), and cemetery on wetland (0.01 acre).

NWI mapping indicates the presence of 68 wetland communities and 20 riverine resources totaling approximately 60.3 acres within the Larrabee Study Area (Figure 4). Freshwater forested/shrub wetland communities are the dominant community types mapped on site, totaling approximately 57.4 acres. Other NWI-mapped communities within the Study Area include freshwater emergent wetlands (0.4 acre), freshwater ponds (0.4 acre) and riverine resources (2.0 acres).

New Jersey mapping identifies nine waterways within the Study Area. The waterways include Dicks Brook, Haystack Brook, Judas Creek, Manasquan River and associated tributaries, Muddy Ford Brook and associated tributaries, Squankum Brook and associated tributaries, Sandyhill Brook, and Tarkiln Brook.

2.4 Mapped Floodplains

According to the Federal Emergency Management Agency (FEMA) map service, the majority of the Larrabee Study Area is outside of the 1% Annual Chance Flood zone, indicating, minimal flood hazard. These areas are associated with the with tributaries to and the Manasquan River, Squankum Brook, Haystack Brook, and the Atlantic Ocean and are in special flood hazard areas (100-year flood zone) (Figure 5).

2.5 Vegetation

Land cover and vegetation occurring within the Study Area were evaluated using 2015 Land Use/Land Cover of New Jersey (NJDEP, 2015), and further verified during the on-site field investigations. The Larrabee Study Area encompasses approximately 628 acres and consists primarily of rural single residences, other urban or built-up land, as well as low-density single residences, commercial/services, medium-density single

residences, deciduous wooded wetlands and deciduous forest with greater than 50% crown closure (Table 2). The location and extent of various land use and land cover locations is provided in Figure 6.

Table 2. Vegetation/Land Cover Within the Study Area

| Land Cover Class | Acres | Percent Cover (%) |
|--|--------------|--------------------------|
| Deciduous Forest (>50% Crown Closure) | 83.2 | 13.2 |
| Residential, Rural, Single Unit | 73.6 | 11.7 |
| Deciduous Wooded Wetlands | 46.8 | 7.5 |
| Other Urban or Built-Up Land | 40.3 | 6.4 |
| Residential, Single Unit, Low Density | 32.9 | 5.2 |
| Residential, Single Unit, Medium Density | 29.9 | 4.8 |
| Coniferous Brush/Shrubland | 24.7 | 3.9 |
| Mixed Forest (>50% deciduous with >50% crown closure) | 24.3 | 3.9 |
| Industrial | 23.8 | 3.8 |
| Cropland and Pastureland | 22.5 | 3.6 |
| Recreational Land | 21.6 | 3.4 |
| Commercial/Services | 20.7 | 3.3 |
| Upland Rights-of-Way Undeveloped | 20.7 | 3.3 |
| Mixed Deciduous/Coniferous Brush/Shrubland | 19.3 | 3.1 |
| Coniferous Forest (>50% crown closure) | 17.7 | 2.8 |
| Transportation/Communication/Utilities | 16.9 | 2.7 |
| Mixed Wooded Wetlands (Deciduous Dom.) | 16.6 | 2.6 |
| Other Agriculture | 11.5 | 1.8 |
| Deciduous Forest (10-50% Crown Closure) | 10.8 | 1.7 |
| Mixed Forest (>50% Coniferous with >50% Crown Closure) | 8.0 | 1.3 |
| Altered Lands | 5.5 | 0.9 |
| Agricultural Wetlands (Modified) | 5.1 | 0.8 |
| Orchards/Vineyards/Nurseries/Horticultural Areas | 4.7 | 0.7 |
| Military Installations | 4.3 | 0.7 |
| Mixed Wooded Wetlands (Coniferous Dom.) | 4.3 | 0.7 |
| Residential, High Density or Multiple Dwelling | 3.9 | 0.6 |
| Streams and Canals | 3.6 | 0.6 |
| Railroads | 3.3 | 0.5 |
| Plantation | 3.2 | 0.5 |
| Mixed Forest (>50% Deciduous with 10-50% Crown Closure) | 3.1 | 0.5 |
| Mixed Forest (>50% Coniferous with 10-50% Crown Closure) | 3.0 | 0.5 |
| Undifferentiated Barren Lands | 3.0 | 0.5 |
| Major Roadway | 2.7 | 0.4 |

| Land Cover Class | Acres | Percent Cover (%) |
|---|--------------|--------------------------|
| Coniferous Forest (10-50% Crown Closure) | 1.8 | 0.3 |
| Disturbed Wetlands (Modified) | 1.6 | 0.3 |
| Wetland Rights-of-Way | 1.5 | 0.2 |
| Deciduous Brush/Shrubland | 1.0 | 0.2 |
| Coniferous Wooded Wetlands | 0.9 | 0.1 |
| Deciduous Scrub/Shrub Wetlands | 0.8 | 0.1 |
| Artificial Lakes | 0.7 | 0.1 |
| Stormwater Basin | 0.7 | 0.1 |
| Athletic Fields (Schools) | 0.6 | 0.1 |
| Cemetery | 0.5 | 0.1 |
| Former Agricultural Wetland | 0.5 | 0.1 |
| Vegetated Dune Communities | 0.5 | 0.1 |
| Mixed Scrub/Shrub Wetlands (Deciduous Dom.) | 0.4 | 0.1 |
| Transitional Areas | 0.4 | 0.1 |
| Old Field (<25% Brush Covered) | 0.2 | 0.02 |
| Confined Feeding Operations | 0.1 | 0.02 |
| Natural Lakes | 0.1 | 0.2 |
| Herbaceous Wetlands | 0.1 | 0.01 |
| Bridge Over Water | 0.03 | >0.01 |
| Cemetery on Wetland | >0.01 | >0.01 |
| Coniferous Scrub/Shrub Wetlands | >0.01 | >0.01 |
| Total | 627.9 | 100 |

Source: Land Use/Land Cover of New Jersey 2015 (NJDEP, 2015).

3.0 FIELD INVESTIGATIONS

An initial desktop analysis using the data sources described in Section 2.0 was conducted by EDR prior to performing on-site wetland delineations to identify areas likely to contain wetland and stream resources within the Larrabee Study Area. This desktop analysis guided the field wetland delineation conducted between June 24 and June 26, 2020; December 7, 8, and 10, 2020; September 14 and 15, 2021; June 12 through the 14, 2022; and February 15, 16 and 21, 2023. This section describes the methodology used to identify the location of wetland areas and determine the upland/wetland boundary in the field.

3.1 Methodology

The identification of wetland boundaries was based on the methodology described in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Interagency Manual) (Federal Interagency Committee for Wetland Delineation, 1989).

Wetland boundaries were defined in the field and mapped using a GPS unit with reported sub-meter accuracy. Data were collected from sample plots in representative wetland cover types and recorded on Routine Onsite Wetland Determination forms (Appendix B). The data collected at each delineated wetland included dominant vegetation, hydrology indicators, and soil characteristics.

According to the 1989 Interagency Manual an area has wetland hydrology when saturated to the surface or inundated at some point in time during an average rainfall year, defined by the following criteria:

1. Saturation to the surface normally occurs when soils in the following natural drainage classes meet the following conditions:
 - a. In somewhat poorly drained mineral soils, the water table is less than 0.5 feet from the surface for usually one week or more during the growing season.
 - b. In low permeability (greater than 0.6 inch/hour), poorly drained or very poorly drained mineral soils, the water table is less than 1.5 feet from the surface for usually one week or more during the growing season.
 - c. In more permeable, poorly drained or very poorly drained mineral soils, the water table is less than 1.0 foot from the surface for usually one week or more during the growing season.
 - d. In poorly drained or very poorly drained organic soils, the water table is usually at a depth where saturation to the surface occurs more than rarely.
2. An area is inundated at some time if ponded or frequently flooded with surface water for one week or more during the growing season.

The manual lists field indicators of wetland hydrology including, but not limited to, visual observation of inundation, visual observation of soil saturation, oxidized channels (rhizospheres) associated with living roots and rhizomes, water marks, drift lines, water-borne sediment deposits, water-stained leaves, surface scoured areas, wetland drainage patterns, morphological plant adaptations, and hydric soil characteristics.

The 1989 Interagency Manual defines hydrophytic vegetation as macrophytic plant life growing in water, soil or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content. According to the manual an area has hydrophytic vegetation when, under normal circumstances, more than 50% of the composition of the dominant species from all strata are assigned wetland indicators of obligate, facultative wetland, and/or facultative; or a frequency analysis of all species within the community yields a prevalence index value of less than 3.0 when hydric soils and wetland hydrology are also present. Assessment of vegetation focused on the identification of plant species in four strata: trees (greater than 3 inches diameter at breast height [dbh]), saplings/shrubs (less than 3.0 inches dbh and greater than 3.2 feet tall), herbs (less than 3.2 feet tall), and woody vines. Dominance was determined by visually estimating those species having the greatest absolute percent cover within each stratum. Wetland indicator status for dominant plant species was determined by reference to the National Wetland Plant List (Lichvar et al., 2016). In addition, the 1989 Interagency Manual considers plants that have developed structural or morphological adaptations to inundation as indicators of hydric vegetation.

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (Federal Interagency Committee for Wetland Delineation, 1989). Hydric soil criteria are as follows:

1. All Histosols except Folists
2. Soils in aquatic suborders, aquatic sub-groups, Albolls suborder, Salorthids great group, or Pell great groups of Vertisols that are:
 - a. somewhat poorly drained and have water table less than 0.5 feet from the surface for a significant period (usually a week or more) during the growing season, or
 - b. poorly drained or very poorly drained and have either:
 - i. water table at less than 1.0 foot from the surface for a significant period during the growing season if permeability is equal to or greater than 6.0 inches/hour in all layers within 20 inches
 - ii. water table at less than 1.5 feet from the surface for a significant period during the growing season if permeability is less than 6.0 inches/hour in any layer within 20 inches
3. Soils that are ponded for long duration (seven days to one month) or very long duration (a single event that is greater than one month) during the growing season
4. Soils that are frequently flooded (50% chance of flooding in a given year) for long duration or very long duration during the growing season.

Hydric soil conditions were determined in the field through observation of soils composition, color, and morphology. Soils data were collected using a Dutch auger and tiling spade to examine the soil profile. Soil colors were determined using Munsell Soil Charts (Munsell Color, 2009). Information concerning soil series, color, texture, and matrix and mottle color was recorded for each delineated wetland and used to determine whether the soils displayed hydric characteristics.

Streams were identified based on the presence of observable bed and bank, flow regime, catchment area, and presence of ordinary high-water line characteristics, including a "clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris" (CFR, 1986). Stream boundaries were defined and mapped in the field using the same method as described above for wetlands. Stream flow regime (i.e., perennial, intermittent, or ephemeral) was determined through evaluation of hydrologic, geomorphic, and biological characteristics (NC DWQ, 2010). Data regarding stream gradient (i.e., gentle, moderate, or steep), stream bank and channel width, water depth, stream bed substrate, in-stream cover, and biological indicators were collected and recorded on stream inventory forms (Appendix B).

All wetlands and streams identified within the Larrabee Study Area were classified based on the Cowardin et al. (1979) classification system.

Representative photographs were taken of wetlands and streams delineated within the Larrabee Study Area. Photographs of delineated wetland and stream communities are included in Appendix C.

4.0 RESULTS

EDR environmental scientists identified 27 wetlands and 19 streams within the Larrabee Study Area as shown in the Wetland and Stream Delineation Plan in Appendix D. The data collected at each delineated wetland and stream, including presumed jurisdiction and NJDEP resource value classification are summarized in Table 3 and a detailed description of each resource is provided in Section 4.1. In accordance with the Cowardin et al. (1979) classification system, the waters delineated within the Study Area consist of the following community types: open water wetland (POW), palustrine emergent wetland (PEM), palustrine forested wetland (PFO), and palustrine scrub-shrub wetland (PSS).

Table 3. Delineated Wetlands and Streams

| Delineation ID ¹ | Latitude of Centroid | Longitude of Centroid | Wetland Acreage Within Study Area by Type ² | | | | | Stream Type ³ | Linear Feet of Stream Within Study Area | Resource Value Classification | Anticipated Federal Jurisdiction ⁴ | Anticipated State Jurisdiction ⁵ |
|-----------------------------|----------------------|-----------------------|--|-----|------|------|-------|--------------------------|---|-------------------------------|---|---|
| | | | PEM | PSS | PFO | POW | Total | | | | | |
| WL1* | 40.12029 | -74.034 | 1.15 | -- | -- | -- | 1.15 | -- | -- | Exceptional | Yes | Yes |
| WL2 | 40.146066 | -74.106972 | 0.3 | -- | -- | 0.16 | 0.46 | -- | -- | Intermediate | Yes | Yes |
| WL3 | 40.146101 | -74.107643 | -- | -- | 0.04 | -- | 0.04 | -- | -- | Intermediate | Yes | Yes |
| WL4 | 40.144086 | -74.116153 | -- | -- | 3.51 | -- | 3.51 | -- | -- | Exceptional | Yes | Yes |
| WL5 | 40.136999 | -74.137716 | -- | -- | 0.16 | -- | 0.16 | -- | -- | Intermediate | Yes | Yes |
| WL6A | 40.137924 | -74.144525 | -- | -- | 0.29 | -- | 0.29 | -- | -- | Ordinary | Yes | Yes |
| WL6B | 40.143679 | -74.162616 | -- | -- | 0.91 | -- | 0.91 | -- | -- | Exceptional | Yes | Yes |
| WL7 | 40.146319 | -74.167957 | -- | -- | 0.51 | 0.11 | 0.62 | -- | -- | Intermediate | Yes | Yes |
| WL8 | 40.143712 | -74.170264 | -- | -- | 0.22 | -- | 0.22 | -- | -- | Intermediate | Yes | Yes |
| WL9 | 40.138808 | -74.174871 | -- | -- | 1.40 | -- | 1.40 | -- | -- | Exceptional | Yes | Yes |
| WL10 | 40.133906 | -74.179492 | -- | -- | 1.25 | -- | 1.25 | -- | -- | Exceptional | Yes | Yes |
| WL11 | 40.128772 | -74.184049 | -- | -- | 0.48 | -- | 0.48 | -- | -- | Exceptional | Yes | Yes |
| WL12 | 40.124342 | -74.187698 | 0.40 | -- | -- | -- | 0.40 | -- | -- | Ordinary | Yes | Yes |
| WL13 | 40.118727 | -74.192792 | -- | -- | 0.26 | -- | 0.26 | -- | -- | Exceptional | Yes | Yes |
| W017 | 40.139095 | -74.108156 | -- | -- | 0.33 | -- | 0.33 | -- | -- | Intermediate | Yes | Yes |
| W017A | 40.138902 | -74.107758 | -- | -- | 0.42 | -- | 0.42 | -- | -- | Intermediate | Yes | Yes |
| W018 | 40.141019 | -74.079996 | -- | -- | 0.71 | -- | 0.71 | -- | -- | Ordinary | Yes | Yes |
| W019 | 40.136662 | -74.110322 | -- | -- | 2.33 | -- | 2.33 | -- | -- | Exceptional | Yes | Yes |
| 26-W008 | 40.121004 | -74.1857893 | -- | -- | 0.04 | -- | 0.04 | -- | -- | Exceptional | Yes | Yes |
| 26-W009 | 40.118593 | -74.195839 | -- | -- | 0.18 | -- | 0.18 | -- | -- | Exceptional | Yes | Yes |
| 26-W010 | 40.11546 | -74.176054 | 0.004 | -- | -- | -- | 0.004 | -- | -- | Exceptional | Yes | Yes |

| Delineation ID ¹ | Latitude of Centroid | Longitude of Centroid | Wetland Acreage Within Study Area by Type ² | | | | | Stream Type ³ | Linear Feet of Stream Within Study Area | Resource Value Classification | Anticipated Federal Jurisdiction ⁴ | Anticipated State Jurisdiction ⁵ |
|-----------------------------|----------------------|-----------------------|--|------|-------|------|-------|--------------------------|---|-------------------------------|---|---|
| | | | PEM | PSS | PFO | POW | Total | | | | | |
| 26-W011 | 40.115474 | -74.175072 | -- | -- | 0.02 | -- | 0.02 | -- | -- | Exceptional | Yes | Yes |
| 26-W012 | 40.117387 | -74.170078 | -- | -- | 0.41 | -- | 0.41 | -- | -- | Exceptional | Yes | Yes |
| 26-W014 | 40.118956 | -74.165905 | -- | 0.01 | -- | -- | 0.01 | -- | -- | Exceptional | Yes | Yes |
| 26-W015 | 40.128265 | -74.13556 | -- | -- | 0.05 | -- | 0.05 | -- | -- | Exceptional | Yes | Yes |
| 26-W016 | 40.130071 | -74.051801 | -- | -- | -- | 0.14 | 0.14 | -- | -- | Ordinary | Yes | Yes |
| 26-W019 | 40.13722 | -74.109186 | -- | 0.22 | -- | -- | 0.22 | -- | -- | Exceptional | Yes | Yes |
| Wetland Totals | | | 1.86 | 0.23 | 13.52 | 0.41 | 16.02 | | | | | |
| WC1 | 40.146344 | -74.107541 | -- | -- | -- | -- | -- | R3 | 170 | -- | Yes | Yes |
| WC2 | 40.143395 | -74.117668 | -- | -- | -- | -- | -- | R3 | 306 | -- | Yes | Yes |
| WC3 | 40.144251 | -74.163437 | -- | -- | -- | -- | -- | R4 | 138 | -- | Yes | Yes |
| WC4 | 40.14676 | -74.167875 | -- | -- | -- | -- | -- | R2 | 60 | -- | Yes | Yes |
| WC5 | 40.138386 | -74.175247 | -- | -- | -- | -- | -- | R2 | 109 | -- | Yes | Yes |
| WC6 | 40.135076 | -74.178153 | -- | -- | -- | -- | -- | R2 | 123 | -- | Yes | Yes |
| WC7 | 40.128147 | -74.184362 | -- | -- | -- | -- | -- | R2 | 318 | -- | Yes | Yes |
| WC8 | 40.124887 | -74.187199 | -- | -- | -- | -- | -- | R4 | 144 | -- | Yes | Yes |

| Delineation ID ¹ | Latitude of Centroid | Longitude of Centroid | Wetland Acreage Within Study Area by Type ² | | | | | Stream Type ³ | Linear Feet of Stream Within Study Area | Resource Value Classification | Anticipated Federal Jurisdiction ⁴ | Anticipated State Jurisdiction ⁵ |
|-----------------------------|----------------------|-----------------------|--|-----|-----|-----|-------|--------------------------|---|-------------------------------|---|---|
| | | | PEM | PSS | PFO | POW | Total | | | | | |
| WC9 | 40.123935 | -74.18829 | -- | -- | -- | -- | -- | R2 | 142 | -- | Yes | Yes |
| WC10 | 40.118672 | -74.192965 | -- | -- | -- | -- | -- | R2 | 118 | -- | Yes | Yes |
| S009B | 40.136724 | -74.110136 | -- | -- | -- | -- | -- | R3 | 451 | -- | Yes | Yes |
| ST04 | 40.142784 | -74.119388 | -- | -- | -- | -- | -- | R3 | 920 | -- | Yes | Yes |
| ST005 | 40.118579 | -74.195617 | -- | -- | -- | -- | -- | R3 | 120 | -- | Yes | Yes |
| ST006 | 40.11562 | -74.175356 | -- | -- | -- | -- | -- | R3 | 421 | -- | Yes | Yes |
| ST007 | 40.118281 | -74.168004 | -- | -- | -- | -- | -- | R3 | 201 | -- | Yes | Yes |
| ST008 | 40.128231 | -74.135348 | -- | -- | -- | -- | -- | R4 | 94 | -- | Yes | Yes |
| ST09 | 40.127458 | -74.055411 | -- | -- | -- | -- | -- | R6 | 119 | -- | Yes | Yes |
| ST013 | 40.118167 | -74.167969 | -- | -- | -- | -- | -- | R6 | 61 | -- | Yes | Yes |
| ST014 | 40.119064 | -74.165681 | -- | -- | -- | -- | -- | R3 | 48 | -- | Yes | Yes |
| Total Linear Feet | | | | | | | | | 4,063 | | | |

¹ Field ID assigned by EDR.

² Wetland community types are based upon the Cowardin et al. (1979) classification system: open water wetland (POW), palustrine emergent wetland (PEM), palustrine forested wetland (PFO), and palustrine scrub-shrub wetland (PSS).

³ Stream type is based upon the Cowardin et al. (1979) classification system: lower perennial (R2), upper perennial stream (R3), intermittent (R4), and ephemeral (R6).

⁴ Based on visual observation of hydrologic connectivity in the field and review of available spatial data. Final jurisdictional determination to be made by the USACE.

⁵ Based on existing NJDEP mapping of freshwater wetlands and streams. See Sections 2.2 and 3.3 for additional information.

* Indicates approximated wetland feature, wetland acreage is not exact.

None of these wetlands and streams are tidal or within 1,000 feet of the head of tide; therefore, USACE jurisdiction may not apply as it relates to Section 404 of the Clean Water Act because NJDEP has assumed jurisdiction under the state's Freshwater Wetlands Protection Act. As such, all delineated wetlands and streams included in Table 3 are expected to be potentially under the jurisdiction of the NJDEP. Descriptions of the delineated wetlands within the Study Area are provided below in Sections 4.1.1 and Section 4.1.2 provides descriptions of the delineated streams within the Study Area.

4.1.1 Wetlands

EDR identified 27 wetlands totaling approximately 16 acres within the Study Area. The area of each community type is summarized in Table 3, and a detailed description is provided in this subsection which includes information to support resource classifications of ordinary or exceptional. Wetlands that do not satisfy the definition of ordinary or exceptional are assumed to be intermediate resource value. One wetland, Wetland 1, was approximated due restricted access within a secured location in the National Guard training facility. The approximated value (wetland acreage) is therefore not exact as denoted in Table 3.

Wetland 1 (WL1) (PEM)

Wetland 1 (WL1) is a PEM wetland that is dominated by common reed (*Phragmites australis*, FACW). Soils were not viewed due to restricted access within a secure location in the National Guard training facility. Wetland hydrology indicators observed were inundation visible on aerial imagery, among others. This wetland is assumed to be classified as exceptional due to its proximity and connection to the dune system on the beach, with multiple documented federal- and state-threatened and endangered species—the northern harrier (*Circus hudsonius*), breeding sighting; black-crowned night-heron (*Nycticorax nycticorax*), foraging; tricolored heron (*Egretta tricolor*), foraging; yellow-crowned night-heron (*Nyctanassa violacea*), foraging; and bald eagle (*Haliaeetus leucocephalus*), foraging.

Wetland 2 (WL2) (POW/PEM)

Wetland 2 (WL2) is a POW wetland with a small section of a PEM wetland that feeds a stream flowing along a paved pedestrian bike path. Dominant vegetation consists of jewelweed (*Impatiens capensis*, FACW), lurid sedge (*Carex lurida*, OBL), and fox sedge (*Carex vulpinoidea*, FACW), meeting the criteria for hydrophytic vegetation. Soils were a heavily saturated, loose muck composed of mainly organic material. Soils were unable to be obtained to determine matrix and chroma due to depth of water and general makeup of the soil matrix. Soils were considered hydric due to the thick layer of muck observed meeting the criteria of a histosol. Wetland hydrology indicators observed were inundation of ground surface and soil saturation. This wetland is assumed to be classified as intermediate because it does not satisfy the definition of an ordinary or exceptional resource wetland. Although black-crowned night-heron foraging mapped habitat is documented in the vicinity, this wetland feature's location is not conducive or characteristic of foraging habitat for this species.

Wetland 3 (WL3) (PFO)

Wetland 3 (WL3) is a PFO wetland, dominated by red maple (*Acer rubrum*, FAC) in the canopy, pepperbush (*Clethra alnifolia*, FACW) in the shrub layer and skunk cabbage (*Symplocarpus foetidus*, OBL) and cinnamon fern (*Osumunda cinnamomea*, FACW) in the herbaceous layer indicating a hydrophytic vegetation community. Soils were considered hydric and consisted of a thick layer of muck (10 YR 2/1) and met the criteria for a histosol. Wetland hydrology indicators observed included an inundated ground surface and soil saturation. This wetland is assumed to be classified as intermediate because it does not satisfy the definition of an ordinary or exceptional resource wetland. Although the black-crowned night-heron foraging habitat is documented in the vicinity, this wetland feature's location is not conducive or characteristic of foraging habitat for this species.

Wetland 4 (WL4) (PFO)

Wetland 4 (WL4) is a PFO wetland, dominated by sweetgum (*Liquidambar styraciflua*, FAC) and river birch (*Betula nigra*, FACW) in the canopy, and jewelweed (*Impatiens Capensis*, FACW) in the herbaceous layer indicating a hydrophytic vegetation community. Soils were considered hydric and consisted of a thick layer of muck (10 YR 2/1) and met the criteria for a histosol. Wetland hydrology indicators observed included an inundated ground surface and soil saturation. This wetland is assumed to be classified as exceptional due to its proximity to the Manasquan River and documented foraging habitat for the black-crowned night-heron and bald eagle, and mapped habitat for the bog turtle and wood turtle.

Wetland 5 (WL5) (PFO)

Wetland 5 (WL5) is a PFO wetland, dominated by swamp white oak (*Quercus bicolor*, FAC) and red maple in the canopy, and highbush blueberry (*Vaccinium corymbosum*, FACW) in the herbaceous layer indicating a hydrophytic vegetation community. Soils were considered hydric and consisted of a thick layer of depleted sand with mottles (10YR 4/2, 80%, 7.5YR 5/6, 20%) and met the criteria for a depleted matrix. Wetland hydrology indicators observed included oxidized rhizospheres on living root channels. This wetland is assumed to be classified as intermediate because it does not satisfy the definition of an ordinary or exceptional resource wetland.

Wetland 6 (WL6) (PEM)

Wetland 6 (WL6) is a PEM floodplain wetland that is dominated by Japanese stiltgrass (*Microstegium viminium*, FAC) and jewelweed. Sandy soils displayed a low chroma matrix (10YR 4/2) with 20% mottles (7.5YR 5/6) indicating that the observed soils are hydric. Wetland hydrology indicators observed were surface water, saturated soils, and geomorphic position. This wetland is assumed to be classified as exceptional due to the documented Pine Barrens treefrog vernal pool breeding habitat and the wetland's association with Squankum Brook Tributary.

Wetland 7 (WL7) (PFO)

Wetland 7 (WL7) is a PFO wetland associated with Squankum Brook located along County Road 547 and is dominated by sweetgum, red maple, and sweet pepperbush and meets the criteria for hydrophytic vegetation. Soils were an organic sand mixture that transitions to sand with a low chroma matrix (10 YR 2/1) and mottles (2.5Y 5/4); meeting the hydric soils criteria. Wetland hydrology indicators observed were ground surface inundation, soil saturation, and high-water table. This wetland is assumed to be classified as intermediate due to its large extent and lack of documented threatened or endangered species habitat.

Wetland 8 (WL8) (PFO)

Wetland 8 (WL8) is a PFO depressional wetland along County Route 547 that is dominated by sweetgum in the tree stratum and waterhorehound (*Lycopus sherardii*, OBL), common reed, and marsh fern in the herbaceous stratum, and meets the criteria for hydrophytic vegetation. Soils were an organic muck with a low chroma gleyed matrix (N 2.5) meeting the hydric soils criteria. Wetland hydrology indicators observed were drainage patterns, dry-season water table, geomorphic position, and FAC-neutral test. Similar to Wetland 19 (W019), this wetland is assumed to be classified as intermediate resource because it does not satisfy the definition of an ordinary or exceptional resource wetland.

Wetland 9 (WL9) (PFO)

Wetland 9 (WL9) is a PFO wetland associated with and unnamed tributary of Muddy Fork Brook that is dominated by sweetgum, red maple, and pepperbush and meets the criteria for hydrophytic vegetation. Soils were an organic sand mix that transitions to sand with a low chroma matrix (2.5Y 2.5/1); meeting the hydric soils criteria. Wetland hydrology indicators observed were ground surface inundation, soil saturation, and high-water table. This wetland is assumed to be classified as exceptional due to the documented observations of the Pine Barrens tree frog and black-crowned night-heron.

Wetland 10 (WL10) (PFO)

Wetland 10 (WL10) is a PFO wetland associated with an unnamed tributary of Muddy Fork Run that is dominated by sweetgum and black gum in the tree stratum; highbush blueberry in the shrub layer, and common greenbrier in the herbaceous layer, and meets the criteria for hydrophytic vegetation. Soils were an organic sand mix that transition to sand with a low chroma matrix (2.5Y 2.5/1); meeting the hydric soils criteria. Wetland hydrology indicators observed were water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. This wetland is assumed to be classified as exceptional due to the documented observations of Pine Barrens tree frog.

Wetland 11 (WL11) (PFO)

Wetland 11 (WL11) is a PFO wetland associated with Tarkiln Brook, located along County Road 547, and is dominated by red maple in the tree stratum, willow, sweetgum, and umbrella magnolia in the shrub layer, and sensitive fern (*Onoclea sensibilis*, FACW) in the herbaceous layer and meets the criteria for hydrophytic

vegetation. Soils were an organic sand mix that transitions to sand with a low chroma matrix (2.5Y 3/1 and 10YR 2/1); meeting the hydric soils criteria. Wetland hydrology indicators observed were water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. Similar to Wetland 10 (WL10), this wetland is assumed to be classified as exceptional due to the documented observations of the Pine Barrens tree frog.

Wetland 12 (WL12) (PEM)

Wetland 12 (WL12) is a large PEM wetland associated with Haystack Brook along Route 547 that is bisected by a Jersey Central Power & Light Company access road through the powerline ROW to the south of the Larrabee Study Area. The east side of the wetland is dominated by red maple and pepperbush in the tree and shrub stratum. Dominant vegetation in the herbaceous stratum includes narrowleaf cattail (*Typha angustifolia*, OBL), an unidentified sedge species, arrow arum (*Peltandra virginica*, OBL), and intermediate fern (*Dryopteris intermedia*, FACU). Soils were a thick layer of muck qualifying as a histosol with a hydrogen sulfide odor. Wetland hydrology indicators observed include ground surface inundation, saturated soil, and a high-water table. The west side of the wetland is dominated by pepperbush and common reed. This wetland is assumed to be classified as an ordinary.

Wetland 13 (WL13) (PFO)

Wetland 13 (WL13) is a PFO wetland associated with Dicks Brook that is dominated by red maple, swamp white oak, and black gum in the tree stratum, and pepperbush in the shrub stratum and meets the criteria for hydrophytic vegetation. Soils were an organic sand mix that transitions to sand with a low chroma matrix (2.5Y 3/2, 10YR 2/2, and 10YR 3/1); meeting the hydric soils criteria. Wetland hydrology indicators observed were geomorphic position and FAC-neutral test. Similar to Wetland 10 (WL10), this wetland is assumed to be classified as exceptional value due to the documented observations of the Pine Barrens tree frog.

Wetland 17/17A (W017/W017A) (PFO)

Wetland 17 (W017) is a PFO wetland bisected by Allenwood Lakewood Road. The wetland is dominated by green ash and sweet gum in the tree stratum and sweet pepperbush and highbush blueberry in the shrub stratum and met criteria for hydrophytic vegetation. Soils had a low chroma matrix (10YR 2/1 and 10YR 5/3) that met criteria for a histosol, meeting hydric soils criteria. Wetland hydrology indicators observed were drainage patterns and geomorphic position. This wetland is assumed to be classified as intermediate resource value since it did not meet the criteria to be classified as an ordinary or exception resource value.

Wetland 18 (W018) (PFO)

Wetland 18 (W018) is a PFO wetland associated with Hannabrand Brook Tributary outside of the Study Area and runs along the north side of Tiltens Corner Road. The wetland is dominated by green ash and sweet gum in the tree stratum, and sweet pepperbush and highbush blueberry in the shrub stratum. The herbaceous stratum was dominated by skunk cabbage (*Symplocarpus foetidus*) and soft rush (*Juncus effusus*) meeting criteria for hydrophytic vegetation. Soils had a low chroma matrix (10YR 2/2, 10YR 3/1, 10YR 3/2,

10YR 3/4 and 10YR 4/2) with mottles present (10YR 5/6 and 7.5YR 4/6) qualifying for a Redox Dark Surface, and meeting criteria for hydric soils. Wetland hydrology indicators observed were standing water, soil saturation, high-water table, water-stained leaves, drainage patterns and geomorphic position. This wetland is assumed to be classified as an ordinary due to direct impacts of human activity and development surrounding the immediate area.

Wetland 19 (W019) (PFO)

Wetland 19 (W019) is a PFO wetland associated with the Manasquan River. The wetland is dominated by sweet gum in the tree stratum and grey dogwood in the shrub stratum. The herbaceous stratum is dominated by soft rush, flat-top goldentop (*Euthamia graminifolia*) and wrinkle-leaf goldenrod (*Solidago rugosa*) meeting criteria for hydrophytic vegetation. Soils had a low chroma matrix (10YR 2/1 and 10YR 4/2) with mottles (7.5YR 4/6) present qualifying for a depleted matrix, and meeting criteria for hydric soils. Wetland hydrology indicators observed were drainage patterns and geomorphic position. This wetland is assumed to be classified as exceptional due to the non-disturbed location, connectivity with the Manasquan River and documented threatened and endangered species.

Wetland 26-W008 (PFO)

Wetland 26-W008 is a PEM wetland situated west of Lanes Pond Road north of Dicks Brook. Dominant vegetation consisted of red maple (*Acer rubrum*, FAC). Soils observed on site met the criteria for thick dark surface with a soil profile 0 to 18 inches of 10YR 2/1 fine sandy loam. Hydrology indicators observed during the site investigation included a sparsely vegetated concave surface and water-stained leaves. This wetland is assumed to be classified as exceptional due to documented threatened species and/or their habitat.

Wetland 26-W009 (PFO)

Wetland 26-W009 is a PFO wetland situated west of Lanes Pond Road along Dicks Brook. Dominant vegetation consisted of swamp white oak (*Quercus bicolor*, FACW), red maple (*Acer rubrum*, FAC), and coastal sweet pepperbush (*Clethra alnifolia*, FAC). Soils observed on site met the criteria for a histosol with a soil profile of 0 to 24 inches of 10YR 2/1 muck. Hydrology indicators observed during the site investigation included a high-water table, saturation, and water-stained leaves. This wetland is assumed to be classified as exceptional due to the non-disturbed location documented threatened species and/or their habitat.

Wetland 26-W010 (PEM)

Wetland 26-W010 is a PEM wetland situated north of Lakewood-Allenwood Road adjacent to Haystack Brook. Dominant vegetation consisted of coastal sweet pepperbush (*Clethra alnifolia*, FAC) and soft rush (*Juncus effusus*, OBL). Soils observed on site met the criteria for a depleted matrix with a soil profile of 0 to 6 inches 10YR 2/1 loam and 6 to 18 inches 10YR 4/1 sandy loam. Hydrology indicators observed during the site investigation included a high-water table, saturation, and water-stained leaves. This wetland is assumed to be classified as exceptional due to documented threatened species and/or their habitat.

Wetland 26-W011 (PFO)

Wetland 26-W011 is a PFO wetland situated south of Lakewood-Allenwood Road adjacent to Haystack Brook. Dominant vegetation consisted of swamp white oak (*Quercus bicolor*, FACW), red maple (*Acer rubrum*, FAC), and coastal sweet pepperbush (*Clethra alnifolia*, FAC). Soils observed on site met the criteria for a depleted matrix with a soil profile of 0 to 2 inches 10YR 2/1 sandy loam, 2 to 6 inches 10YR 4/1 sandy loam, 6 to 12 inches 10YR 3/1 sandy loam and 12 to 18 inches 10YR 6/3 sandy loam. Hydrology indicators observed during the site investigation included geomorphic position and microtopographic relief. This wetland is assumed to be classified as exceptional due to documented threatened species and/or their habitat.

Wetland 26-W012 (PFO)

Wetland 26-W012 is a PFO wetland is situated on both sides of Lakewood-Allenwood Road adjacent to Haystack Brook and Muddy Ford Brook. Dominant vegetation consisted of red maple (*Acer rubrum*, FAC), coastal sweet pepperbush (*Clethra alnifolia*, FAC), soft rush (*Juncus effusus*, OBL), and skunk cabbage (*Symplocarpus foetidus*, OBL). Soils observed on site met the criteria for a depleted matrix with a soil profile of 0 to 1 inch 10YR 2/1 loam, 1 to 10 inches 10YR 5/1 loam, and 10 to 18 inches 10YR 2/1 loam. Hydrology indicators observed during the site investigation included a high-water table, saturation, and water-stained leaves. This wetland is assumed to be classified as exceptional due to documented threatened species and/or their habitat.

Wetland 26-W014 (PSS)

Wetland 26-W014 is a PSS wetland situated south of Lakewood-Allenwood Road adjacent to Sandy Hill Brook. Dominant vegetation consisted of swamp white oak (*Quercus bicolor*, FACW), red maple (*Acer rubrum*, FAC), and coastal sweet pepperbush (*Clethra alnifolia*, FAC). Soils observed on site met the criteria for a histosol with a soil profile of 0 to 12 inches 10YR 2/1 muck. Surface water and a high-water table prevented soil from being obtained below 12 inches. Hydrology indicators observed during the site investigation included surface water, a high-water table, saturation, iron deposits, water-stained leaves, and hydrogen sulfide odor. This wetland is assumed to be classified as exceptional due to documented threatened species and/or their habitat.

Wetland 26-W015 (PFO)

Wetland 26-W015 is a PFO wetland situated on both sides of Lakewood-Allenwood Road adjacent to Sawmill Creek. Dominant vegetation consisted of red maple (*Acer rubrum*, FAC), coastal sweet pepperbush (*Clethra alnifolia*, FAC), and skunk cabbage (*Symplocarpus foetidus*, OBL). Soils observed on site met the criteria for a depleted matrix with a soil profile of 0 to 3 inches 10YR 2/1 loam and 3 to 20 inches 10YR 4/2 fine sand. Hydrology indicators observed during the site investigation included geomorphic position and meeting conditions of a FAC-neutral test. This wetland is assumed to be classified as exceptional due to documented threatened species and/or their habitat.

Wetland 26-W016 (POW)

Wetland 26-W016 is a POW wetland associated with Mac's Pond and Judas Creek along North Main Street. No vegetation was observed. Soils were not obtained due to the depth of the pond and nearby buried gas mains and fiber optic cables. Hydrologic indicators observed during the site investigation included surface water. This wetland is assumed to be classified as ordinary as it is a man-made pond within a public park.

Wetland 26-W019 (PSS)

Wetland 26-W019 is a PSS wetland situated north of Lakewood-Allenwood Road along the Manasquan River. Dominant vegetation consisted of green ash (*Fraxinus pennsylvanica*, FACW) and soft rush (*Juncus effusus*, OBL). Soils observed on site met the criteria of a histosol with a soil profile of 0 to 18 inches of 10YR 2/1 muck. Hydrologic indicators observed during the site investigation included surface water, a high-water table, and saturation. This wetland is assumed to be classified as exceptional due to documented threatened species and/or their habitat.

4.1.2 Surface Waters

EDR field delineated 19 surface waters that include rivers, brooks, streams, and other surface drainage features within the Larrabee Study Area. Descriptions of each watercourse are presented in this subsection.

Watercourse 1 (WC1) – Upper Perennial (R3)

The watercourse, an unnamed tributary to the Manasquan River, drains a large wetland pond and flows along a pedestrian bike path. It has a gentle slope, an approximate bank width of 4 feet and a stream width of 3 feet. At the time of field studies, the watercourse had an approximate water depth of 6 inches, and was characterized by a gentle gradient, overhanging vegetation, course woody debris and channelization. Substrate consisted of silt/clay and sand.

Watercourse 2 (WC2) – Lower Perennial (R2)

The watercourse, the Manasquan River, flows underneath Hospital Road and has a hydrologic connection to floodplain wetlands (Wetland 4 [WL4]). It has a gentle slope, an approximate bank width of 70 feet and a stream width of 40 feet. At the time of field studies, the watercourse had an approximate water depth of greater than 24 inches, and was characterized by a gentle gradient, overhanging vegetation, and course woody debris. Substrate consisted of silt/clay and sand.

Watercourse 3 (WC3) – Intermittent (R4)

The watercourse, a tributary to Squankum Brook, flows underneath Easy Street and has a hydrologic connection to floodplain wetlands (Wetland 6B [WL6B]). It has a gentle slope, an approximate bank width of 25 feet and a stream width of 20 feet. At the time of field studies, the watercourse had an approximate water depth of 12 inches, and was characterized by a gentle gradient, undercut banks, overhanging vegetation, course woody debris, and channelization. Substrate consisted of silt/clay and sand.

Watercourse 4 (WC4) – Lower Perennial (R2)

The watercourse, known as Squankum Brook, and flows through forested Wetland 7 (WL7), and continues through a series of culverts to the southeastern side of County Route 547. It has a gentle slope, an approximate bank width of 15 feet and a stream width of 9 feet. At the time of field studies, the watercourse had an approximate depth of 24 inches and was characterized by undercut banks and overhanging vegetation. Substrate consisted of silt/clay and sand.

Watercourse 5 (WC5) – Lower Perennial (R2)

The watercourse is an unnamed tributary that flows through a wetland before its confluence with Mingmahone Brook. It has a gentle slope, an approximate bank width of 1 foot and stream width of 1 foot. At the time of field studies, the watercourse had an approximate depth of 0.25 inch and was characterized by overhanging vegetation and shallow banks. Substrate consisted of silt/clay and sand.

Watercourse 6 (WC6) – Lower Perennial (R2)

The watercourse, Woodcock Brook, flows through forested Wetland 10 (WL10), and flows through a culvert under County Road 547. This tributary eventually confluences with Muddy Ford Brook to the southeast outside of the Study Area. It has a gentle slope, an approximate bank width of 5 feet, and a stream width of 3 feet. At the time of field studies, the watercourse had an approximate depth of 4 inches and was characterized by undercut banks and overhanging vegetation. Substrate consisted of silt/clay and sand.

Watercourse 7 (WC7) – Lower Perennial (R2)

This watercourse, known as Tarkiln Brook, flows through forested Wetland 11 (WL11), and continues through a series of culverts to the southeast side of County Route 547. It has a gentle slope, an approximate bank width of 15 feet and a stream width of 10 feet. At the time of field studies, the watercourse had an approximate depth of 10 inches and was characterized by undercut banks and overhanging vegetation. Substrate consisted of silt/clay and sand.

Watercourse 8 (WC8) – Intermittent (R4)

This watercourse is an unnamed tributary that provides the source of hydrology for a forested wetland, Wetland 12 (WL12), and flows from Haystack Brook further northwest outside of the Study Area. It has a gentle slope, an approximate bank width of 5 feet and a stream width of 3 feet. At the time of field studies, the watercourse had an approximate depth of 3 inches and was characterized by undercut banks and overhanging vegetation. Substrate consisted of silt/clay and sand.

Watercourse 9 (WC9) – Lower Perennial (R2)

The watercourse, known as Haystack Brook, flows through a forested wetland, Wetland 12 (WL12). It has a gentle slope, an approximate bank width of 40 feet and a stream width of 20 feet. At the time of fields

studies, the watercourse had an approximate depth of over 24 inches and was characterized by undercut banks, overhanging vegetation and deep pools. Substrate consisted of silt/clay, sand, and gravel.

Watercourse 9B (S009B) – Upper Perennial (R3)

Watercourse 9B (S009B), is another segment of the Manasquan River, and flows through forested Wetland 19 (W019). It has a gentle slope, an approximate bank width of 50 feet and an approximate depth of 60 inches. At the time of field studies, the watercourse was characterized by depositional bars/benches, overhanging vegetation, deep pools and a strong floodplain. Substrate consisted of gravel, sand and silt/clay.

Watercourse 10 (WC10) – Lower Perennial (R2)

The watercourse, known as Dicks Brook, flows through forested Wetland 13 (WL13). It has a gentle slope, an approximate bank width of 40 feet and a stream width of 28 feet. At the time of field studies, the watercourse had an approximate depth of over 24 inches and was characterized by undercut banks, overhanging vegetation and deep pools. Substrate consisted of silt/clay, sand, and gravel.

Stream 04 (26-ST04) – Perennial (R3)

Stream 04 (26-ST04), a tributary to the Manasquan River, is a perennial stream that flows through wetland WL4 on its course to the Manasquan River. 26-ST002 had a depth of approximately 6 inches at Thalweg with a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 1 to 4 feet, depending on location. The substrate consisted of gravel, sand, silt, and clay.

Stream 005 (26-ST005) – Perennial (R3)

Stream 005 (26-ST005), also known as Dicks Brook, is a perennial stream that flows through wetland 26-W009. 26-ST005 has a depth of approximately 6 inches at Thalweg with a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 6 to 12 feet, depending on location. The substrate consisted of gravel, sand, silt, and clay.

Stream 006 (26-ST006) – Perennial (R3)

Stream 006 (26-ST006), also known as Haystack Brook, is a perennial stream that flows adjacent to wetlands 26-W010, 26-W011, and 26-W012. 26-ST006 has a depth of approximately 10 inches at Thalweg with a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 15 to 25 feet, depending on location. The substrate consisted of gravel, sand, silt, and clay.

Stream 007 (26-ST007) – Perennial (R3)

Stream 007 (26-ST007), also known as Muddy Ford Brook, is a perennial stream that flows through wetland 26-W012. 26-ST007 has a depth of approximately 6 inches at Thalweg with a gentle stream gradient of 0 to

5%. The bank width of the stream was approximately 4 to 12 feet, depending on location. The substrate consisted of gravel, sand, silt, and clay.

Stream 008 (26-ST008) – Intermittent (R4)

Stream 008 (26-ST008), also known as Sawmill Creek, is an intermittent stream that flows adjacent to wetland 26-W015. 26-ST008 was dry at the time of the site investigation and had a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 2 to 6 feet, depending on location. The substrate consisted of cobble, gravel, and sand.

Stream 09 (26-ST09) – Ephemeral (R6)

Stream 09 (26-ST09) is an ephemeral stream located along the Capital to the Coast Trail. 26-ST09 was dry at the time of the site investigation and had a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 2 to 10 feet, depending on location. The substrate consisted of gravel and sand.

Stream 013 (26-ST013) – Ephemeral (R6)

Stream 013 (26-ST013) is an ephemeral stream located between wetland 26-W012 and stream ST007. It may be an unnamed tributary to Muddy Ford Brook. 26-ST013 was dry at the time of the site investigation and had a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 2 to 4 feet, depending on location. The substrate consisted of sand, silt, and clay.

Stream 014 (26-ST014) – Perennial (R3)

Stream 014 (26-ST014), also known as Sandyhill Brook, is a perennial stream that flows adjacent to wetland 26-W014. 26-ST014 has a depth of approximately 6 inches at Thalweg with a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 2 to 15 feet, depending on location. The substrate consisted of bedrock, cobble, gravel, and sand.

5.0 CONCLUSIONS

EDR conducted a wetland and watercourse delineation in June and December 2020, September 2021, June 2022, and February 2023 for the Atlantic Shores proposed onshore interconnection route ROWs from the Monmouth Landfall in the Borough of Sea Girt, New Jersey to the Larrabee POI, located in Howell Township, New Jersey. A total of approximately 16 acres across 27 individual non-tidal, freshwater wetlands and 19 watercourses (totaling 4,063 linear feet) were identified and delineated within the Study Area.

All wetlands and watercourses are under the jurisdiction of the NJDEP under the New Jersey Freshwater Wetlands Protection Act. New Jersey has assumed jurisdiction of wetlands and watercourses that would typically be under the jurisdiction of the USACE greater than 1,000 feet from the head of tide. Even though New Jersey has assumed jurisdiction over all of the wetlands and watercourses within the Study Area, each wetland and watercourse has a presumed federal jurisdictional determination.

This wetland and waterway delineation and presumed jurisdictional determination should not be considered final until a Letter of Interpretation (LOI) is issued by the NJDEP concurring with the location, extent and jurisdiction of the wetlands and watercourses identified. The NJDEP will also need to confirm the resource value classification presented in Table 3.

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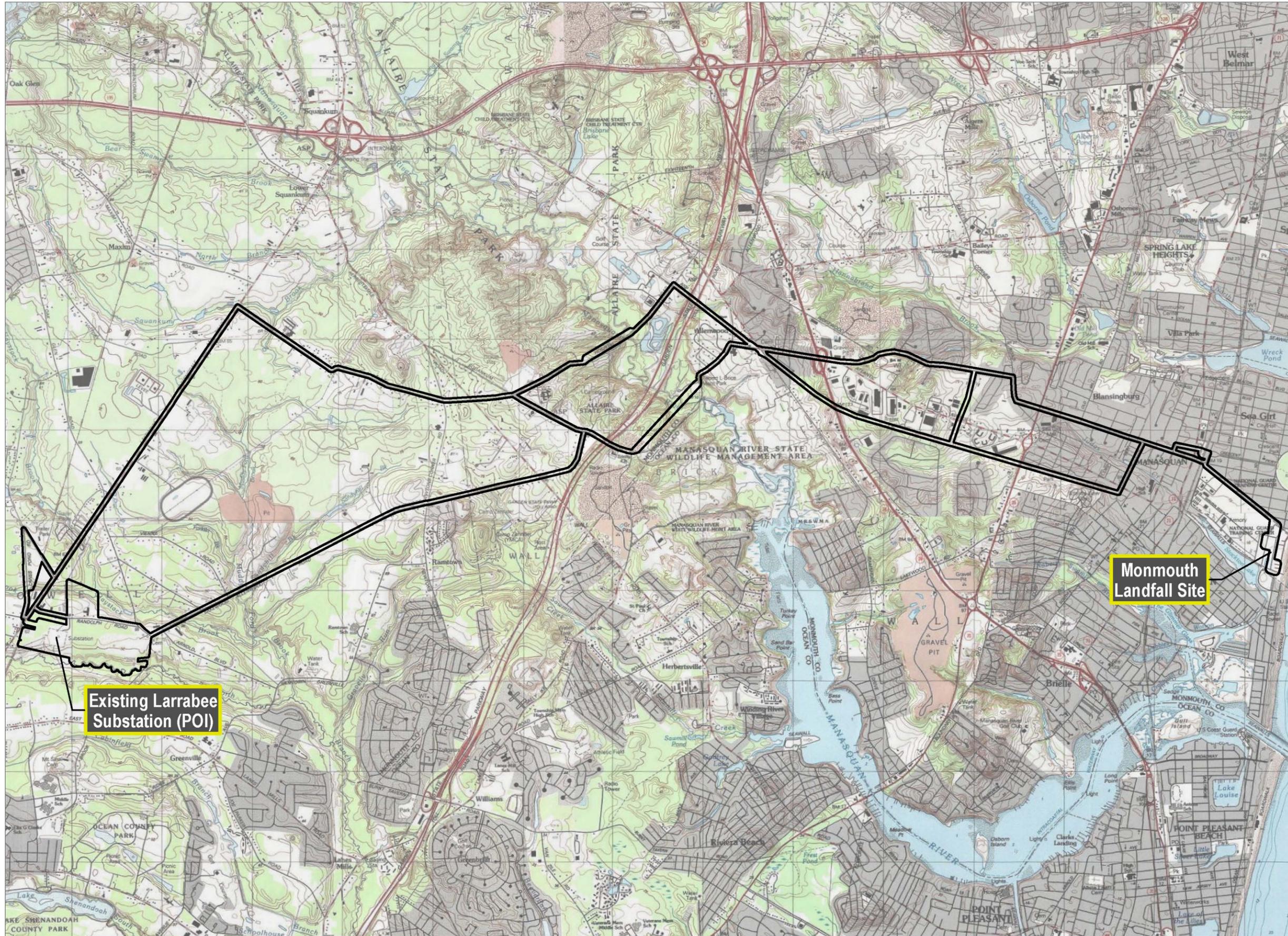
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Appendix A

Figures

Figure 1
Project Location Map

Figure 1. Project Location Map



Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of
Manasquan, Township of Wall, and
Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

Study Area



0 1,000 2,000 4,000
Feet

Prepared February 27, 2023
Basemap: ESRI ArcGIS Online "USA Topo Maps" map service.

ATLANTIC SHORES
offshore wind

EDR

Figure 2
SSURGO Soils Map

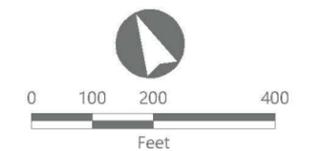


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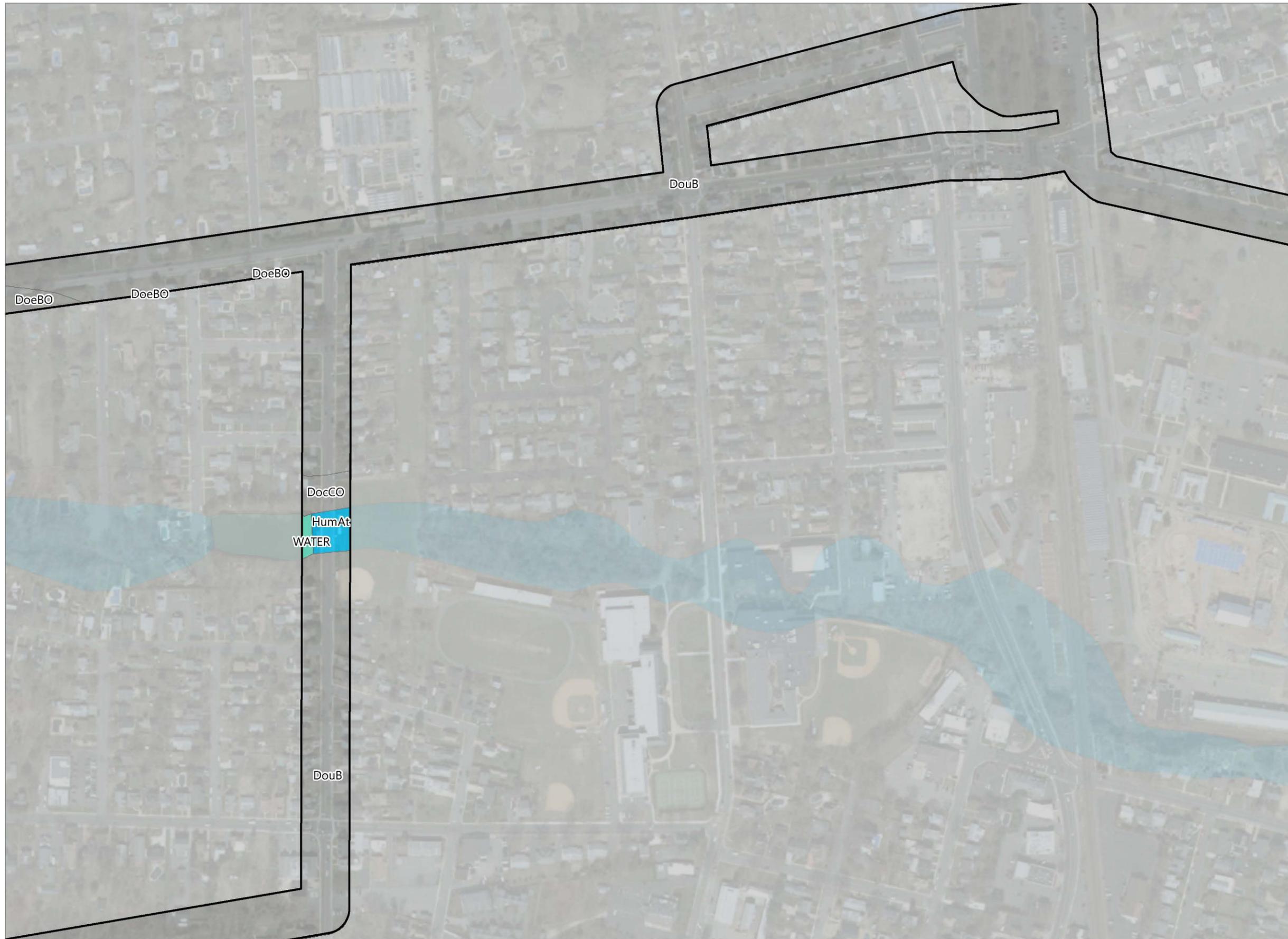
-  Project Area
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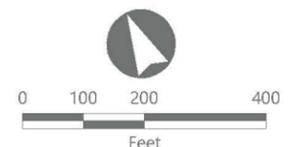
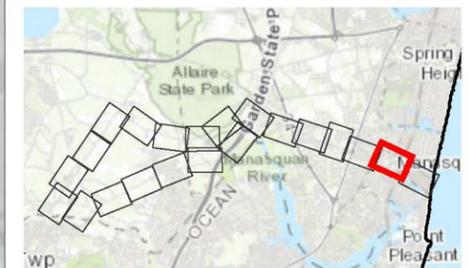


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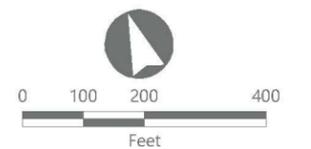
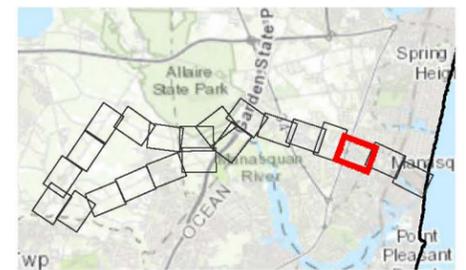


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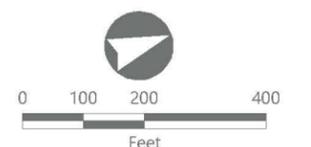


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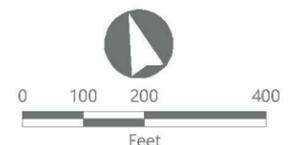


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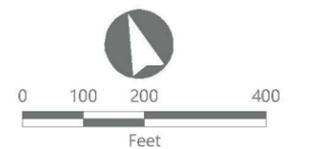
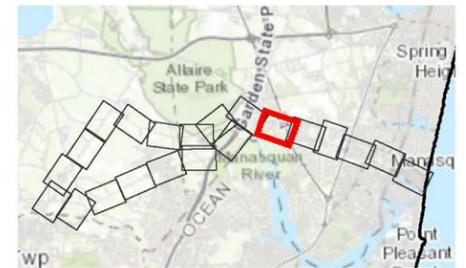


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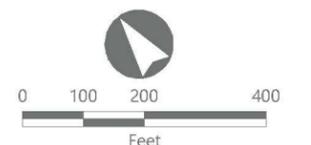
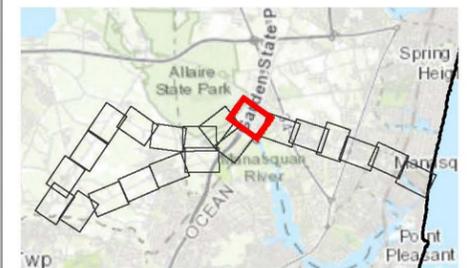
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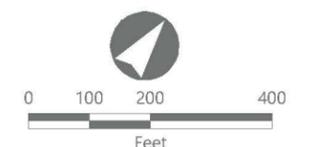
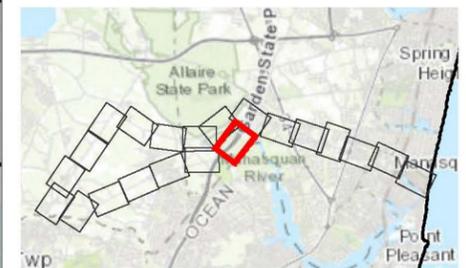
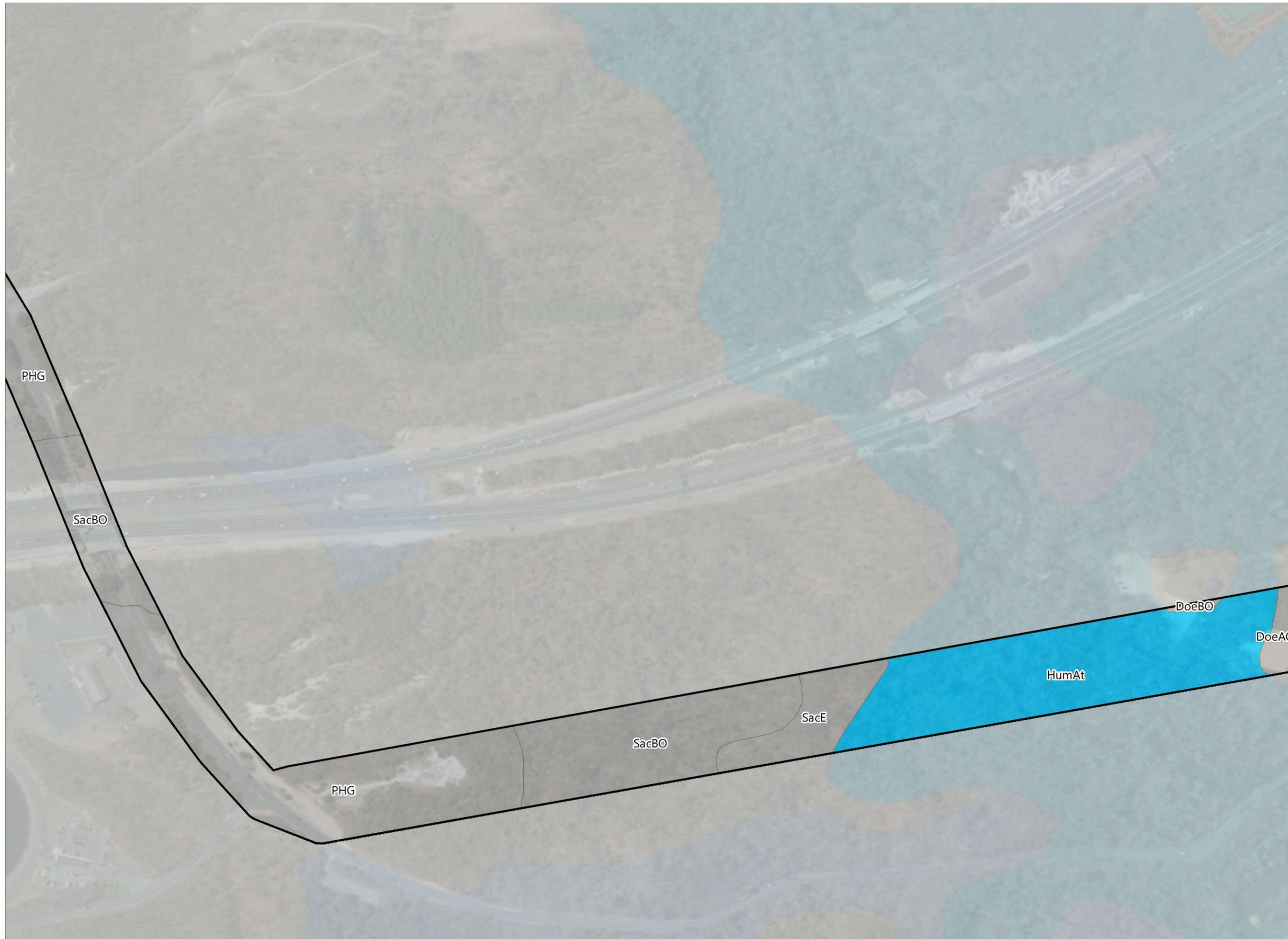


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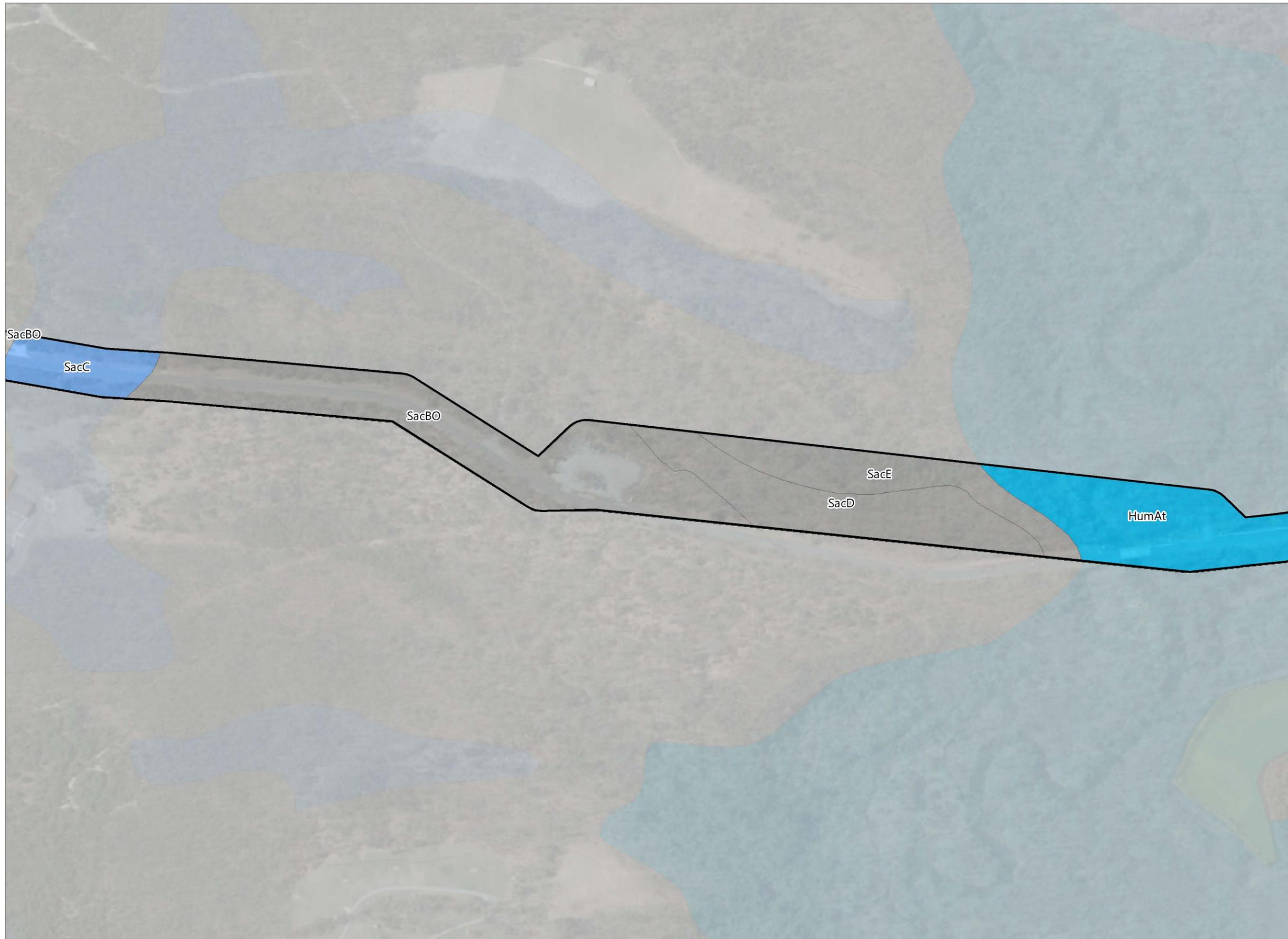
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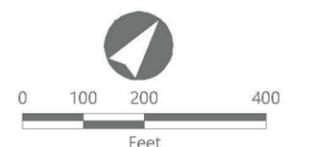


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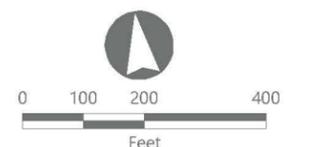


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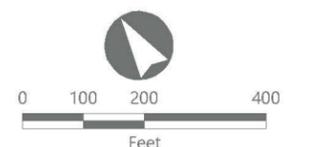
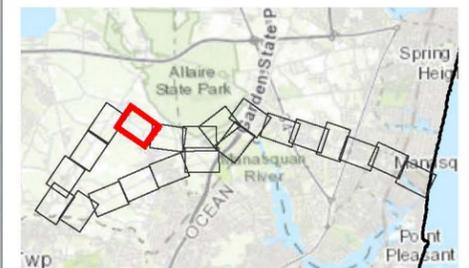


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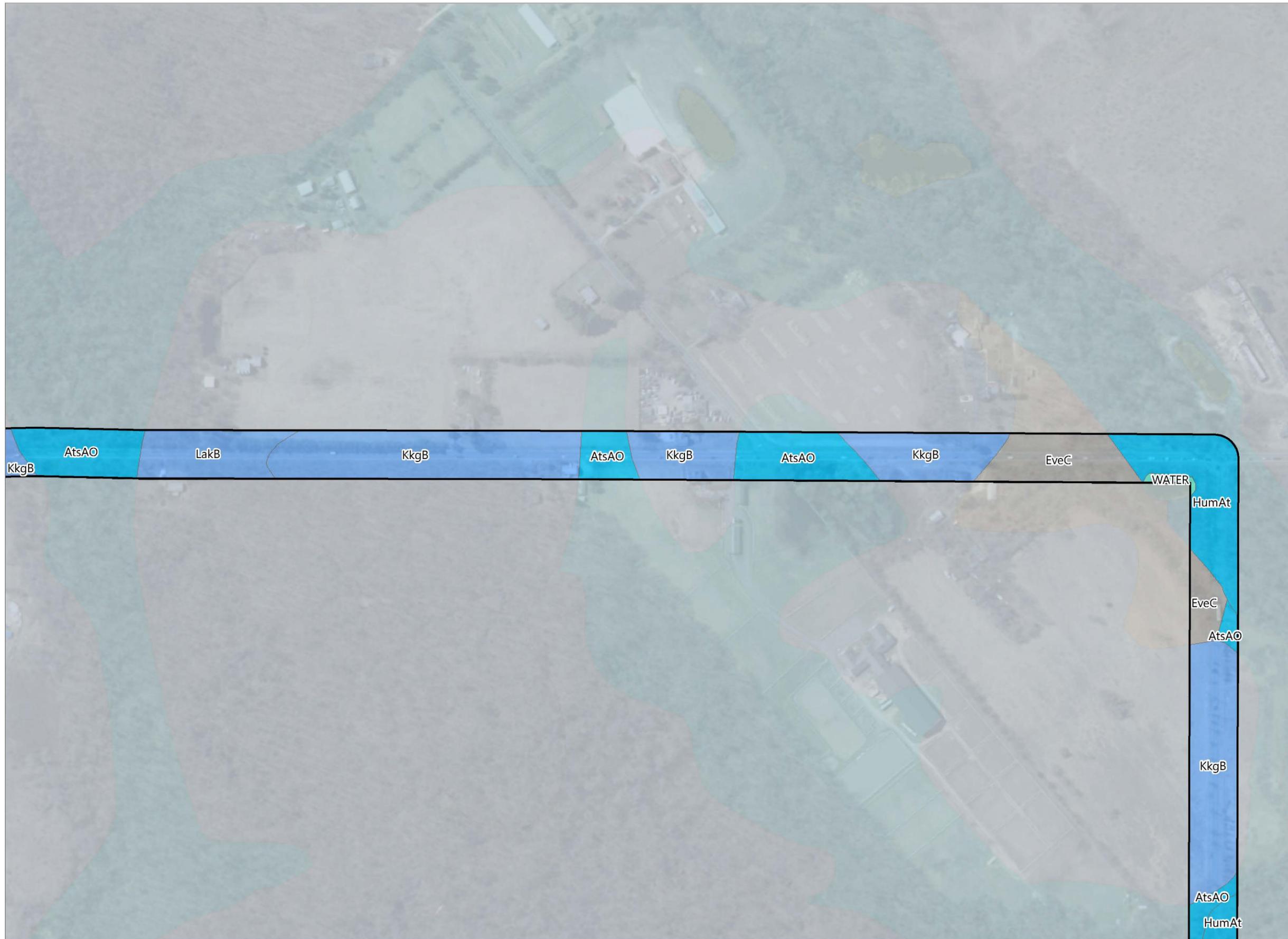
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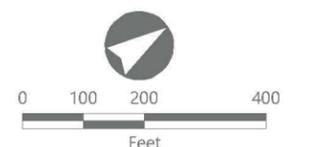
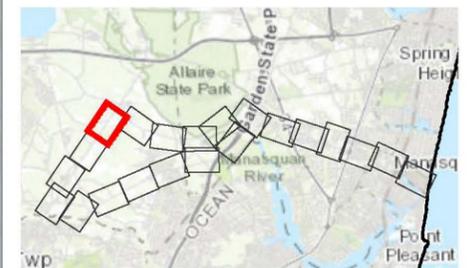
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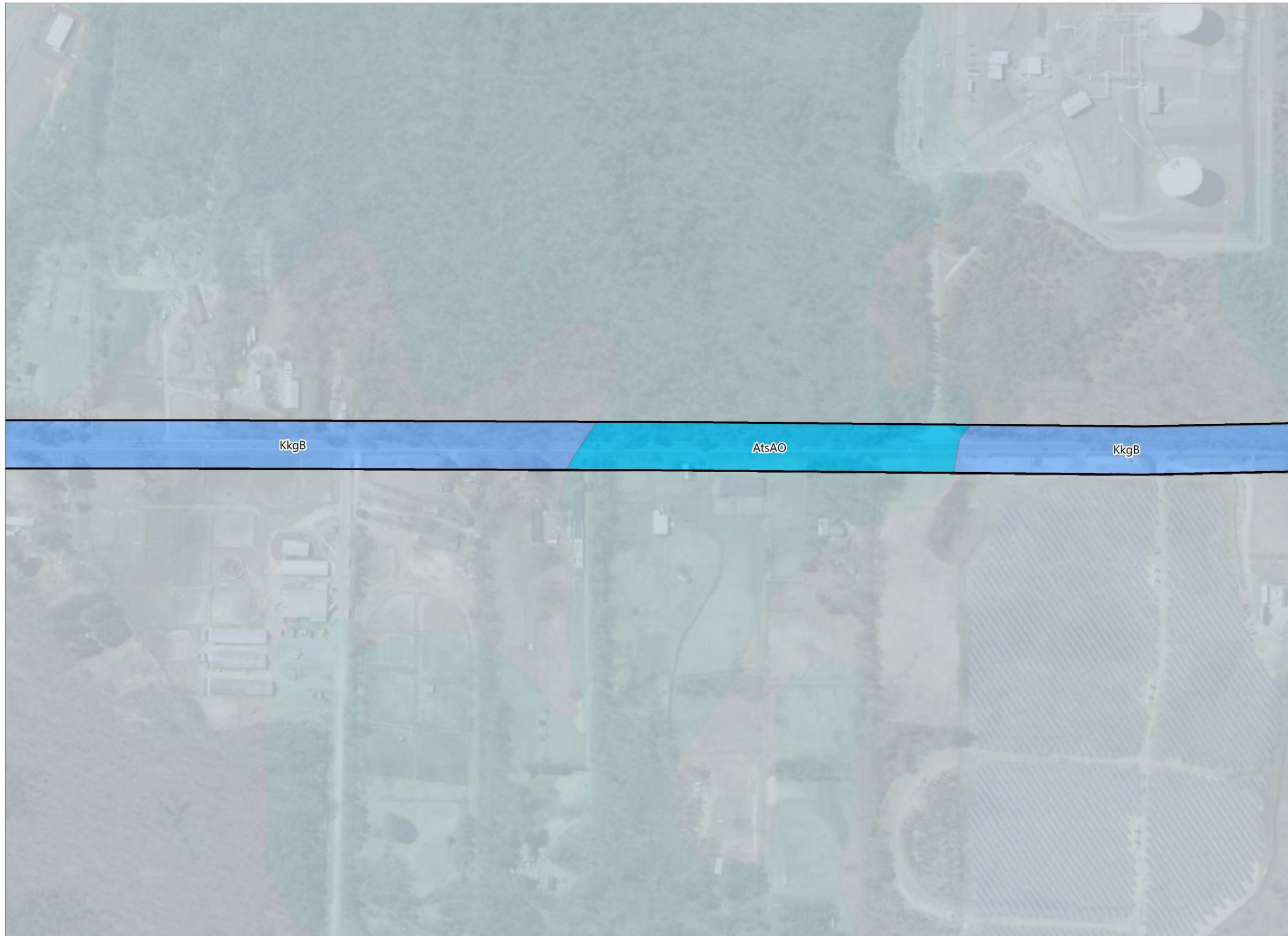
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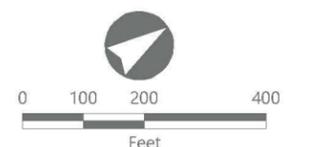
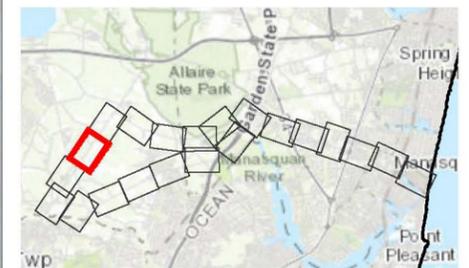


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of
Manasquan, Township of Wall, and
Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

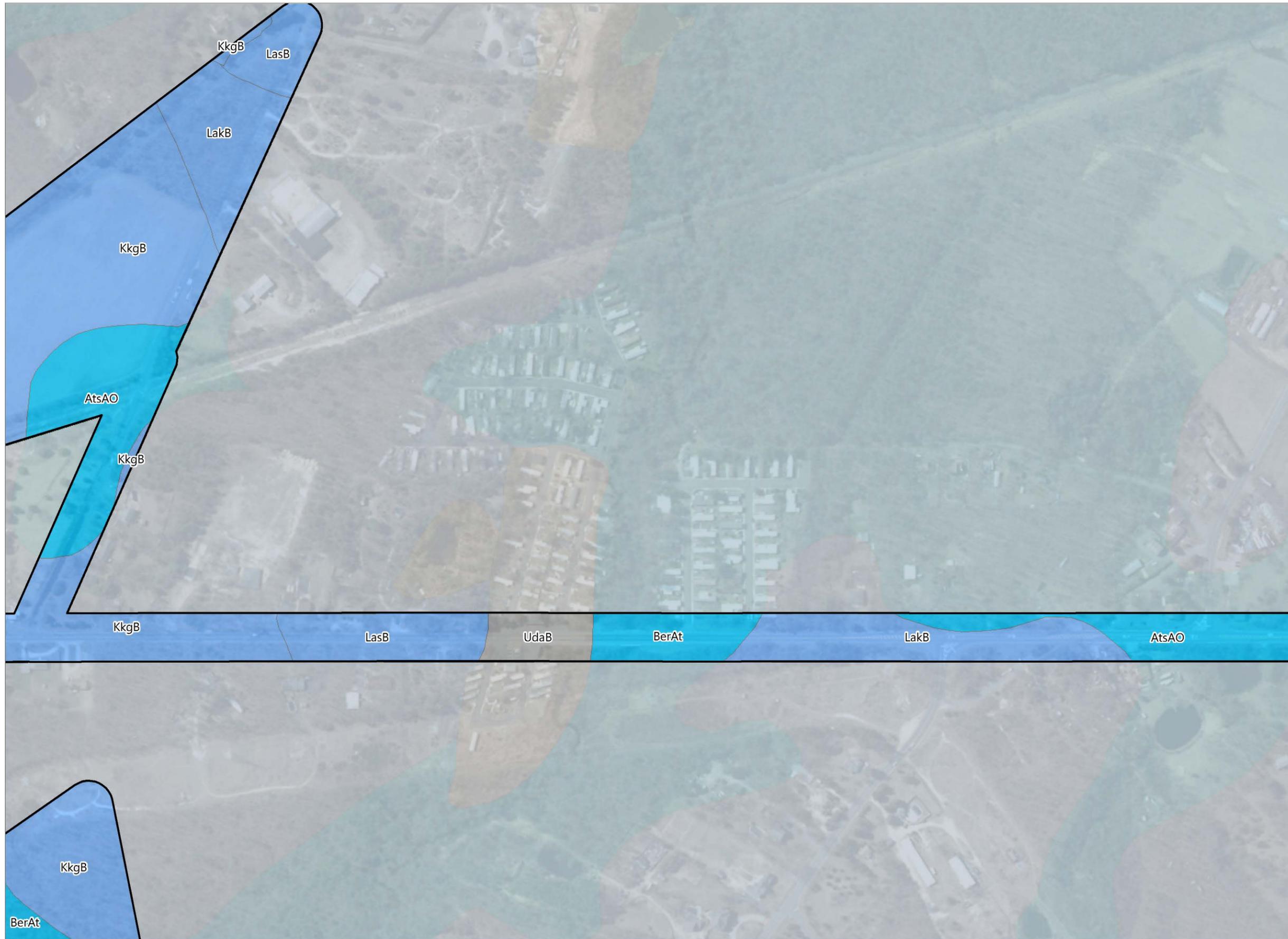
-  Project Area
- NRCS (SSURGO) Soils
-  Hydric
-  Partially Hydric*
-  Water
-  Not Hydric



Prepared February 27, 2023
Basemap: NJ Office of GIS 2015 Natural Color Imagery

*Partially Hydric Status indicates that the major soil component is classified as not hydric but includes minor soil components that are classified as hydric



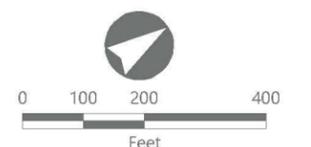
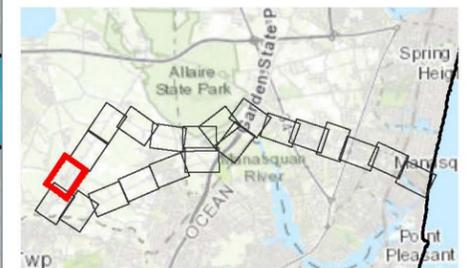


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of Manasquan, Township of Wall, and Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

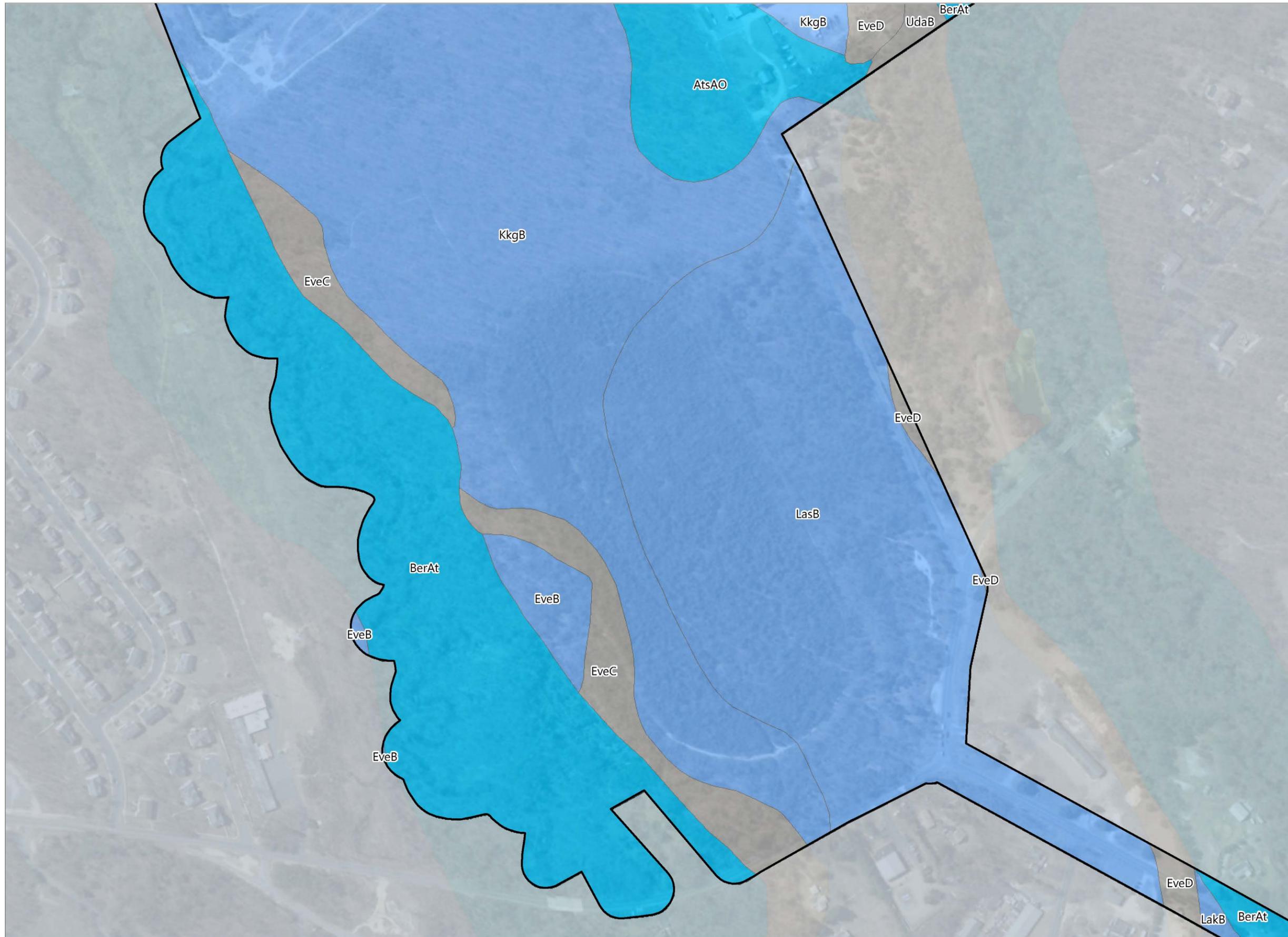
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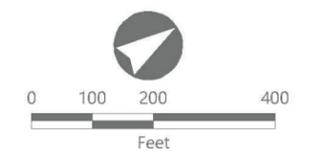
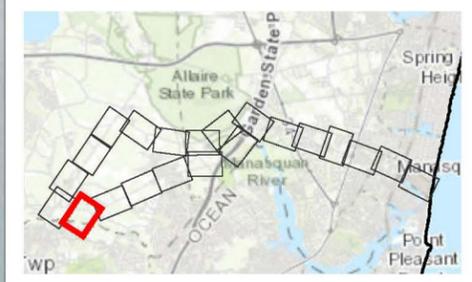


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of Manasquan, Township of Wall, and Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

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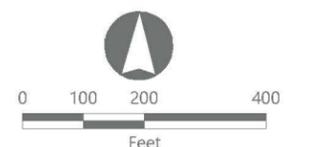


**Atlantic Shores South
Offshore Wind –
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Borough of Sea Girt, Borough of
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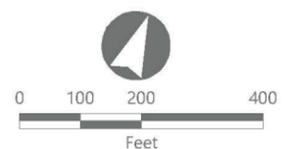
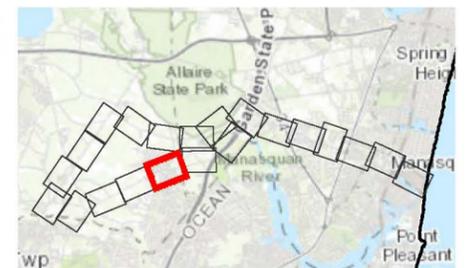


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of
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Monmouth County, New Jersey

Wetland Delineation Report

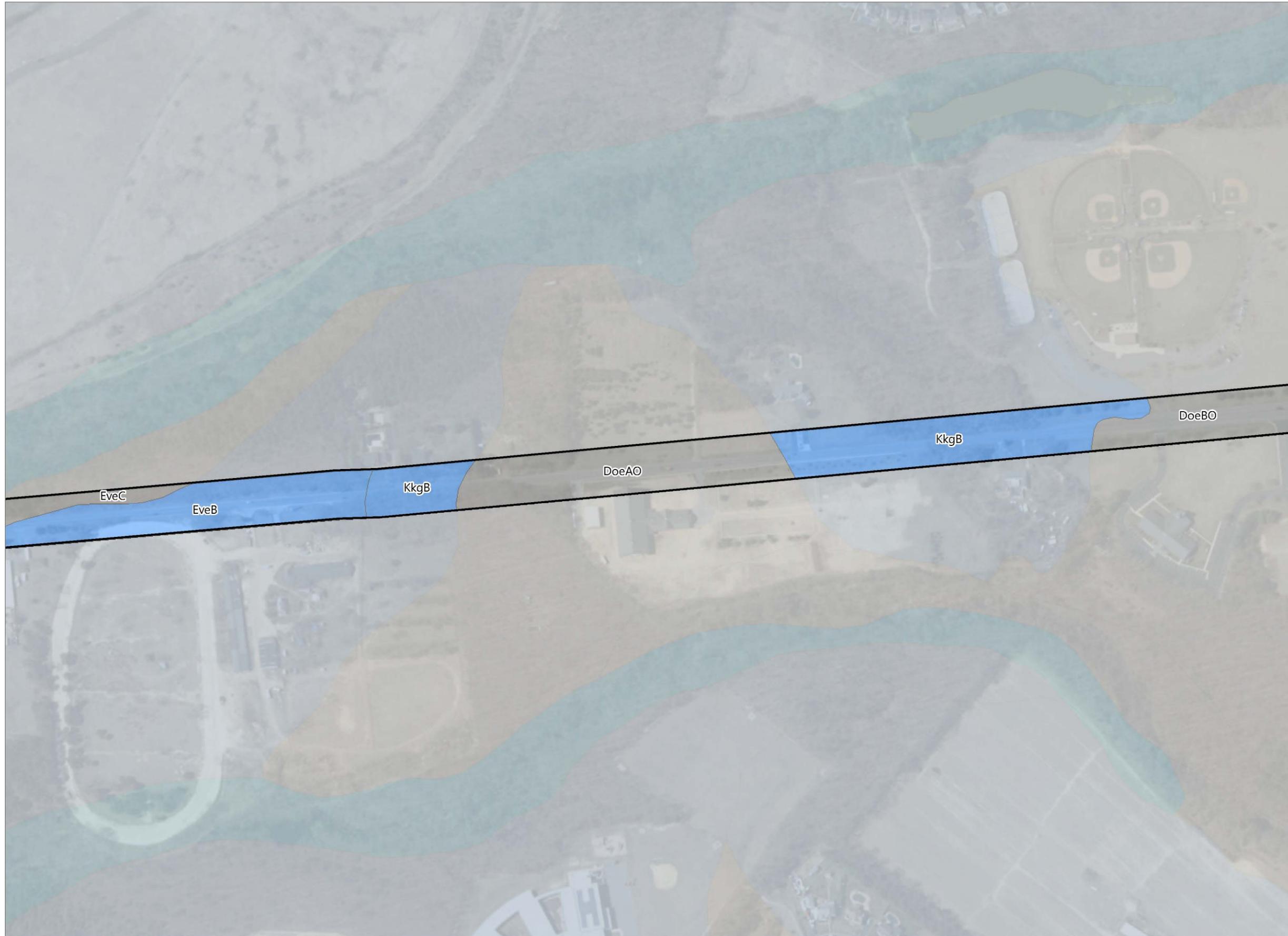
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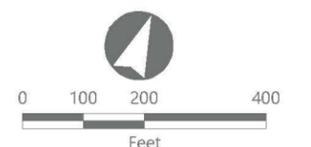
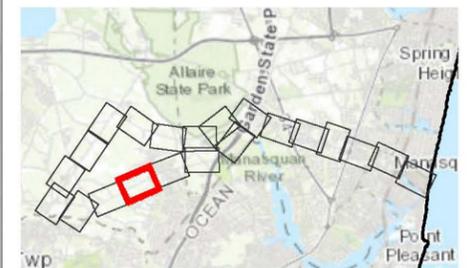


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Borough of Sea Girt, Borough of
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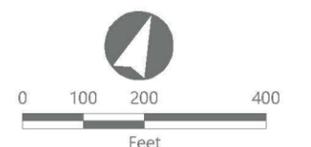
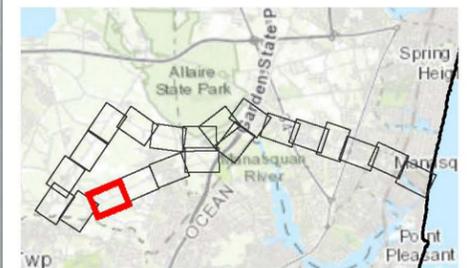
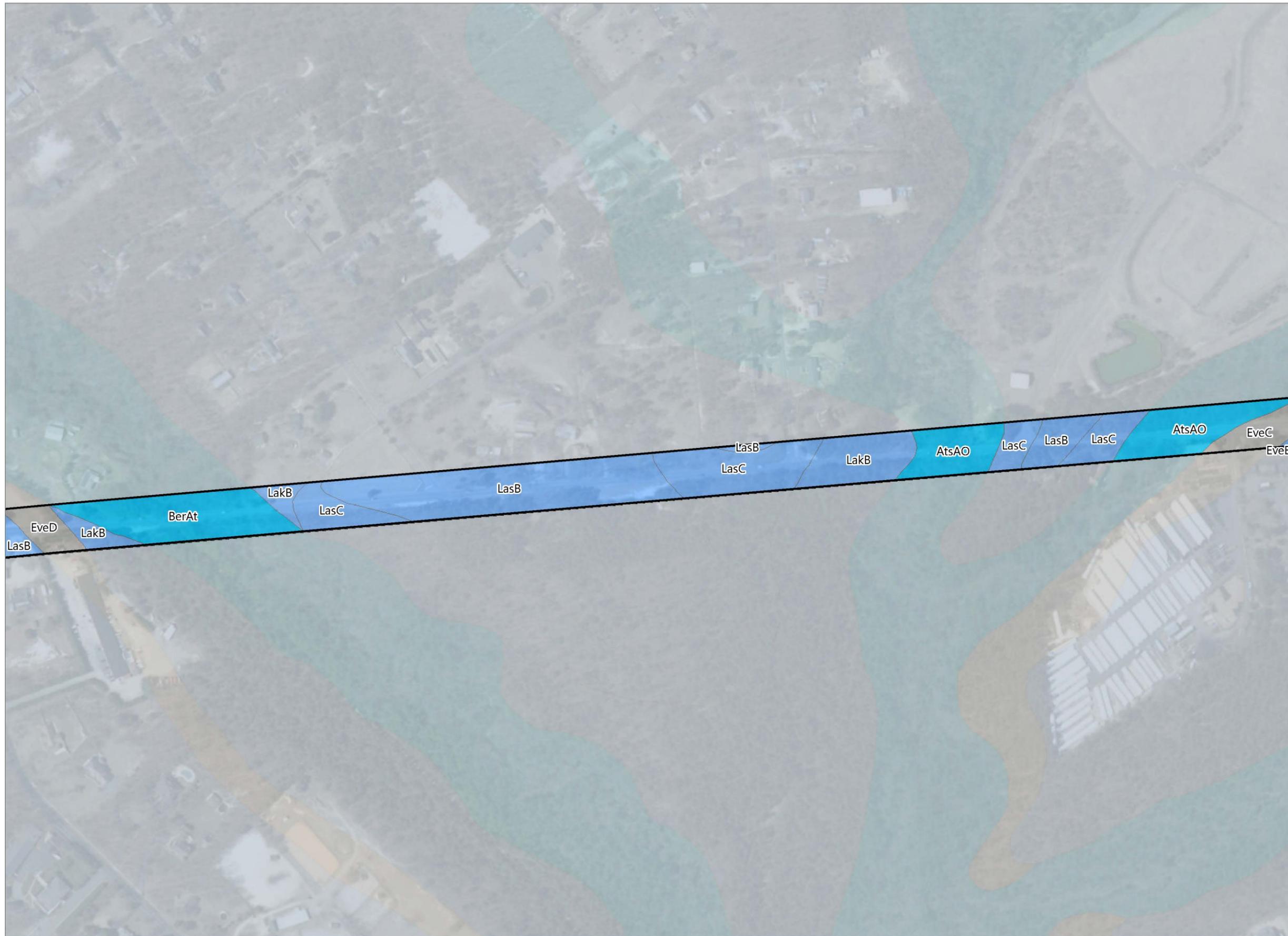


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

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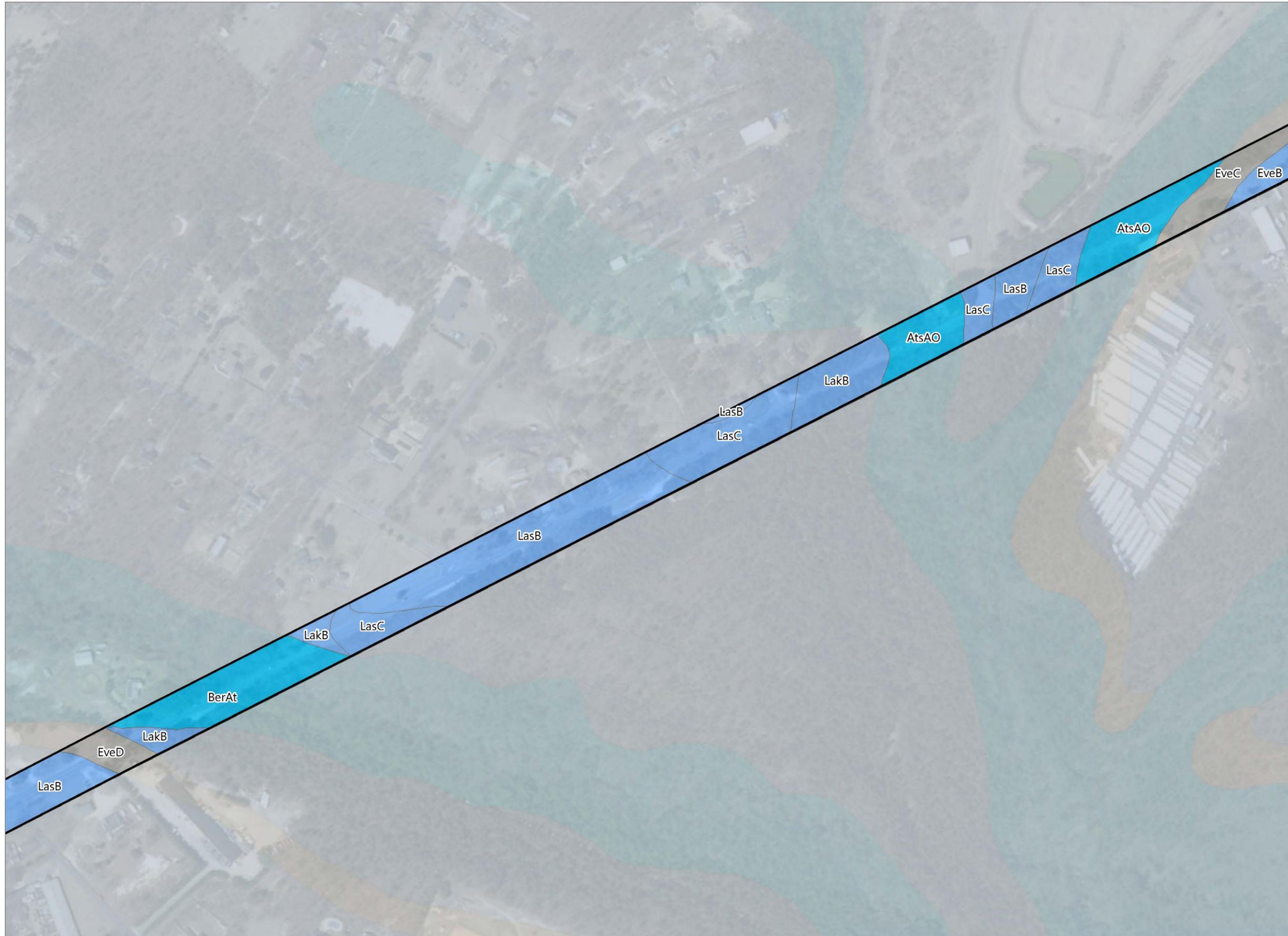
Wetland Delineation Report

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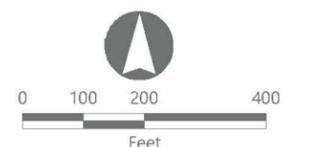


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of Manasquan, Township of Wall, and Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

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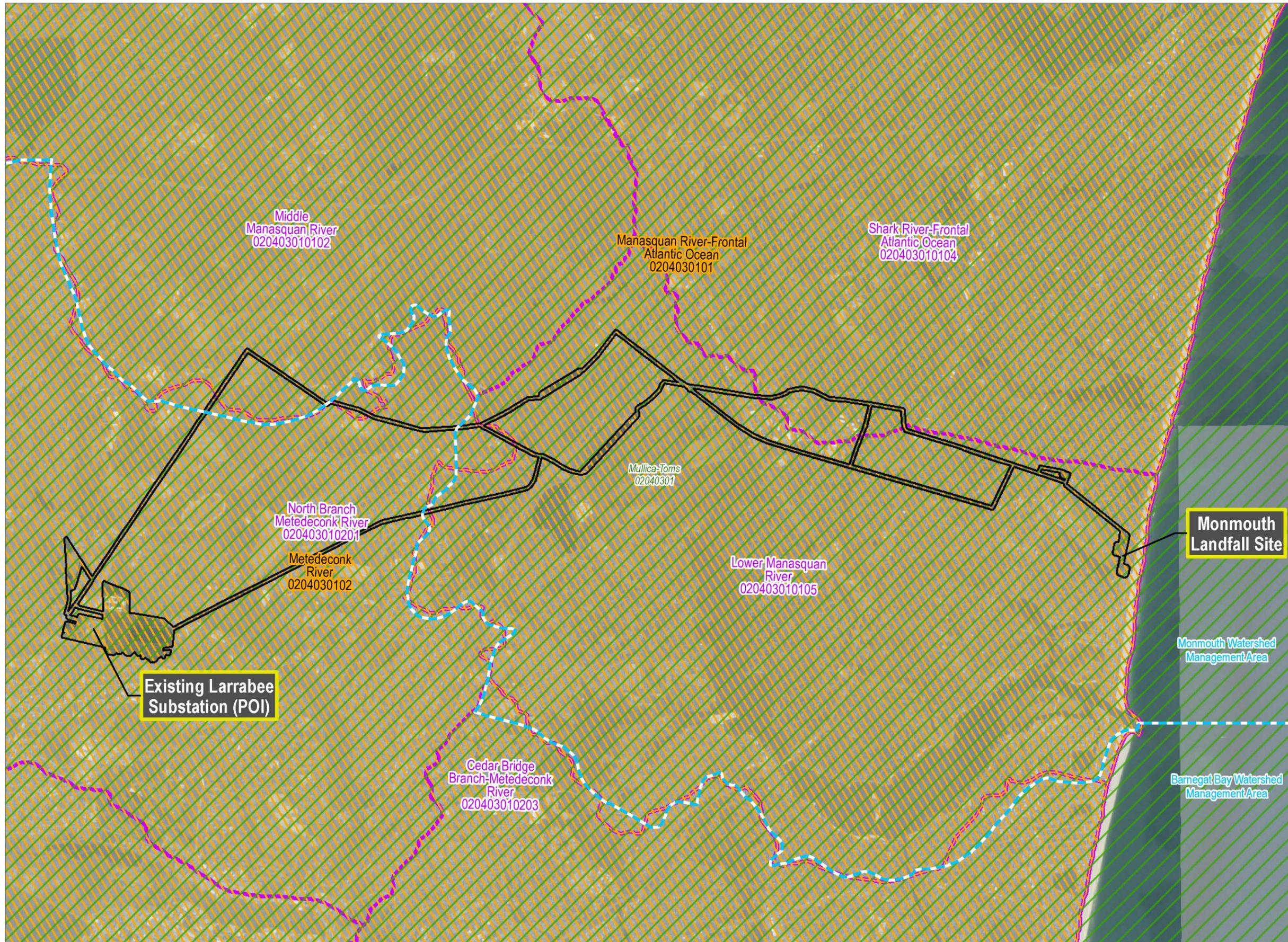
Prepared February 27, 2023
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Figure 3

Watershed Management Areas and Hydrologic Units

Figure 3. Watershed Management Areas and Hydrologic Units

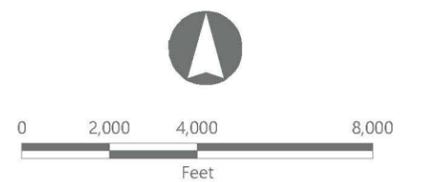


**Atlantic Shores South
Offshore Wind –
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Project Study Area**

Borough of Sea Girt, Borough of
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Monmouth County, New Jersey

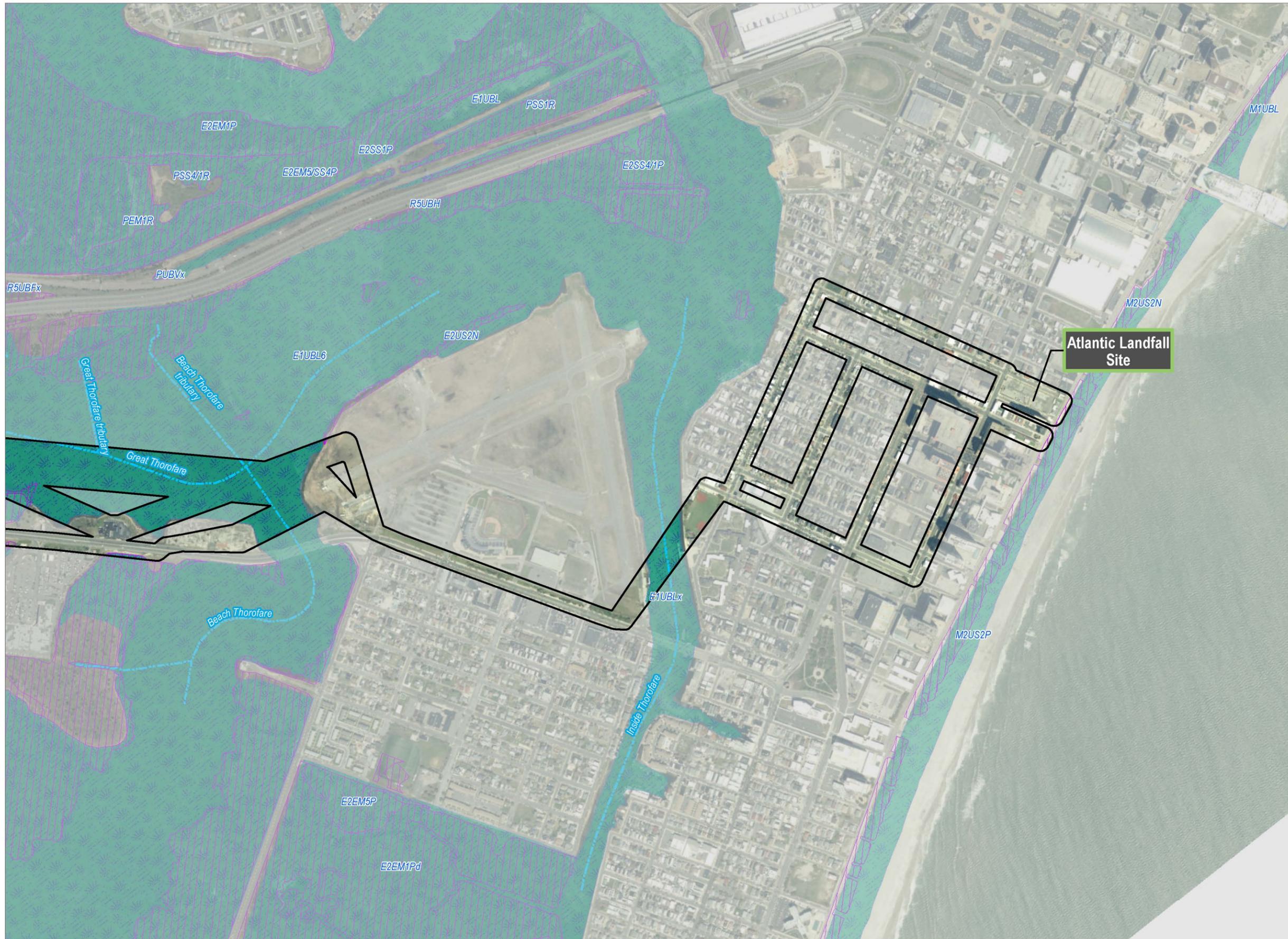
Wetland Delineation Report

- Watershed Management Area
- 8-Digit Watershed
- 10-Digit Watershed
- 12-Digit Watershed
- Study Area



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Figure 4
NJDEP/NWI-Mapped Wetlands and Streams

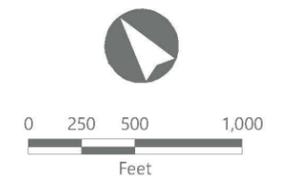


Atlantic Shores South Offshore Wind – Cardiff and O&M Facility Study Areas

City of Atlantic City, City of Pleasantville, and Egg Harbor Township, Atlantic County, New Jersey

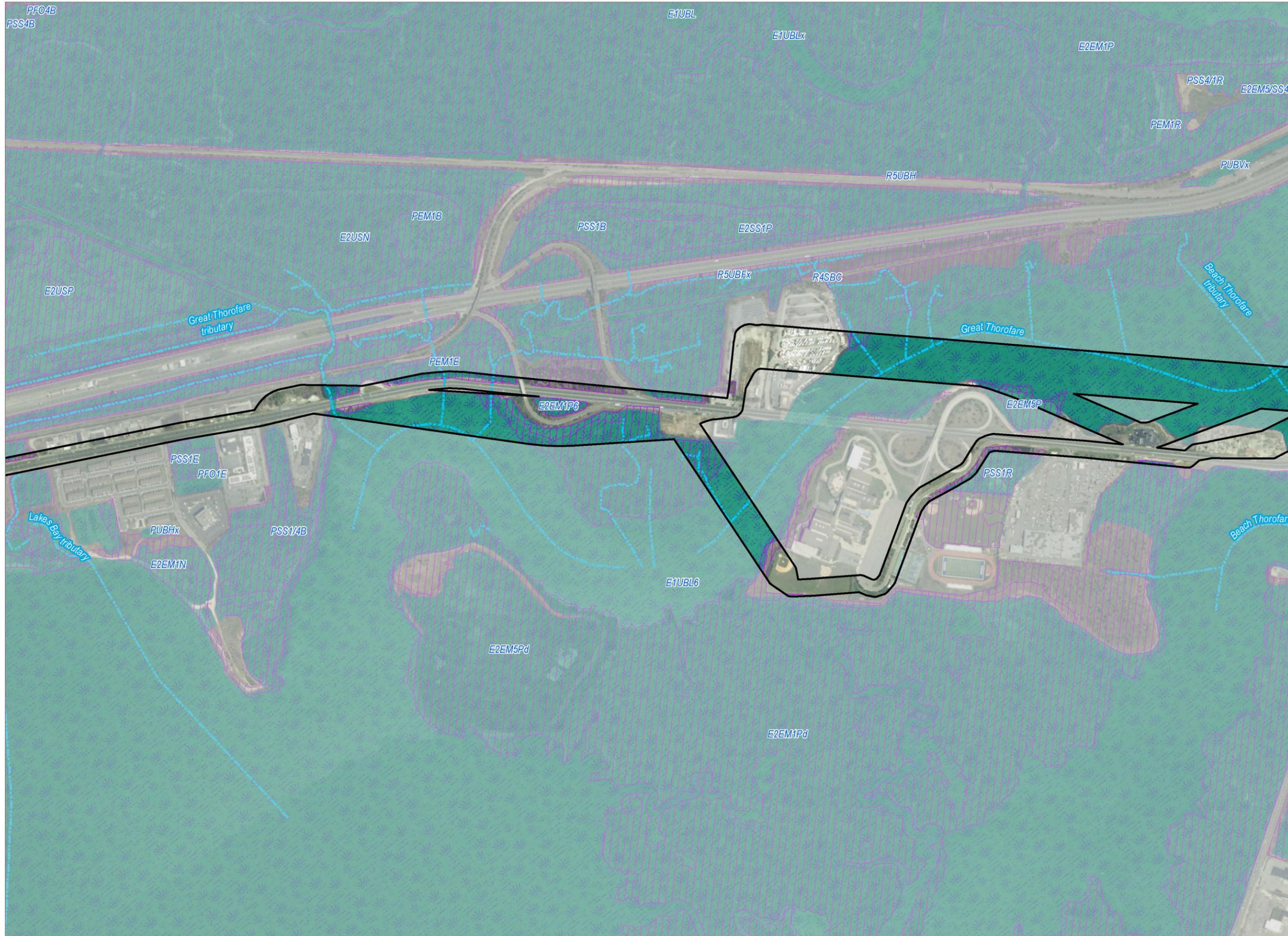
Wetland Delineation Report

- Stream
- NJDEP Wetland
- NWI Wetland
- Study Area



Prepared November 22, 2023
 Basemap: NJ Office of GIS 2020 Natural Color Imagery



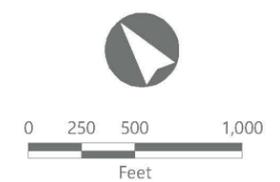


Atlantic Shores South Offshore Wind – Cardiff and O&M Facility Study Areas

City of Atlantic City, City of Pleasantville, and Egg Harbor Township, Atlantic County, New Jersey

Wetland Delineation Report

-  Stream
-  NJDEP Wetland
-  NWI Wetland
-  Study Area



Prepared November 22, 2023
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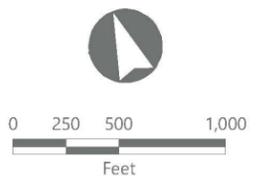


Atlantic Shores South Offshore Wind – Cardiff and O&M Facility Study Areas

City of Atlantic City, City of Pleasantville, and Egg Harbor Township, Atlantic County, New Jersey

Wetland Delineation Report

-  Stream
-  NJDEP Wetland
-  NWI Wetland
-  Study Area



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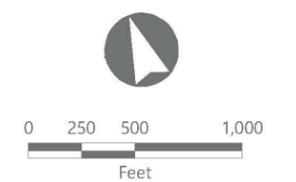


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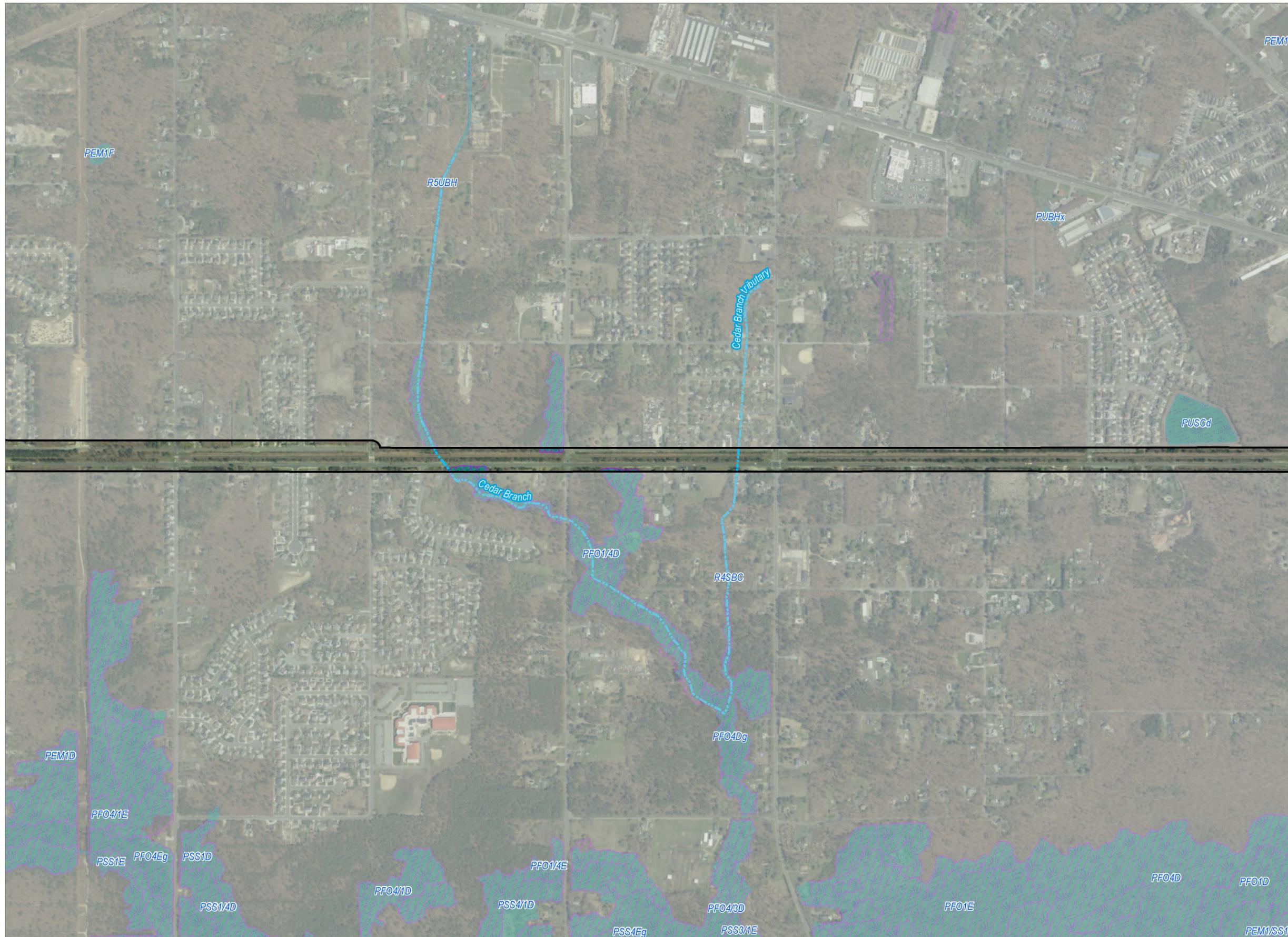
Wetland Delineation Report

- Stream
- NJDEP Wetland
- NWI Wetland
- Study Area



Prepared November 22, 2023
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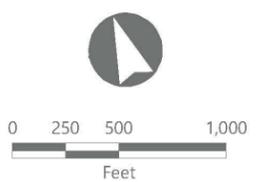


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City of Atlantic City, City of Pleasantville, and Egg Harbor Township, Atlantic County, New Jersey

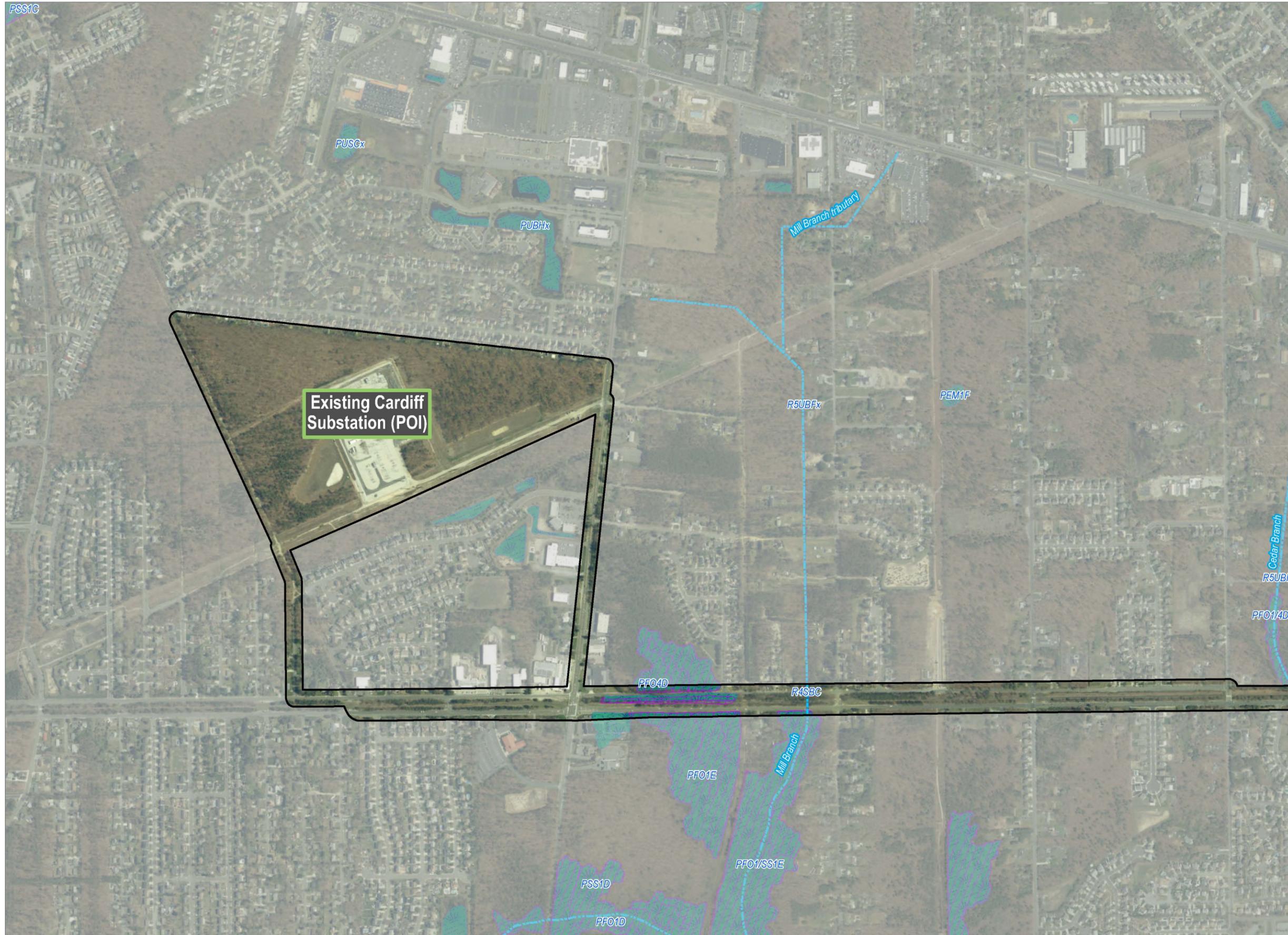
Wetland Delineation Report

-  Stream
-  NJDEP Wetland
-  NWI Wetland
-  Study Area



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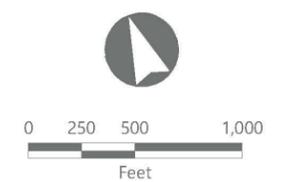


Atlantic Shores South Offshore Wind – Cardiff and O&M Facility Study Areas

City of Atlantic City, City of Pleasantville, and Egg Harbor Township, Atlantic County, New Jersey

Wetland Delineation Report

-  Stream
-  NJDEP Wetland
-  NWI Wetland
-  Study Area



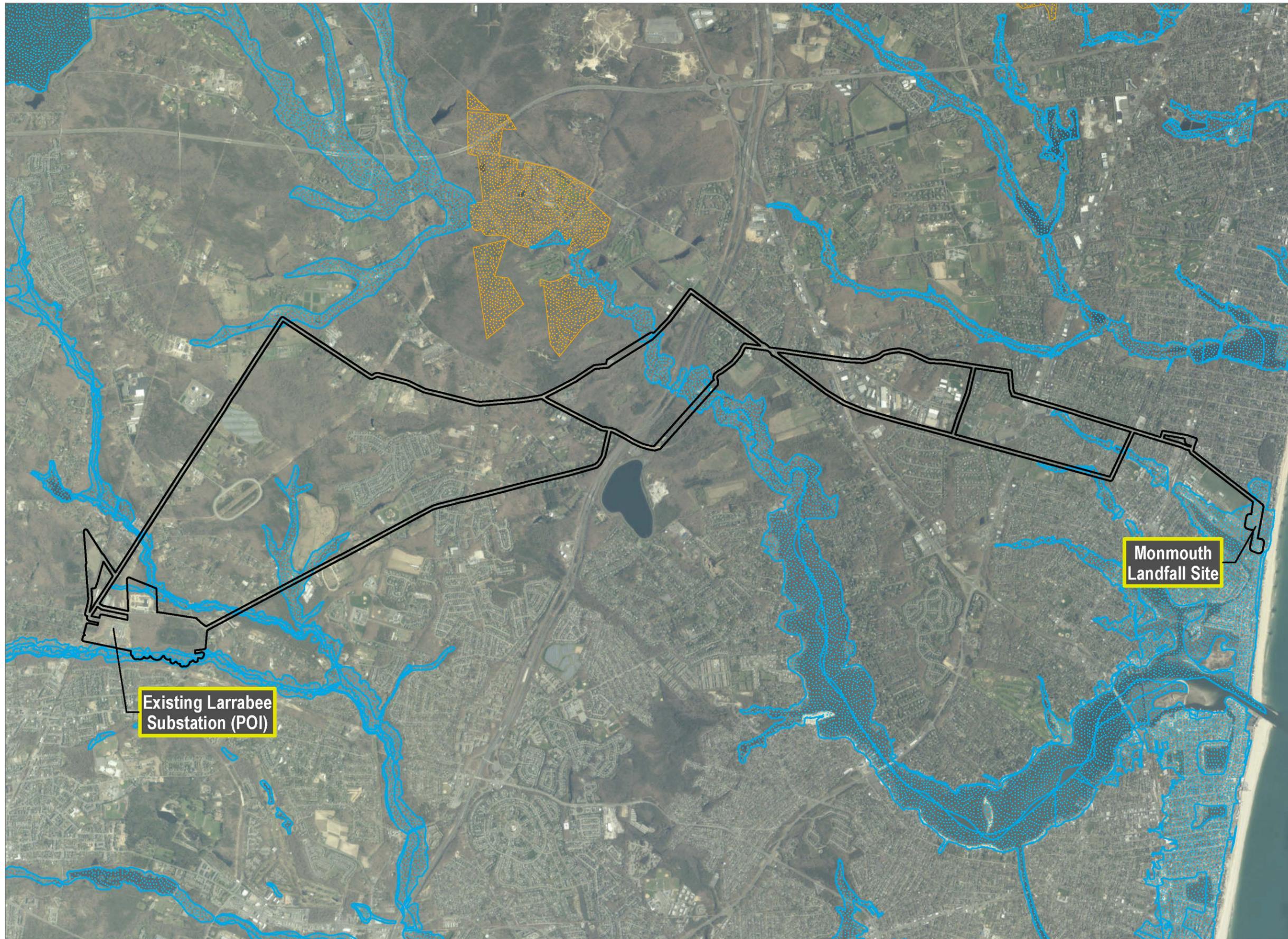
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Figure 5

FEMA 1% Chance Annual Floodplain

Figure 5. FEMA 1% Chance Annual Floodplain

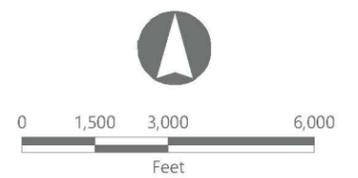


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of
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Monmouth County, New Jersey

Wetland Delineation Report

-  FEMA Floodplain
(1% Annual Chance of Flood)
-  Floodzone D -
Undetermined Flood Hazard Risk
-  Study Area



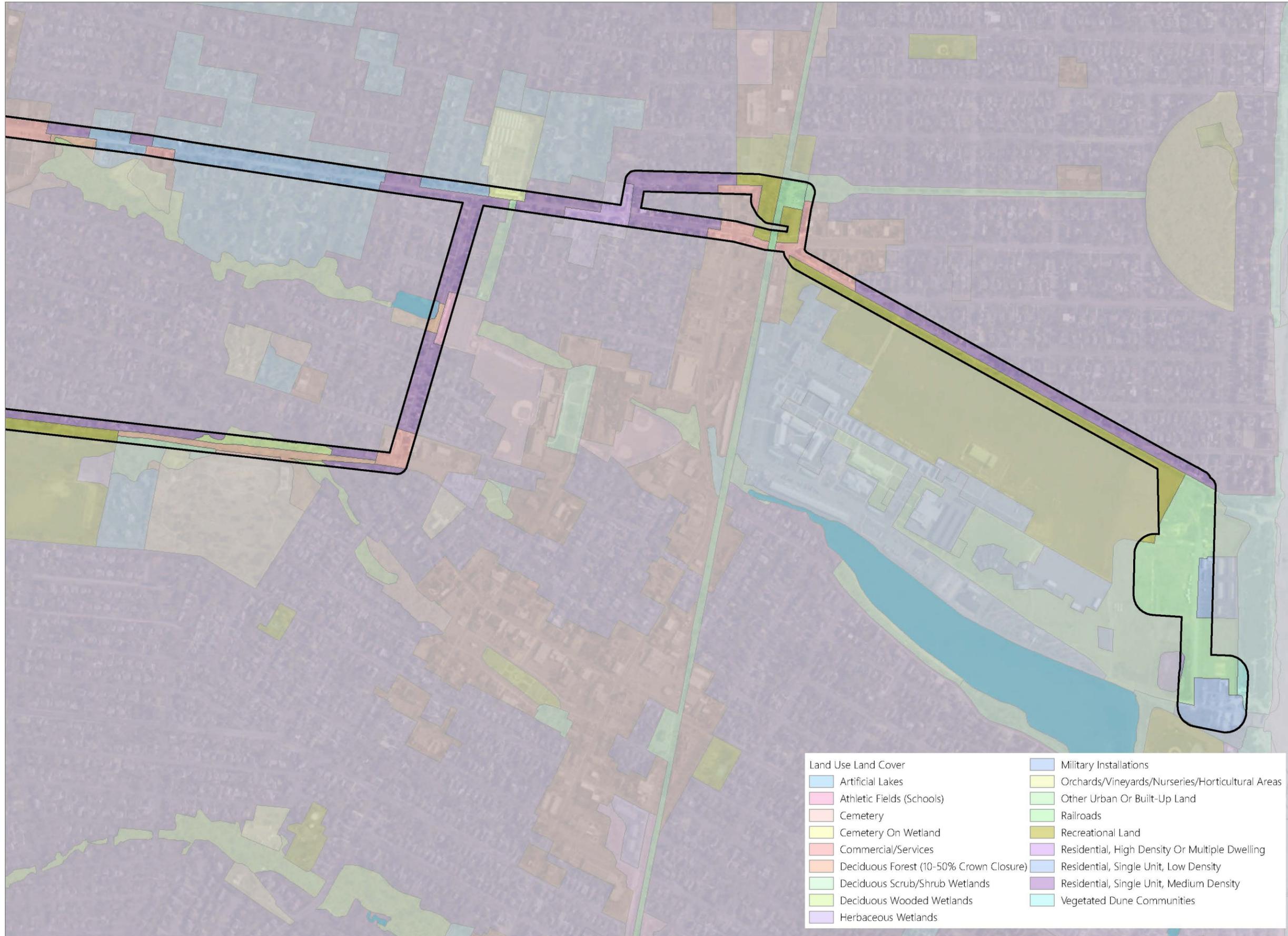
Prepared February 27, 2023
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ATLANTIC SHORES
offshore wind

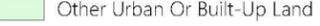
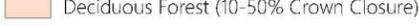
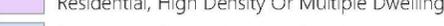
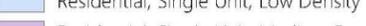
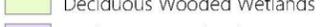
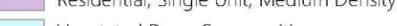
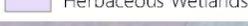
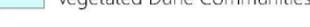
Figure 6
Land Use/Land Cover

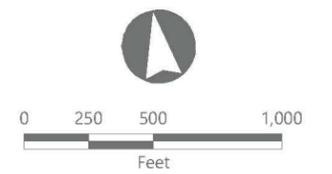
Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of
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Monmouth County, New Jersey
Wetland Delineation Report



 Study Area

| Land Use Land Cover | |
|---|--|
|  Artificial Lakes |  Military Installations |
|  Athletic Fields (Schools) |  Orchards/Vineyards/Nurseries/Horticultural Areas |
|  Cemetery |  Other Urban Or Built-Up Land |
|  Cemetery On Wetland |  Railroads |
|  Commercial/Services |  Recreational Land |
|  Deciduous Forest (10-50% Crown Closure) |  Residential, High Density Or Multiple Dwelling |
|  Deciduous Scrub/Shrub Wetlands |  Residential, Single Unit, Low Density |
|  Deciduous Wooded Wetlands |  Residential, Single Unit, Medium Density |
|  Herbaceous Wetlands |  Vegetated Dune Communities |



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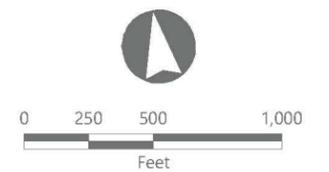
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Monmouth County, New Jersey
Wetland Delineation Report



 Study Area

| Land Use Land Cover | |
|--|---|
|  Artificial Lakes |  Mixed Forest (>50% Deciduous With 10-50% Crown Closure) |
|  Commercial/Services |  Mixed Forest (>50% Deciduous With >50% Crown Closure) |
|  Cropland And Pastureland |  Old Field (< 25% Brush Covered) |
|  Deciduous Forest (10-50% Crown Closure) |  Other Urban Or Built-Up Land |
|  Deciduous Forest (>50% Crown Closure) |  Recreational Land |
|  Deciduous Wooded Wetlands |  Residential, High Density Or Multiple Dwelling |
|  Industrial |  Residential, Rural, Single Unit |
|  Major Roadway |  Residential, Single Unit, Low Density |
|  Mixed Deciduous/Coniferous Brush/Shrubland |  Residential, Single Unit, Medium Density |
|  Mixed Forest (>50% Coniferous With >50% Crown Closure) |  Stormwater Basin |
| |  Transitional Areas |

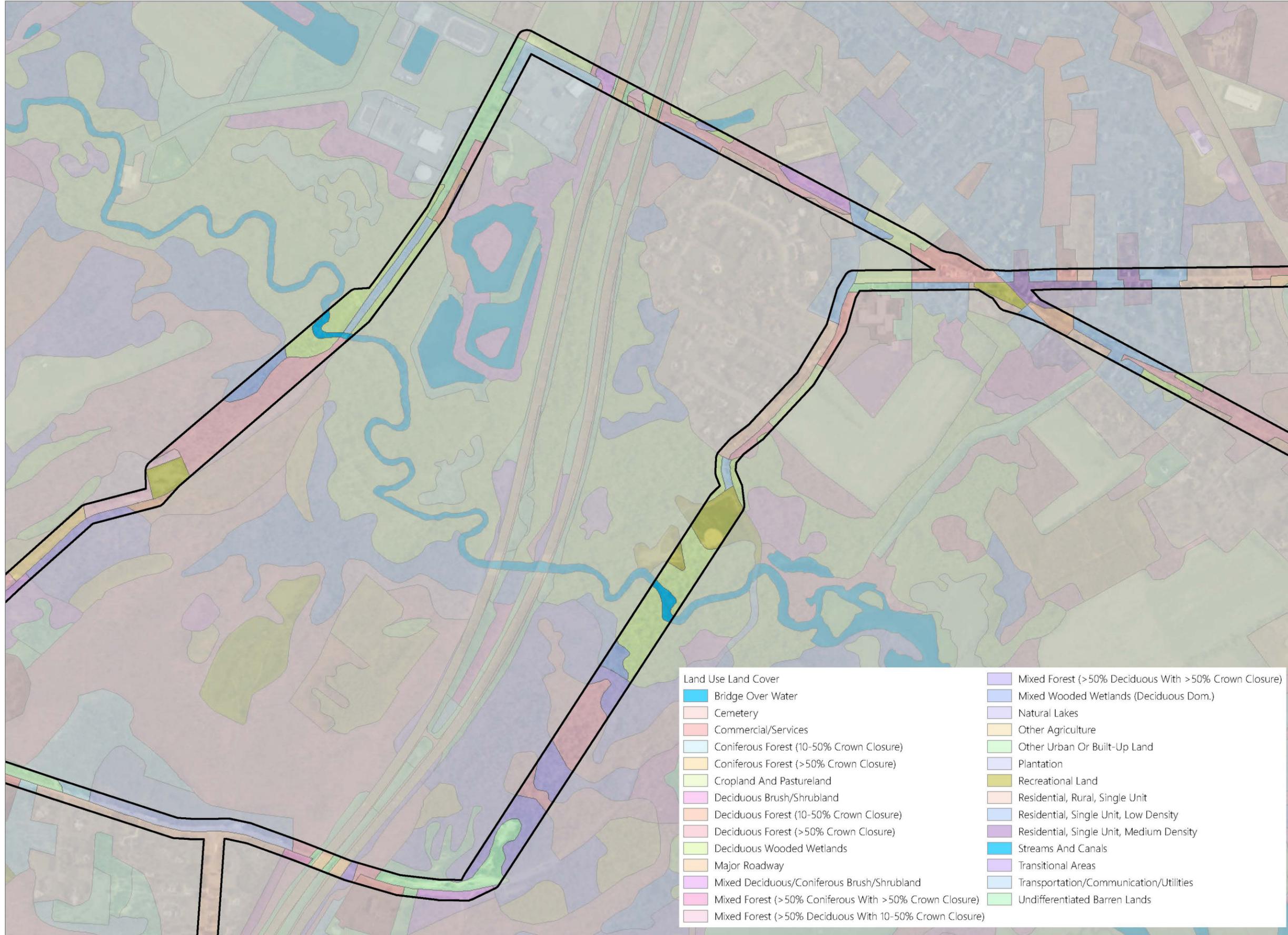


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ATLANTIC SHORES
offshore wind

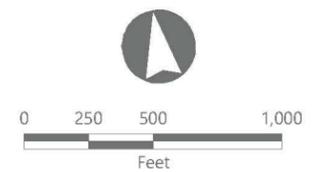
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Study Area

- | Land Use Land Cover | |
|---------------------|---|
| | Bridge Over Water |
| | Cemetery |
| | Commercial/Services |
| | Coniferous Forest (10-50% Crown Closure) |
| | Coniferous Forest (>50% Crown Closure) |
| | Cropland And Pastureland |
| | Deciduous Brush/Shrubland |
| | Deciduous Forest (10-50% Crown Closure) |
| | Deciduous Forest (>50% Crown Closure) |
| | Deciduous Wooded Wetlands |
| | Major Roadway |
| | Mixed Deciduous/Coniferous Brush/Shrubland |
| | Mixed Forest (>50% Coniferous With >50% Crown Closure) |
| | Mixed Forest (>50% Deciduous With 10-50% Crown Closure) |
| | Mixed Forest (>50% Deciduous With >50% Crown Closure) |
| | Mixed Wooded Wetlands (Deciduous Dom.) |
| | Natural Lakes |
| | Other Agriculture |
| | Other Urban Or Built-Up Land |
| | Plantation |
| | Recreational Land |
| | Residential, Rural, Single Unit |
| | Residential, Single Unit, Low Density |
| | Residential, Single Unit, Medium Density |
| | Streams And Canals |
| | Transitional Areas |
| | Transportation/Communication/Utilities |
| | Undifferentiated Barren Lands |



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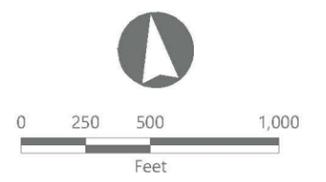


- Land Use Land Cover
- Commercial/Services
 - Coniferous Forest (10-50% Crown Closure)
 - Coniferous Forest (>50% Crown Closure)
 - Coniferous Wooded Wetlands
 - Cropland And Pastureland
 - Deciduous Forest (10-50% Crown Closure)
 - Deciduous Forest (>50% Crown Closure)
 - Deciduous Wooded Wetlands
 - Mixed Deciduous/Coniferous Brush/Shrubland
 - Mixed Forest (> 50% Coniferous With >50% Crown Closure)
 - Mixed Forest (> 50% Deciduous With 10-50% Crown Closure)
 - Mixed Forest (> 50% Deciduous With >50% Crown Closure)
 - Other Agriculture
 - Other Urban Or Built-Up Land
 - Plantation
 - Recreational Land
 - Residential, High Density Or Multiple Dwelling
 - Residential, Rural, Single Unit
 - Residential, Single Unit, Low Density
 - Residential, Single Unit, Medium Density
 - Transportation/Communication/Utilities
 - Upland Rights-Of-Way Undeveloped

Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

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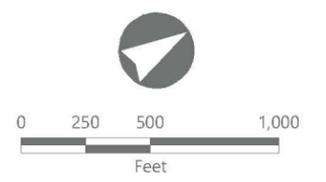


- Land Use Land Cover
- Agricultural Wetlands (Modified)
 - Artificial Lakes
 - Commercial/Services
 - Confined Feeding Operations
 - Coniferous Forest (10-50% Crown Closure)
 - Coniferous Wooded Wetlands
 - Cropland And Pastureland
 - Deciduous Brush/Shrubland
 - Deciduous Forest (>50% Crown Closure)
 - Deciduous Wooded Wetlands
 - Disturbed Wetlands (Modified)
 - Former Agricultural Wetland (Becoming Shrubby, Not Built-Up)
 - Industrial
 - Mixed Deciduous/Coniferous Brush/Shrubland
 - Mixed Wooded Wetlands (Deciduous Dom.)
 - Other Agriculture
 - Other Urban Or Built-Up Land
 - Residential, Rural, Single Unit
 - Residential, Single Unit, Low Density
 - Transportation/Communication/Utilities
 - Upland Rights-Of-Way Undeveloped

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Basemap: NJ Office of GIS 2020 Natural Color Imagery





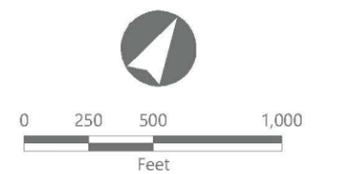
Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of
Manasquan, Township of Wall, and
Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

 Study Area

- Land Use Land Cover
-  Agricultural Wetlands (Modified)
 -  Altered Lands
 -  Commercial/Services
 -  Coniferous Forest (>50% Crown Closure)
 -  Cropland And Pastureland
 -  Deciduous Forest (>50% Crown Closure)
 -  Deciduous Wooded Wetlands
 -  Mixed Forest (> 50% Coniferous With >50% Crown Closure)
 -  Mixed Forest (> 50% Deciduous With >50% Crown Closure)
 -  Mixed Wooded Wetlands (Deciduous Dom.)
 -  Orchards/Vineyards/Nurseries/Horticultural Areas
 -  Other Agriculture
 -  Other Urban Or Built-Up Land
 -  Recreational Land
 -  Residential, Rural, Single Unit
 -  Residential, Single Unit, Low Density
 -  Residential, Single Unit, Medium Density



Prepared February 27, 2023
Basemap: NJ Office of GIS 2020 Natural Color Imagery





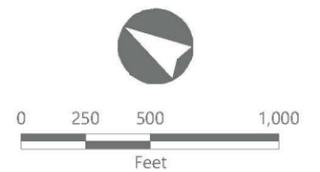
Atlantic Shores South Offshore Wind – Larrabee Onshore Project Study Area

Borough of Sea Girt, Borough of
Manasquan, Township of Wall, and
Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

 Study Area

| Land Use Land Cover | |
|--|---|
|  Agricultural Wetlands (Modified) |  Cropland And Pastureland |
|  Altered Lands |  Deciduous Brush/Shrubland |
|  Artificial Lakes |  Deciduous Forest (10-50% Crown Closure) |
|  Commercial/Services |  Deciduous Forest (>50% Crown Closure) |
|  Coniferous Brush/Shrubland; Coniferous Brush/shrubland |  Deciduous Wooded Wetlands |
|  Coniferous Forest (10-50% Crown Closure) |  Disturbed Wetlands (Modified) |
|  Coniferous Forest (>50% Crown Closure) |  Industrial |
|  Coniferous Scrub/Shrub Wetlands |  Mixed Deciduous/Coniferous Brush/Shrubland |
|  Coniferous Wooded Wetlands |  Mixed Forest (>50% Coniferous With 10-50% Crown Closure) |
| |  Mixed Forest (>50% Coniferous With >50% Crown Closure) |
| |  Mixed Forest (>50% Deciduous With 10-50% Crown Closure) |
| |  Mixed Forest (>50% Deciduous With >50% Crown Closure) |
| |  Mixed Scrub/Shrub Wetlands (Deciduous Dom.) |
| |  Mixed Wooded Wetlands (Coniferous Dom.) |
| |  Mixed Wooded Wetlands (Deciduous Dom.) |
| |  Old Field (< 25% Brush Covered) |
| |  Orchards/Vineyards/Nurseries/Horticultural Areas |
| |  Other Agriculture |
| |  Other Urban Or Built-Up Land |
| |  Railroads |
| |  Recreational Land |
| |  Residential, High Density Or Multiple Dwelling |
| |  Residential, Rural, Single Unit |
| |  Residential, Single Unit, Low Density |
| |  Streams And Canals |
| |  Transportation/Communication/Utilities |
| |  Upland Rights-Of-Way Undeveloped |
| |  Wetland Rights-Of-Way |



Prepared February 27, 2023
Basemap: NJ Office of GIS 2020 Natural Color Imagery



APPENDIX B

Routine Wetland Determination Data Sheets and Stream Inventory Forms

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/25/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: Wetland 1 - 1U (Upland Point)

Note: if a more detailed site description is necessary, provide detail here: Steep hill between bike path and wetland area, on a convex hillslope with >12% slope

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|----------------------|
| 1. | <u>Cherry (Prunus serotina)</u> | <u>30%</u> | <u>FACU</u> | <u>Tree</u> |
| 2. | <u>Tree of Heaven (Ailanthus altissima)</u> | <u>70%</u> | <u>FACU</u> | <u>Tree</u> |
| 3. | <u>Black Locust (Robinia pseudoacacia)</u> | <u>20%</u> | <u>UPL</u> | <u>Tree</u> |
| 4. | <u>Bamboo (Bambusoideae sp.)</u> | <u>30%</u> | <u>NA</u> | <u>Sapling/Shrub</u> |
| 5. | <u>Grape Vine (Vitis sp.)</u> | <u>20%</u> | <u>NA</u> | <u>Woody Vine</u> |
| 6. | <u>Pokeweed (Phytolacca americana)</u> | <u>15%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 7. | <u>Multiflora Rose (Rosa multiflora)</u> | <u>5%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 8. | <u>Green Briar (Smilax rotundifolia)</u> | <u>60%</u> | <u>FAC</u> | <u>Woody Vine</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0.14%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Entisols Subgroup: Psammments

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-3 10YR 3/1 (Sandy fill) Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/20/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL 1 – 1W

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetland 1 – 1 W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|---------------|------------------|------------|
| 1. <u>Willow sp. (Salix sp.)</u> | 35% | NA | Tree |
| 2. <u>PA Smartweed (Polygonum pensylvanicum)</u> | 65% | FACW | Herbaceous |
| 3. <u>Soft Rush (Juncus effusus)</u> | 10% | OBL | Herbaceous |
| 4. <u>Reed Canary Grass (Phalaris arundinacea)</u> | 10% | OBL | Herbaceous |
| 5. <u>Blunt Broom Sedge (Carex tribuloides)</u> | 10% | FACW | Herbaceous |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Ultisols

Subgroup: Udultus

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-1" 10yr 2/1, 1-8" 10yr 4/1 (80%), clayey loam Mottle Colors: 1-8" 10yr 5/8 (20%)

Other hydric soil indicators: Low chroma soils and mottled soils

Is the hydric soil criterion met? Yes No

Rationale: Hydric mineral soils that are saturated for substantial periods of the growing season, but are unsaturated for some time, commonly develop mottles. Soils that have brightly colored mottles and a low chroma matrix are indicative of a fluctuating water table.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: water stained leaves, saturated soils, geomorphic position

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/25/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL2 – 1U

Note: if a more detailed site description is necessary, provide detail here: Upland between pond and bike path
Previous: Wetland 4 – 1U (Upland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) Semi-maintained area

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|-------------------|
| 1. | <u>Tree of Heaven (Ailanthus altissima)</u> | <u>50%</u> | <u>FACU</u> | <u>Tree</u> |
| 2. | <u>Mowed Grass</u> | <u>90%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 3. | <u>Mugwort (Artemisia vulgaris)</u> | <u>50%</u> | <u>UPL</u> | <u>Herbaceous</u> |
| 4. | <u>White Clover (Trifolium repens)</u> | <u>30%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 5. | <u>Narroleaf Plantain (Plantago lanceolate)</u> | <u>15%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 6. | <u>Common Plantain (Plantago major)</u> | <u>10%</u> | <u>FAC</u> | <u>Herbaceous</u> |
| 7. | <u>Common Reed (Phragmites australis)</u> | <u>1%</u> | <u>FACW</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Ultisols Subgroup: Udults

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-8" 10YR 4/4

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/25/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL2

Note: if a more detailed site description is necessary, provide detail here: PFO

Previous: Wetland 3 – 1W (wetland point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|---------------|
| 1. | <u>Red Maple (Acer rubrum)</u> | 80% | FAC | Tree |
| 2. | <u>Pepperbush (Clethra alnifolia)</u> | 60% | FACW | Sapling/Shrub |
| 3. | <u>Sweetgum (Liquidambar styraciflua)</u> | 20% | FAC | Sapling/Shrub |
| 4. | <u>Skunk Cabbage (Symplocarpus foetidus)</u> | 60% | OBL | Herbaceous |
| 5. | <u>Cinnamon Fern (Osmunda cinnamomea)</u> | 30% | FACW | Herbaceous |
| 6. | <u>Jack in the Pulpit (Arisaema triphyllum)</u> | 10% | FACW | Herbaceous |
| 7. | <u>Jewelweed (Impatiens capensis)</u> | 10% | FACW | Herbaceous |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Fallsington loams/Ultisols Subgroup: Aquults

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-18" 10yr 2/1 mucky

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 1"

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/25/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL3 – 1W

Note: if a more detailed site description is necessary, provide detail here: Open water wetland with very thin emergent fringe

Previous: Wetland 4 – 1W

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|-------------------|
| 1. | <u>Common Reed (Phragmites australis)</u> | <u>5%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 2. | <u>Yellow Pond Lilly (Nuphar lutea)</u> | <u>60%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 3. | <u>Soft Rush (Juncus effuses)</u> | <u>20%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 4. | <u>Lurid Sedge (Carex lurida)</u> | <u>20%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 5. | <u>White Clover (Trifolium repens)</u> | <u>1%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 6. | <u>Virginia Creeper (Parthenocissus quinquefolia)</u> | <u>1%</u> | <u>FACU</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Water Subgroup: Water

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: Soils were not accessible – wetland is a pond

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale: Wetland area is an open water pond, soils were not accessible

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 5"+

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/25/2020

Project/Site: Larrabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: UL4

Note: if a more detailed site description is necessary, provide detail here: hillslope

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|---------------|------------------|-------------------|
| 1. <u>Fireweed (Chamerion angustifolium)</u> | <u>30%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 2. <u>Goldenrod (Solidago canadensis)</u> | <u>50%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 3. <u>Honeysuckle Vine (Lonicera japonica)</u> | <u>20%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 4. <u>Mugwort (Artemisia vulgaris)</u> | <u>30</u> | <u>UPL</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Ultisols Subgroup: Udults

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-3" 10yr 3/1 sand

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/25/2020

Project/Site: Larrabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL4

Note: if a more detailed site description is necessary, provide detail here: PFO

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|----------------------|
| 1. | <u>Red Maple (Acer rubrum)</u> | <u>80%</u> | <u>FAC</u> | <u>Tree</u> |
| 2. | <u>Pepperbush (Clethra alnifolia)</u> | <u>60%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Sweetgum (Liquidambar styraciflua)</u> | <u>20%</u> | <u>FAC</u> | <u>Sapling/Shrub</u> |
| 4. | <u>Skunk Cabbage (Symplocarpus foetidus)</u> | <u>60%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 5. | <u>Cinnamon Fern (Osmunda cinnamomea)</u> | <u>30%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 6. | <u>Jack in the Pulpit (Arisaema triphyllum)</u> | <u>10%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 7. | <u>Jewelweed (Impatiens capensis)</u> | <u>10%</u> | <u>FACW</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Fallsington loams/Ultisols Subgroup: Aquults

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-18" 10yr 2/1 mucky

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 1"

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: HB, SMB

Date: 12/07/2020

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: UL5

Note: if a more detailed site description is necessary, provide detail here: Upland area on the side of a county highway

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|---------------|------------------|------------|
| 1. <i>Kentucky Bluegrass (Poa pratensis)</i> | 80 | FACU | Herbaceous |
| 2. <i>Red Fescue (Festuca rubra)</i> | 20 | FACU | Herbaceous |
| 3. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 4. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 5. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 6. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 7. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 8. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 9. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 10. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 11. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 12. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 13. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 14. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |
| 15. Species Name _____ % Cover _____ | STATUS _____ | Stratum _____ | |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: All species present are FACU.

SOILS

Series/Phase: **AtsAO: Atsion sand, 0 to 2 percent slopes** Subgroup: Atsion

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-18" 10YR 3/3 , loam

Mottle Colors: None

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes No

Rationale: This is a characteristic upland soil without any colors or hydric indicators.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: None

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: None

List of other field evidence of surface inundation or soil saturation: None

Is the wetland hydrology criterion met? Yes No

Rationale: No primary or secondary wetland hydrology indicators exist.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, SMB

Date: 12/07/2020

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: WL5

Note: if a more detailed site description is necessary, provide detail here: Depressional area associated with stormwater runoff. PEM wetland.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|----------------|------------------|----------------|
| 1. <u>Common Reed (<i>Phragmites australis</i>)</u> | 40 | FACW | Herbaceous |
| 2. <u>Marsh Fern (<i>Thelypteris palustris</i>)</u> | 25 | FACW | Herbaceous |
| 3. <u>Skunk Cabbage (<i>Symplocarpus foetidus</i>)</u> | 20 | OBL | Herbaceous |
| 4. <u>Allegheny Blackberry (<i>Rubus allegheniensis</i>)</u> | 5 | FACU | Herbaceous |
| 5. <u>White Goldenrod (<i>Solidago bicolor</i>)</u> | 5 | FAC | Herbaceous |
| 6. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 7. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 8. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 9. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 10. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 11. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 12. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 13. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 14. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 15. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: All species present are FAC, FACW, or OBL.

SOILS

Series/Phase: **FapA: Fallsington loams, 0 to 2 percent slopes** Subgroup: Fallsington

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epiedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-2" 10YR 2/2, loam; 2-18" 2.5Y 4/2, sand with cobbles

Mottle Colors: None

Other hydric soil indicators: Problematic sandy soils

Is the hydric soil criterion met? Yes No

Rationale: Both colors and texture qualify this soil to be hydric.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 4 inches

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 4 inches

List of other field evidence of surface inundation or soil saturation: Algal mat or crust, inundation visible on aerial imagery, water-stained leaves, drainage patterns, dry-season water table, geomorphic position, FAC neutral test.

Is the wetland hydrology criterion met? Yes No

Rationale: Six primary and four secondary indicators of hydrology were observed at this location.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, SMB

Date: 12/07/2020

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: UL6

Note: if a more detailed site description is necessary, provide detail here: Upland forested area on the side of a county highway.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|---------------|------------------|---------------|
| 1. <i>American Holly (Ilex opaca)</i> | 30 | FAC | Tree |
| 2. <i>Mountain Laurel (Kalmia latifolia)</i> | 15 | FACU | Tree |
| 3. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 4. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 5. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 6. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 7. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 8. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 9. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 10. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 11. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 12. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 13. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 14. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 15. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 66.6%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: All species present are either FAC or FACU.

SOILS

Series/Phase: **AtsAO: Atsion sand, 0 to 2 percent slopes** Subgroup: Atsion

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epiedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-2" 10YR 2/1; 2-6" 10YR 3/2+; 6-18" 10YR 3/3, sandy loam

Mottle Colors: None

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes No

Rationale: This is a characteristic upland soil without any colors or hydric indicators.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: None

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: None

List of other field evidence of surface inundation or soil saturation: None

Is the wetland hydrology criterion met? Yes No

Rationale: No primary or secondary wetland hydrology indicators exist.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, SMB

Date: 12/07/2020

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: WL6

Note: if a more detailed site description is necessary, provide detail here: Depressional area associated with stormwater runoff. PFO wetland.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|---|---------------|------------------|---------------|
| 1. <i>Swamp White Oak (Quercus bicolor)</i> | 30 | FACW | Tree |
| 2. <i>American Holly (Ilex opaca)</i> | 30 | FAC | Tree |
| 3. <i>Roundleaf Green Briar (Smilax rotundifolia)</i> | 5 | FAC | Herbaceous |
| 4. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 5. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 6. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 7. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 8. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 9. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 10. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 11. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 12. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 13. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 14. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 15. Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: All species present are FAC or FACW.

SOILS

Series/Phase: **AtsAO: Atsion sand, 0 to 2 percent slopes** Subgroup: Atsion

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-5" 10YR 2/1, muck; 5-18" 10YR 3/1, silt loam

Mottle Colors: None

Other hydric soil indicators: Histosol (A1) and 2cm Muck (A10)

Is the hydric soil criterion met? Yes No

Rationale: **Both colors and texture qualify this soil to be hydric.**

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 1 inch

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 5 inches

List of other field evidence of surface inundation or soil saturation: Thin muck surface, drainage patterns, dry-season water table, geomorphic position

Is the wetland hydrology criterion met? Yes No

Rationale: Four primary and three secondary indicators of hydrology were observed at this location.

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL7 -1U

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetland 19 – 1U (Upland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|---|---------------|------------------|-------------------|
| 1. <u>White Clover (Trifolium repens)</u> | <u>30%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 2. <u>Kentucky Blue Grass (Poa pratensis)</u> | <u>50%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 3. <u>Buttercup (Ranunculus repens)</u> | <u>20%</u> | <u>FAC</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 33.3%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Spodosols Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-8 10yr 3/2

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL7 – 1W

Note: if a more detailed site description is necessary, provide detail here: Wetland fringe around a small spring fed pond. Tadpoles and frogs observed at time of investigation.

Previous: Wetland 19 – 1W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) maintained horse/cow pasture, grasses have been mowed

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) maintained horse/cow pasture, grasses have been mowed

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|--------------------------------------|---------------|------------------|-------------------|
| 1. | <u>Duckweed (Lemna minor)</u> | <u>95%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 2. | <u>Water Chestnut (Trapa natans)</u> | <u>10%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 3. | <u>Mowed Juncus (Juncus sp.)</u> | <u>90%</u> | <u>NA</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 66.6%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Atsion sand/Spodosols

Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-8" 10yr 2/1 sandy muck

Mottle Colors: N/A

Other hydric soil indicators: Low chroma soil

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 1-6"+

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 1"

List of other field evidence of surface inundation or soil saturation: sparsely vegetated surface, aquatic organisms

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL7 -2U

Note: if a more detailed site description is necessary, provide detail here: Upland area, sprayed this year. Most of the new growth was impacted

Previous: Wetland 19 – 2U (Upland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) Herbicide was recently used

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) Herbicide was recently used

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|--|---------------|------------------|----------------------|
| 1. | <u>Pitch Pine (Pinus rigida)</u> | <u>5%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 2. | <u>Lowbush Blueberry (Vaccinium angustifolium)</u> | <u>80%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Grass sp.</u> | <u>90%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 4. | <u>Soft Rush (Juncus effuses)</u> | <u>1%</u> | <u>OBL</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Spodosols Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-4" 10yr 3/2, 4-12" 5yr 4/6 loamy sand

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL7 – 2W

Note: if a more detailed site description is necessary, provide detail here: Wetland along stream and in low lying area
Previous: Wetland 19 – 2W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|---|---------------|------------------|----------------------|
| 1. <u>Highbush Blueberry (Vaccinium corymbosum)</u> | <u>5%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 2. <u>Soft Rush (Juncus effuses)</u> | <u>40%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 3. <u>Tearthumb (Polygonum sagittatum)</u> | <u>5%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 4. <u>Japanese Stiltgrass (Microstegium vimineum)</u> | <u>10%</u> | <u>FAC</u> | <u>Herbaceous</u> |
| 5. <u>Blunt Spikerush (Eleocharis obtuse)</u> | <u>90%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 6. <u>White Meadowsweet (Spirea alba)</u> | <u>10%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 7. <u>Broom Sedge (Carex scoparia)</u> | <u>20%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 8. <u>Swamp Loostrife (Decodon verticillatus)</u> | <u>30%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 9. <u>Rice Cutgrass (Leersia oryzoides)</u> | <u>70%</u> | <u>OBL</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Atsion sand/Spodosols

Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-6" 10yr 3/1; 6-18" 10yr 2/1 (95%) organic loam

Mottle Colors: 6-18" 10yr5/8 (5%) redox features, pore linings present

Other hydric soil indicators: Low chroma matrix, hydrogen sulfide smell

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: hydrogen sulfide smell

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL8 – 1U

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetland 20 – 1U

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|---------------|------------------|----------------------|
| 1. <u>Pitch Pine (Pinus rigida)</u> | <u>10%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 2. <u>Greenbriar (Smilax rotundifolia)</u> | <u>10%</u> | <u>FAC</u> | <u>Woody Vine</u> |
| 3. <u>Upland Grass species</u> | <u>35%</u> | <u>NA</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 33.3%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Spodosols Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-6" 10yr 2/1, 6-14" 10yr 4/4 (60%)

Mottle Colors: 6-14" 10yr 5/3 (40%)

Other hydric soil indicators:

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL8 – 1W

Note: if a more detailed site description is necessary, provide detail here: Spot between two wetland communities that appear to be connected

Previous: Wetland 20 – 1W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) Dead vegetation (possibly from Herbicide)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) Dead vegetation (possibly from Herbicide)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|----------------------|
| 1. | <u>Dead Red Maples (Acer rubrum)</u> | <u>10%</u> | <u>FAC</u> | <u>Tree</u> |
| 2. | <u>Dead Red Maples (Acer rubrum)</u> | <u>5%</u> | <u>FAC</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Deertongue (Dichanthelium clandestinum)</u> | <u>5%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 4. | <u>Fox Sedge (Carex vulpinoidea)</u> | <u>10%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 5. | <u>Grass sp.</u> | <u>50%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 6. | <u>Rice Cutgrass (Leersia oryzoides)</u> | <u>70%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 7. | <u>Bottlebrush Sedge (Carex hystericina)</u> | <u>5%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 8. | <u>Common Reed (Phragmites australis)</u> | <u>80%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 9. | <u>Japanese Knotweed (Polygonum cuspidatum)</u> | <u>50%</u> | <u>UPL</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Atsion sand/Spodosols

Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-6" 10yr 2/1 organic sand, 6-16" 10yr 4/2 sandy

Mottle Colors: N/A

Other hydric soil indicators: Low chroma soils

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: Hydrogen Sulfide Smell

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL8 – 2W

Note: if a more detailed site description is necessary, provide detail here: PSS

Previous: Wetland 20 – 2W

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|--|---------------|------------------|----------------------|
| 1. | <u>Pepperbush (Clethra alnifolia)</u> | <u>45%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 2. | <u>Pitch Pine (Pinus rigida)</u> | <u>10%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Sphagnum moss (Sphagnum sp.)</u> | <u>90%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 4. | <u>Skunk Cabbage (Symplocarpus foetidus)</u> | <u>15%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 5. | <u>Common Reed (Phragmites australis)</u> | <u>20%</u> | <u>FACW</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 50%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Without the identification of specific species for the sphagnum moss, the percent of dominant hydrophytic species is not greater than 50%. Taking into consideration that the sphagnum moss is dominant and requires a wet environment to thrive, the vegetation should be considered hydrophytic.

SOILS

Series/Phase: Atsion sand/Spodosols Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-12 10yr 2/2

Mottle Colors: N/A

Other hydric soil indicators: hydrogen sulfide

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: >12"

List of other field evidence of surface inundation or soil saturation: Hydrogen sulfide odor

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL9 - 1U

Note: if a more detailed site description is necessary, provide detail here: area next to maintained grass roadway along wetland boundary

Previous: Wetland 21 - Upland

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) mowed grass roadway

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|----------------------|
| 1. | <u>Dead Cedar (Juniperus sp.)</u> | <u>5%</u> | <u>NA</u> | <u>Sapling/Shrub</u> |
| 2. | <u>Grass sp.</u> | <u>100%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 3. | <u>Deptford Pink (Dianthus armeria)</u> | <u>1%</u> | <u>UPL</u> | <u>Herbaceous</u> |
| 4. | <u>Deer Tongue (Dichanthelium clandestinum)</u> | <u>5%</u> | <u>FACW</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Spodosols Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-12" 10yr 4/4 sandy loam

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL9 – 1W

Note: if a more detailed site description is necessary, provide detail here: Low lying area

Previous: Wetland 21 – 1W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|----------------------|
| 1. | <u>Pepperbush (Clethra alnifolia)</u> | <u>5%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 2. | <u>Pitch Pine (Pinus rigida)</u> | <u>5%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Grey Birch (Betula populifolia)</u> | <u>1%</u> | <u>FAC</u> | <u>Sapling/Shrub</u> |
| 4. | <u>Lurid Sedge (Carex lurida)</u> | <u>50%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 5. | <u>Common Reed (Phragmites australis)</u> | <u>40%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 6. | <u>Cinnamon Fern (Osmunda cinnamomea)</u> | <u>5%</u> | <u>FACW</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 75%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Atsion sand/Spodosols Subgroup: Aquods

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-18" 10yr 2/2 muck

Mottle Colors: N/A

Other hydric soil indicators: Hydrogen sulfide odor

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 4"

List of other field evidence of surface inundation or soil saturation: hydrogen sulfide odor

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: W10 -1W

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetland 22 – 1W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|---------------|------------------|---------------|
| 1. <u>Pepperbush (Clethra alnifolia)</u> | 20% | FACW | Sapling/Shrub |
| 2. <u>Grey Birch (Betula populifolia)</u> | 1% | FAC | Sapling/Shrub |
| 3. <u>Raspberry (Rubus occidentalis)</u> | 5% | NA | Sapling/Shrub |
| 4. <u>Cinnamon fern (Osmunda cinnamomea)</u> | 10% | FACW | Herbaceous |
| 5. <u>Bottle Brush Sedge (Carex hystericina)</u> | 5% | OBL | Herbaceous |
| 6. <u>Soft Rush (Juncus effuses)</u> | 5% | OBL | Herbaceous |
| 7. <u>Wool Grass (Scirpus cypernus)</u> | 70% | OBL | Herbaceous |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Lakehurst sand/Entisols Subgroup: Psamments

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-3" 10yr 2/1, 3-16" 10yr 6/3 sandy loam

Mottle Colors: 3-16" 10yr 6/8 redox features

Other hydric soil indicators: low chroma matrix

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 6"

List of other field evidence of surface inundation or soil saturation: geomorphological position

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL10 & WL11 – 1U

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetlands 22 & 23 – 1U

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|-------------------|
| 1. | <u>Sweet Fern (Comptonia peregrina)</u> | <u>70%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 2. | <u>Grass species</u> | <u>50%</u> | <u>NA</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: N/A

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Entisols Subgroup: Psammments

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-12" 10yr 4/4 sandy loam

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL11 – 1W

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetland 23 – 1W

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|---|---------------|------------------|-------------------|
| 1. <u>Narrowleaf Cattail (Typha angustifolia)</u> | <u>85%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 2. <u>Sensitive Fern (Onoclea sensibilis)</u> | <u>10%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 3. <u>Joe Pye Weed (Eutrochium maculatum)</u> | <u>10%</u> | <u>FACW</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Lakehurst sand/Entisols Subgroup: Psamments

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-18 10yr 2/2

Mottle Colors: N/A

Other hydric soil indicators:

Is the hydric soil criterion met? Yes No

Rationale: Matched with hydric vegetation and hydrology it indicates that the borderline soil should be considered hydric.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 1"

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 0"

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL12 – 1U

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetland 24 – 1U (upland point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|---|---------------|------------------|----------------------|
| 1. <u>Spicebush (Lindera benzoin)</u> | <u>15%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 2. <u>Lowbush Blueberry (Vaccinium angustifolium)</u> | <u>25%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 3. <u>Grass sp.</u> | <u>85%</u> | <u>NA</u> | <u>Herbaceous</u> |
| <u>Common cinquefoil (Potentilla simplex)</u> | <u>15%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 4. <u>Goldenrod (Solidago rugosa)</u> | <u>10%</u> | <u>FAC</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 33.3

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Entisols Subgroup: Psamments

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-7" 10yr 2/1 organic sand; 7-18" 2.5y 5/3 sand

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL12 – 1W

Note: if a more detailed site description is necessary, provide detail here: Previous: Wetland 24 – 1W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|---|---------------|------------------|----------------------|
| 1. <u>Highbush blueberry (Vaccinium corymbosum)</u> | <u>10%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 2. <u>Pepper Bush (Clethra alnifolia)</u> | <u>25%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 3. <u>Common Reed (Phragmites australis)</u> | <u>50%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 4. <u>Common Rush (Juncus effuses)</u> | <u>50%</u> | <u>OBL</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Lakehurst sand/Entisols Subgroup: Psammets

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-10 10yr 2/1 mucky

Mottle Colors:

Other hydric soil indicators: Hydrogen sulfide smell, Low chroma matrix

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/a

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 0"

List of other field evidence of surface inundation or soil saturation: hydrogen sulfide odor, landscape position

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL13 – 1U

Note: if a more detailed site description is necessary, provide detail here: Hillslope next to wetland boundary
Previous: Wetland 25 – 1U (upland point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|--|---------------|------------------|----------------------|
| 1. | <u>Red Pine (Pinus resinosa)</u> | <u>1%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 2. | <u>Spicebush (Lindera benzoin)</u> | <u>20%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Lowbush Blueberry (Vaccinium angustifolium)</u> | <u>15%</u> | <u>FACU</u> | <u>Sapling/Shrub</u> |
| 4. | <u>Raspberry (Rubus occidentalis)</u> | <u>20%</u> | <u>NA</u> | <u>Sapling/Shrub</u> |
| 5. | <u>Grass sp.</u> | <u>95%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 6. | <u>Common cinquefoil (Potentilla simplex)</u> | <u>20%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 7. | <u>Bracken Fern (Pteridium aquilinum)</u> | <u>5%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 8. | <u>Goldenrod (Solidago rugosa)</u> | <u>15%</u> | <u>FAC</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 25%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Entisols Subgroup: Psammments

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-7" 10yr 2/1 organic sand; 7-18" 2.5y 5/3 sand

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: N/A

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL13 -1W

Note: if a more detailed site description is necessary, provide detail here: Large wetland separated by grass roadway for powerline access

Previous: Wetland 25 – 1W (Wetland Point)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) grass roadway for powerline access

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|---|---------------|------------------|----------------------|
| 1. | <u>Red Maple (Acer rubrum)</u> | <u>5%</u> | <u>FAC</u> | <u>Tree</u> |
| 2. | <u>Pepperbush (Clethra alnifolia)</u> | <u>20%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Arrow arum (Peltandra virginica)</u> | <u>35%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 4. | <u>Narrowleaf Cattail (Typha angustifolia)</u> | <u>85%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 5. | <u>Skunk Cabbage (Symplocarpus foetidus)</u> | <u>5%</u> | <u>OBL</u> | <u>Herbaceous</u> |
| 6. | <u>Sedge sp.</u> | <u>40%</u> | <u>NA</u> | <u>Herbaceous</u> |
| 7. | <u>Sensitive Fern (Onoclea sensibilis)</u> | <u>5%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 8. | <u>Intermediate Fern (Dryopteris intermedia)</u> | <u>20%</u> | <u>FACU</u> | <u>Herbaceous</u> |
| 9. | <u>Virginia Creeper (Parthenocissus quinquefolia)</u> | <u>5%</u> | <u>FACU</u> | <u>Woody Vine</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 75%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Lakehurst sand & Udorthents/Entisols Subgroup: Psamments & Orthents

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-18 10yr 2/2 muck

Mottle Colors: N/A

Other hydric soil indicators: Hydric sulfide odor

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 2"

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 0"

List of other field evidence of surface inundation or soil saturation: hydrogen sulfide odor

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: Matt Spadoni, Jacqueline McMillen

Date: 6/24/2020

Project/Site: Larabee Wetland Delineation State: NJ

County: Monmouth County

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: WL13 – 2W

Note: if a more detailed site description is necessary, provide detail here: Low lying area

Previous: Wetland 25 – 2W (Wetland)

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain)

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|----|--|---------------|------------------|----------------------|
| 1. | <u>Pepperbush (Clethra alnifolia)</u> | <u>45%</u> | <u>FACW</u> | <u>Sapling/Shrub</u> |
| 2. | <u>Black Willow (Salix nigra)</u> | <u>5%</u> | <u>OBL</u> | <u>Sapling/Shrub</u> |
| 3. | <u>Common Reed (Phragmites australis)</u> | <u>98%</u> | <u>FACW</u> | <u>Herbaceous</u> |
| 4. | <u>Skunk Cabbage (Symplocarpus foetidus)</u> | <u>5%</u> | <u>OBL</u> | <u>Herbaceous</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale:

SOILS

Series/Phase: Lakehurst sand & Udorthents/Entisols Subgroup: Psammments & Orthents

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-18 10yr 2/2 muck

Mottle Colors: N/A

Other hydric soil indicators: N/A

Is the hydric soil criterion met? Yes No

Rationale:

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: 0.5"

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 0"

List of other field evidence of surface inundation or soil saturation: N/A

Is the wetland hydrology criterion met? Yes No

Rationale:

Data Form

Routine Onsite Determination Form

Field Investigators: HB, AL Date: 06/23/2022

Project/Site: Atlantic Shores State: NJ County: Atlantic

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W017-1U

Note: if a more detailed site description is necessary, provide detail here: Area consists of mowed grasses and is a maintained side of a roadway.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) Soils were previously excavated and piled to create this upland berm

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|-----|--|---------------|------------------|---------------|
| 1. | Red fescue (<i>Festuca rubra</i>) | 90 | FACU | Herb |
| 2. | White Clover (<i>Trifolium repens</i>) | 15 | FACU | Herb |
| 3. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 4. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 5. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 6. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 7. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 8. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 9. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 10. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 11. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 12. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 13. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 14. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 15. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: All species present are FACU.

SOILS

Series/Phase: [Click or tap here to enter text.](#)

Subgroup: [Click or tap here to enter text.](#)

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-3" 10YR 2/1 (100%); 3-6" 10YR 5/3 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes No

Rationale: This is a characteristic upland soil without any colors or hydric indicators. Refusal at 4-inches.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: None

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: None

List of other field evidence of surface inundation or soil saturation: None

Is the wetland hydrology criterion met? Yes No

Rationale: No primary or secondary wetland hydrology indicators exist.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, AL Date: 06/23/2022

Project/Site: Atlantic Shores State: NJ County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W017-1W

Note: if a more detailed site description is necessary, provide detail here: PFO wetland.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|----------------|------------------|---------------|
| 1. <u>Green Ash (Fraxinus pennsylvanica)</u> | 50 | FACW | Tree |
| 2. <u>Sweet Gum (Liquidambar styraciflua)</u> | 30 | FAC | Tree |
| 3. <u>Sweet Pepperbush (Clethra alnifolia)</u> | 50 | FACW | Sapling/Shrub |
| 4. <u>Highbush Blueberry (Vaccinium corymbosum)</u> 40 | | FACW | Sapling/Shrub |
| 5. <u>Species Name</u> | | STATUS | Stratum |
| 6. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 7. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 8. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 9. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 10. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 11. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 12. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 13. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 14. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 15. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Majority of species present are FAC or FACW.

SOILS

Series/Phase: Click or tap here to enter text.

Subgroup: Click or tap here to enter text.

Is the soil on the hydric soils list? Yes

No

Undetermined

Is the soil a Histosol? Yes

No

Histic epipedon present? Yes No

Is the soil: Mottled? Yes

No

Gleyed? Yes No

Matrix Color: 0-18" 10YR 2/1 100%; 18-20" 10YR 5/3 100% Mottle Colors: Click or tap here to enter text.

Other hydric soil indicators: Click or tap here to enter text.

Is the hydric soil criterion met? Yes

No

Rationale: Histosol criterion met.

HYDROLOGY

Is the ground surface inundated? Yes

No

Surface water depth: N/A

Is the soil saturated? Yes

No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: Geomorphic position and drainage patterns.

Is the wetland hydrology criterion met? Yes

No

Rationale: Two secondary indicators present.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, AL Date: 06/23/2022

Project/Site: Atlantic Shores State: NJ County: Atlantic

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W018-1U

Note: if a more detailed site description is necessary, provide detail here: Area consists of mowed grasses and is a maintained side of a roadway.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) Soils were previously excavated and piled to create this upland berm

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|-----|--|---------------|------------------|---------------|
| 1. | Red fescue (<i>Festuca rubra</i>) | 90 | FACU | Herb |
| 2. | White Clover (<i>Trifolium repens</i>) | 15 | FACU | Herb |
| 3. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 4. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 5. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 6. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 7. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 8. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 9. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 10. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 11. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 12. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 13. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 14. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |
| 15. | Species Name _____ | % Cover _____ | STATUS _____ | Stratum _____ |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 0%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: All species present are FACU.

SOILS

Series/Phase: [Click or tap here to enter text.](#)

Subgroup: [Click or tap here to enter text.](#)

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epipedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-6" 10YR 4/4 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes No

Rationale: This is a characteristic upland soil without any colors or hydric indicators. Refusal at 6-inches.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: None

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: None

List of other field evidence of surface inundation or soil saturation: None

Is the wetland hydrology criterion met? Yes No

Rationale: No primary or secondary wetland hydrology indicators exist.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, AL Date: 06/23/2022

Project/Site: Atlantic Shores State: NJ County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W018-1W

Note: if a more detailed site description is necessary, provide detail here: PFO wetland.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|---|----------------|------------------|---------------|
| 1. <u>Green Ash (Fraxinus pennsylvanica)</u> | 50 | FACW | Tree |
| 2. <u>Sweet Gum (Liquidambar styraciflua)</u> | 30 | FAC | Tree |
| 3. <u>Sweet Pepperbush (Clethra alnifolia)</u> | 50 | FACW | Sapling/Shrub |
| 4. <u>Highbush Blueberry (Vaccinium corymbosum)</u> | 40 | FACW | Sapling/Shrub |
| 5. <u>Species Name</u> | | STATUS | Stratum |
| 6. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 7. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 8. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 9. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 10. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 11. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 12. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 13. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 14. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |
| 15. <u>Species Name</u> | <u>% Cover</u> | STATUS | Stratum |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Majority of species present are FAC or FACW.

SOILS

Series/Phase: [Click or tap here to enter text.](#)

Subgroup: [Click or tap here to enter text.](#)

Is the soil on the hydric soils list? Yes

No

Undetermined

Is the soil a Histosol? Yes

No

Histic epipedon present? Yes No

Is the soil: Mottled? Yes No

Gleyed? Yes No

Matrix Color: 0-4" 10YR 2/2 100%; 4-8" 10YR 3/1 98%; 8-10" 10YR 3/4 100% Mottle Colors: 7.5YR 4/6 2%

Other hydric soil indicators: Redox Dark Surface

Is the hydric soil criterion met? Yes

No

Rationale: Redox dark surface criterion met.

HYDROLOGY

Is the ground surface inundated? Yes

No

Surface water depth: N/A

Is the soil saturated? Yes

No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: Geomorphic position and drainage patterns.

Is the wetland hydrology criterion met? Yes

No

Rationale: Two secondary indicators present.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, AL Date: 06/23/2022

Project/Site: Atlantic Shores State: NJ County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W018-2W

Note: if a more detailed site description is necessary, provide detail here: PEM wetland.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|----------------|------------------|----------------|
| 1. <u>Green Ash (Fraxinus pennsylvanica)</u> | 10 | FACW | Tree |
| 2. <u>Black Willow (Salix nigra)</u> | 5 | OBL | Tree |
| 3. <u>Red Maple (Acer rubrum)</u> | 2 | FACW | Sapling/Shrub |
| 4. <u>Sweet Pepperbush (Clethra alnifolia)</u> | 10 | FACW | Sapling/Shrub |
| 5. <u>Northern Spicebush (Lindera benzoin)</u> | 5 | FACW | Sapling/Shrub |
| 6. <u>Skunk Cabbage (Symplocarpus foetidus)</u> | 80 | OBL | Herb |
| 7. <u>Soft Rush (Juncus effusus)</u> | 30 | OBL | Herb |
| 8. <u>Ostrich Fern (Matteuccia struthiopteris)</u> | 20 | FACW | Herb |
| 9. <u>Sensitive Fern (Onoclea sensibilis)</u> | 10 | FACW | Herb |
| 10. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 11. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 12. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 13. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 14. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 15. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Majority of species present are FAC, FACW, or OBL.

SOILS

Series/Phase: [Click or tap here to enter text.](#)

Subgroup: [Click or tap here to enter text.](#)

Is the soil on the hydric soils list? Yes

No

Undetermined

Is the soil a Histosol? Yes

No

Histic epipedon present? Yes No

Is the soil: Mottled? Yes No

Gleyed? Yes No

Matrix Color: 0-6" 10YR 3/2 100%; 6-12" 10YR 4/2 95%

Mottle Colors: 10YR 5/6 5%

Other hydric soil indicators: Redox Dark Surface

Is the hydric soil criterion met? Yes

No

Rationale: Redox dark surface criterion met.

HYDROLOGY

Is the ground surface inundated? Yes

No

Surface water depth: 6 inches

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: 0 inches

List of other field evidence of surface inundation or soil saturation: Water-stained leaves, geomorphic position and drainage patterns.

Is the wetland hydrology criterion met? Yes

No

Rationale: Primary and secondary indicators present.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, MD

Date: 07/11/2022

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W019-1U

Note: if a more detailed site description is necessary, provide detail here: Area consists of herbaceous vegetation and is a side of a roadway.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) Soils were previously excavated and piled to create this upland berm

VEGETATION

| | Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|-----|---|----------------|------------------|----------------|
| 1. | <u>Canada Goldenrod (Solidago canadensis)</u> | 40 | FACU | Herb |
| 2. | <u>Devil's Beggartick (Bidens frondosa)</u> | 30 | FACW | Herb |
| 3. | <u>Poison Ivy (Toxicodendron radicans)</u> | 40 | FAC | Herb |
| 4. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 5. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 6. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 7. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 8. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 9. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 10. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 11. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 12. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 13. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 14. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 15. | <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 50%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Fails the dominance test.

SOILS

Series/Phase: [Click or tap here to enter text.](#)

Subgroup: [Click or tap here to enter text.](#)

Is the soil on the hydric soils list? Yes No Undetermined

Is the soil a Histosol? Yes No Histic epiedon present? Yes No

Is the soil: Mottled? Yes No Gleyed? Yes No

Matrix Color: 0-12" 5Y 2.5/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes No

Rationale: This is a characteristic upland soil without any colors or hydric indicators.

HYDROLOGY

Is the ground surface inundated? Yes No Surface water depth: None

Is the soil saturated? Yes No

Depth to free-standing water in pit/soil probe hole: None

List of other field evidence of surface inundation or soil saturation: None

Is the wetland hydrology criterion met? Yes No

Rationale: No primary or secondary wetland hydrology indicators exist.

Data Form

Routine Onsite Determination Form

Field Investigators: HB, MD

Date: 07/11/2022

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W019-1W

Note: if a more detailed site description is necessary, provide detail here: PFO wetland.

Do normal environmental conditions exist at the plant community?

Yes No (If no, explain) [Click or tap here to enter text.](#)

Has the vegetation, soils, and/or hydrology been significantly disturbed?

Yes No (If yes, explain) [Click or tap here to enter text.](#)

VEGETATION

| Dominant Plant Species | Percent Cover | Indicator Status | Stratum |
|--|----------------|------------------|----------------|
| 1. <u>Sweet Gum (Liquidambar styraciflua)</u> | 10 | FAC | Tree |
| 2. <u>Gray Dogwood (Liquidambar styraciflua)</u> | 10 | FAC | Tree |
| 3. <u>Soft Rush (Juncus effusus)</u> | 50 | OBL | Herb |
| 4. <u>Flat-top Goldentop (Euthamia graminifolia)</u> | 30 | FAC | Herb |
| 5. <u>Mile-a-Minute (Persicaria perfoliate)</u> | 20 | FAC | Herb |
| 6. <u>Common Reed (Phragmites australis)</u> | 20 | FACW | Herb |
| 7. <u>Wrinkle-Leaf Goldenrod (Solidago rugosa)</u> | 30 | FAC | Herb |
| 8. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 9. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 10. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 11. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 12. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 13. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 14. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |
| 15. <u>Species Name</u> | <u>% Cover</u> | <u>STATUS</u> | <u>Stratum</u> |

Percent of Dominant Species that are OBL, FACW, and/or FAC: 100%

Is the hydrophytic vegetation criterion met? Yes No

Rationale: Majority of species present are FAC or FACW.

SOILS

Series/Phase: [Click or tap here to enter text.](#)

Subgroup: [Click or tap here to enter text.](#)

Is the soil on the hydric soils list? Yes

No

Undetermined

Is the soil a Histosol? Yes

No

Histic epipedon present? Yes No

Is the soil: Mottled? Yes No

Gleyed? Yes No

Matrix Color: 0-12" 10YR 2/1 100%; 12-18" 10YR 4/2 95%

Mottle Colors: 7.5YR 4/6 5%

Other hydric soil indicators: Depleted Matrix

Is the hydric soil criterion met? Yes

No

Rationale: **Depleted Matrix criterion met.**

HYDROLOGY

Is the ground surface inundated? Yes

No

Surface water depth: N/A

Is the soil saturated? Yes

No

Depth to free-standing water in pit/soil probe hole: N/A

List of other field evidence of surface inundation or soil saturation: Geomorphic position and drainage patterns.

Is the wetland hydrology criterion met? Yes

No

Rationale: Two secondary indicators present.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W008-1U
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): convex Slope (%): 0-3
 Subregion (LRR or MLRA): LRR S Lat: 40.1208965 Long: -74.19600833 Datum: WGS 1984
 Soil Map Unit Name: Atsion sand, 0 to 2 percent slopes, Northern Tidewater Area NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W008-1U

| Tree Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| 1. <i>Acer rubrum</i> / Red maple | 30 | Yes | FAC |
| 2. <i>Juniperus virginiana</i> / Eastern red-cedar | 30 | Yes | Smilax rotu |
| 3. <i>Liquidambar styraciflua</i> / Sweetgum | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|---|--|----|---------------|
| | | 70 | = Total Cover |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | 0 | = Total Cover |

| Herb Stratum (Plot size: 5 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| 1. <i>Smilax rotundifolia</i> / Horsebrier | 5 | Yes | FAC |
| 2. <i>Ilex opaca</i> / American holly | 5 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | | 10 | = Total Cover |

| Woody Vine Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | 0 | = 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>0</u> | x 1 = | <u>0</u> |
| FACW species <u>0</u> | x 2 = | <u>0</u> |
| FAC species <u>45</u> | x 3 = | <u>135</u> |
| FACU species <u>35</u> | x 4 = | <u>140</u> |
| UPL species <u>0</u> | x 5 = | <u>0</u> |
| Column Totals: <u>80</u> (A) | | <u>275</u> (B) |

Prevalence Index = B/A = 3.44

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting 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: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W008-1W
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Swale Local relief (concave, convex, none): concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR S Lat: 40.12106767 Long: -74.1960005 Datum: WGS 1984
 Soil Map Unit Name: Atsion sand, 0 to 2 percent slopes, Northern Tidewater Area NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W008-1W

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|---------------------|----------------------|---------------------|--|
| Tree Stratum (Plot size: 30 Feet) | | | | |
| 1. <i>Acer rubrum</i> / Red maple | 80 | Yes | FAC | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 80 | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | | |
| 1. <i>Acer rubrum</i> / Red maple | 80 | Yes | FAC | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 80 | = Total Cover | | |
| Herb Stratum (Plot size: 5 Feet) | | | | |
| 1. <i>Smilax rotundifolia</i> / Horsebrier | 5 | Yes | FAC | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| | 5 | = Total Cover | | |
| Woody Vine Stratum (Plot size: 30 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| | 0 | = Total Cover | | |

| | |
|--|--------------|
| Dominance Test worksheet: | |
| Number of Dominant Species That Are OBL, FACW, or FAC: | 3 (A) |
| Total Number of Dominant Species Across All Strata: | 3 (B) |
| Percent of Dominant Species That Are OBL, FACW, or FAC: | 100.0 (A/B) |
| Prevalence Index worksheet: | |
| Total % Cover of: | Multiply by: |
| OBL species 0 | x 1 = 0 |
| FACW species 0 | x 2 = 0 |
| FAC species 165 | x 3 = 495 |
| FACU species 0 | x 4 = 0 |
| UPL species 0 | x 5 = 0 |
| Column Totals: 165 (A) | 495 (B) |
| Prevalence Index = B/A = 3.0 | |
| Hydrophytic Vegetation Indicators: | |
| <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation | |
| <input checked="" type="checkbox"/> 2 - Dominance Test is >50% | |
| <input checked="" type="checkbox"/> 3 - Prevalence Index ≤3.0 ¹ | |
| <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting Problematic Hydrophytic Vegetation ¹ (Explain) | |
| ¹ Indicators 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> | |

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W009-1U
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Berm Local relief (concave, convex, none): convex Slope (%): 0-10
 Subregion (LRR or MLRA): LRR S Lat: 40.11846917 Long: -74.19569283 Datum: WGS 1984
 Soil Map Unit Name: Berryland sand, 0 to 2 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W009-1U

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|---------------------|----------------------|---------------------|--|
| Tree Stratum (Plot size: <u>30 Feet</u>) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | <u>0</u> | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>15 Feet</u>) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | <u>0</u> | = Total Cover | | |
| Herb Stratum (Plot size: <u>5 Feet</u>) | | | | |
| 1. | 20 | Yes | FACU | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| | <u>20</u> | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>30 Feet</u>) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| | <u>0</u> | = Total Cover | | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

 Total Number of Dominant Species Across All Strata: 1 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

| | 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>20</u> | x 4 = | <u>80</u> | |
| UPL species | <u>0</u> | x 5 = | <u>0</u> | |
| Column Totals: | <u>20</u> | (A) | <u>80</u> | (B) |

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W009-1W
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Depressional area Local relief (concave, convex, none): concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR S Lat: 40.11845617 Long: -74.19583533 Datum: WGS 1984
 Soil Map Unit Name: Berryland sand, 0 to 2 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>26-W009-1W</u> |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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): 12
 Saturation Present? Yes No _____ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes No _____

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W009-1W

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| Tree Stratum (Plot size: 30 Feet) | | | |
| 1. <i>Quercus bicolor</i> / Swamp white oak | 20 | Yes | FACW |
| 2. <i>Acer rubrum</i> / Red maple | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|--|----|-----|-----|
| 25 = Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | |
| 1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush | 75 | Yes | FAC |
| 2. <i>Acer rubrum</i> / Red maple | 5 | No | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 80 = Total Cover | | | |

| | | | |
|----------------------------------|--|--|--|
| Herb Stratum (Plot size: 5 Feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| 0 = Total Cover | | | |

| | | | |
|---|--|--|--|
| Woody Vine Stratum (Plot size: 30 Feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 0 = Total Cover | | | |

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

| Total % Cover of: | Multiply by: |
|-------------------------------|------------------|
| OBL species <u>0</u> | x 1 = <u>0</u> |
| FACW species <u>20</u> | x 2 = <u>40</u> |
| FAC species <u>85</u> | x 3 = <u>255</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>0</u> | x 5 = <u>0</u> |
| Column Totals: <u>105</u> (A) | <u>295</u> (B) |

Prevalence Index = B/A = 2.81

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W010-1U
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): convex Slope (%): 0-5
 Subregion (LRR or MLRA): LRR S Lat: 40.1154725 Long: -74.17606633 Datum: WGS 1984
 Soil Map Unit Name: Berryland sand, 0 to 2 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W010-1U

| | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| Tree Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. <i>Pinus rigida</i> / Pitch pine | 20 | Yes | FACU |
| 2. <i>Acer rubrum</i> / Red maple | 15 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|---|-----------|---------------|-----|
| | <u>35</u> | = Total Cover | |
| Sapling/Shrub Stratum (Plot size: <u>15 Feet</u>) | | | |
| 1. <i>Betula alleghaniensis</i> / Yellow birch | 30 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|---|-----------|---------------|-----|
| | <u>30</u> | = Total Cover | |
| Herb Stratum (Plot size: <u>5 Feet</u>) | | | |
| 1. <i>Smilax rotundifolia</i> / Horsebrier | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |

| | | | |
|--|-----------|---------------|--|
| | <u>10</u> | = Total Cover | |
| Woody Vine Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | <u>0</u> | = Total Cover | |

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

| 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>55</u> | x 3 = | <u>165</u> |
| FACU species <u>20</u> | x 4 = | <u>80</u> |
| UPL species <u>0</u> | x 5 = | <u>0</u> |
| Column Totals: <u>75</u> | (A) | <u>245</u> (B) |

Prevalence Index = B/A = 3.27

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W010-1W
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Depressional area Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR S Lat: 40.11543983 Long: -74.17610233 Datum: WGS 1984
 Soil Map Unit Name: Berryland sand, 0 to 2 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

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

| | |
|--|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>12</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe) | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W010-1W

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|---------------------|----------------------|---------------------|-----|
| Tree Stratum (Plot size: 30 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 0 | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | | |
| 1. | 10 | Yes | | FAC |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 10 | = Total Cover | | |
| Herb Stratum (Plot size: 5 Feet) | | | | |
| 1. | 5 | Yes | | OBL |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| | 5 | = Total Cover | | |
| Woody Vine Stratum (Plot size: 30 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| | 0 | = 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: 2 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

| | Total % Cover of: | | Multiply by: | |
|----------------|-------------------|-------|--------------|-----|
| OBL species | 5 | x 1 = | 5 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 10 | x 3 = | 30 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 15 | (A) | 35 | (B) |

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

SOIL

Sampling Point: 26-W010-1W

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 | | |
| 0-6 | 10YR 2/1 | 100 | | | | | Loam | |
| 6-12 | 10YR 4/1 | 100 | | | | | Sandy Loam | |
| 12-18 | 10YR 4/1 | | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- 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)

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)
- Dark Surface (S7) (LRR K, L)
- 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

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W011-1U
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): concave Slope (%): 5-10
 Subregion (LRR or MLRA): LRR S Lat: 40.11552933 Long: -74.17518867 Datum: WGS 1984
 Soil Map Unit Name: Berryland sand, 0 to 2 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W011-1U

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---------------------|----------------------|---------------------|
| Tree Stratum (Plot size: 30 Feet) | | | |
| 1. <i>Quercus velutina</i> / Black oak | 50 | Yes | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 50 | = Total Cover | |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | |
| 1. <i>Berberis thunbergii</i> / Japanese barberry | 15 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 | = Total Cover | |
| Herb Stratum (Plot size: 5 Feet) | | | |
| 1. <i>Allium</i> / Onion | 5 | Yes | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 5 | = Total Cover | |
| Woody Vine Stratum (Plot size: 30 Feet) | | | |
| 1. <i>Celastrus orbiculatus</i> / Asian bittersweet | 20 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 20 | = Total Cover | |

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

| 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>35</u> | x 4 = <u>140</u> |
| UPL species <u>55</u> | x 5 = <u>275</u> |
| Column Totals: <u>90</u> (A) | <u>415</u> (B) |

Prevalence Index = B/A = 4.61

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/21/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W011-1W
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Depressional area Local relief (concave, convex, none): concave Slope (%): 3-5
 Subregion (LRR or MLRA): LRR S Lat: _____ Long: _____ Datum: WGS 1984
 Soil Map Unit Name: Berryland sand, 0 to 2 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W011-1W

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| Tree Stratum (Plot size: 30 Feet) | | | |
| 1. <i>Acer rubrum</i> / Red maple | 20 | Yes | FAC |
| 2. <i>Quercus bicolor</i> / Swamp white oak | 10 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 30 | = Total Cover | |

| | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | |
| 1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush | 10 | Yes | FAC |
| 2. <i>Acer rubrum</i> / Red maple | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 | = Total Cover | |

| | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| Herb Stratum (Plot size: 5 Feet) | | | |
| 1. <i>Osmunda cinnamomea</i> / Cinnamon fern | 15 | Yes | FACW |
| 2. <i>Microstegium vimineum</i> / Japanese stilt grass | 5 | Yes | FAC |
| 3. <i>Carex stricta</i> / Uptight sedge | 5 | Yes | OBL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 25 | = Total Cover | |

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| Woody Vine Stratum (Plot size: 30 Feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 0 | = Total Cover | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

| Total % Cover of: | Multiply by: |
|------------------------------|------------------|
| OBL species <u>5</u> | x 1 = <u>5</u> |
| FACW species <u>25</u> | x 2 = <u>50</u> |
| FAC species <u>40</u> | x 3 = <u>120</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>0</u> | x 5 = <u>0</u> |
| Column Totals: <u>70</u> (A) | <u>175</u> (B) |

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

SOIL

Sampling Point: 26-W011-1W

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 | | |
| 0-2 | 10YR 2/1 | 100 | | | | | Sandy Loam | |
| 2-6 | 10YR 4/1 | | | | | | Sandy Loam | |
| 6-12 | 10YR 3/1 | 100 | | | | | Sandy Loam | |
| 12-18 | 10YR 6/3 | 75 | 7.5YR 5/8 | 25 | | | Sandy Loam | |
| | | | | | | | | |
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| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- 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)

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)
- Dark Surface (S7) (LRR K, L)
- 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

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W012-1U
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): _____ Slope (%): 0-5
 Subregion (LRR or MLRA): LRR S Lat: 40.1180645 Long: -74.1683205 Datum: WGS 1984
 Soil Map Unit Name: Atsion sand, 0 to 2 percent slopes, Northern Tidewater Area NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W012-1U

| Tree Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| 1. <i>Pinus rigida</i> / Pitch pine | 40 | Yes | FACU |
| 2. <i>Quercus velutina</i> / Black oak | 10 | Yes | NI |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| 50 = Total Cover | | | |
|--|------------------|-------------------|------------------|
| Sapling/Shrub Stratum (Plot size: 15 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
| 1. <i>Acer rubrum</i> / Red maple | 20 | Yes | FAC |
| 2. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| 25 = Total Cover | | | |
|---|------------------|-------------------|------------------|
| Herb Stratum (Plot size: 5 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
| 1. <i>Chimaphila maculata</i> / Striped prince's pine | 5 | Yes | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |

| 5 = Total Cover | | | |
|---|------------------|-------------------|------------------|
| Woody Vine Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 0 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)

Prevalence Index worksheet:

| 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>25</u> | x 3 = <u>75</u> |
| FACU species <u>40</u> | x 4 = <u>160</u> |
| UPL species <u>15</u> | x 5 = <u>75</u> |
| Column Totals: <u>80</u> (A) | <u>310</u> (B) |

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W012-1W
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Swale Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR S Lat: 40.1180355 Long: -74.16829433 Datum: WGS 1984
 Soil Map Unit Name: Atsion sand, 0 to 2 percent slopes, Northern Tidewater Area NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No _____ |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W012-1W

| Tree Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|-----------------------------------|------------------|-------------------|------------------|
| 1. <i>Acer rubrum</i> / Red maple | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| Sapling/Shrub Stratum (Plot size: 15 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| 1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush | 20 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| Herb Stratum (Plot size: 5 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| 1. <i>Juncus effusus</i> / Common bog rush, Soft or lamp rush | 5 | Yes | OBL |
| 2. <i>Symplocarpus foetidus</i> / Skunk-cabbage | 5 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |

| Woody Vine Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

| Total % Cover of: | Multiply by: |
|------------------------------|------------------|
| OBL species <u>10</u> | x 1 = <u>10</u> |
| FACW species <u>0</u> | x 2 = <u>0</u> |
| FAC species <u>35</u> | x 3 = <u>105</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>0</u> | x 5 = <u>0</u> |
| Column Totals: <u>45</u> (A) | <u>115</u> (B) |

Prevalence Index = B/A = 2.56

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W014-1U
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): convex Slope (%): 0-5
 Subregion (LRR or MLRA): LRR S Lat: 40.11895733 Long: -74.16597317 Datum: WGS 1984
 Soil Map Unit Name: Atsion sand, 0 to 2 percent slopes, Northern Tidewater Area NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W014-1U

| Tree Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| 1. <i>Quercus velutina</i> / Black oak | 20 | Yes | NI |
| 2. <i>Acer rubrum</i> / Red maple | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|---|--|----|---------------|
| | | 30 | = Total Cover |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | 0 | = Total Cover |

| Herb Stratum (Plot size: 5 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| 1. <i>Aster</i> / Aster | 5 | Yes | NI |
| 2. <i>Smilax rotundifolia</i> / Horsebrier | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | | 10 | = Total Cover |

| Woody Vine Stratum (Plot size: 30 Feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | 0 | = 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>0</u> | x 1 = <u>0</u> |
| FACW species <u>0</u> | x 2 = <u>0</u> |
| FAC species <u>15</u> | x 3 = <u>45</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>25</u> | x 5 = <u>125</u> |
| Column Totals: <u>40</u> (A) | <u>170</u> (B) |

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤ 3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W014-1W
 Investigator(s): ALTC Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Depressional area Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR S Lat: 40.11892867 Long: -74.165902 Datum: WGS 1984
 Soil Map Unit Name: Atsion sand, 0 to 2 percent slopes, Northern Tidewater Area NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

| | | |
|--|--|--|
| Wetland Hydrology Indicators: | | |
| Primary Indicators (minimum of one required; check all that apply) | Secondary Indicators (minimum of two required) | |
| <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) <input checked="" type="checkbox"/> Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Sparsely Vegetated Concave Surface (B8) | <input checked="" type="checkbox"/> Water-Stained Leaves (B9) ___ Aquatic Fauna (B13) ___ Marl Deposits (B15) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Presence of Reduced Iron (C4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Thin Muck Surface (C7) ___ Other (Explain in Remarks) | ___ 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) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

| | |
|--|--|
| Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>3</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe) | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W014-1W

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| Tree Stratum (Plot size: 30 Feet) | | | |
| 1. <i>Acer rubrum</i> / Red maple | 10 | Yes | FAC |
| 2. <i>Quercus bicolor</i> / Swamp white oak | 10 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|--|----|---------------|-----|
| | 20 | = Total Cover | |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | |
| 1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush | 40 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|---|----|---------------|-----|
| | 40 | = Total Cover | |
| Herb Stratum (Plot size: 5 Feet) | | | |
| 1. <i>Symplocarpus foetidus</i> / Skunk-cabbage | 5 | Yes | OBL |
| 2. <i>Smilax rotundifolia</i> / Horsebrier | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |

| | | | |
|---|----|---------------|--|
| | 10 | = Total Cover | |
| Woody Vine Stratum (Plot size: 30 Feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 0 | = Total Cover | |

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

| Total % Cover of: | Multiply by: |
|------------------------------|------------------|
| OBL species <u>5</u> | x 1 = <u>5</u> |
| FACW species <u>10</u> | x 2 = <u>20</u> |
| FAC species <u>55</u> | x 3 = <u>165</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>0</u> | x 5 = <u>0</u> |
| Column Totals: <u>70</u> (A) | <u>190</u> (B) |

Prevalence Index = B/A = 2.71

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W015-1U
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): convex Slope (%): 5-10
 Subregion (LRR or MLRA): LRR S Lat: 40.12807383 Long: -74.13545567 Datum: WGS 1984
 Soil Map Unit Name: Humaquepts, 0 to 3 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W015-1U

| | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| Tree Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. <u>Quercus velutina / Black oak</u> | <u>20</u> | <u>Yes</u> | <u>NI</u> |
| 2. _____ | | | |
| 3. _____ | | | |
| 4. _____ | | | |
| 5. _____ | | | |
| 6. _____ | | | |
| 7. _____ | | | |

| | | | |
|---|-----------|----------------------|------------|
| | <u>20</u> | <u>= Total Cover</u> | |
| Sapling/Shrub Stratum (Plot size: <u>15 Feet</u>) | | | |
| 1. <u>Clethra alnifolia / Coastal sweet-pepperbush</u> | <u>25</u> | <u>Yes</u> | <u>FAC</u> |
| 2. _____ | | | |
| 3. _____ | | | |
| 4. _____ | | | |
| 5. _____ | | | |
| 6. _____ | | | |
| 7. _____ | | | |

| | | | |
|---|-----------|----------------------|------------|
| | <u>25</u> | <u>= Total Cover</u> | |
| Herb Stratum (Plot size: <u>5 Feet</u>) | | | |
| 1. <u>Smilax rotundifolia / Horsebrier</u> | <u>5</u> | <u>Yes</u> | <u>FAC</u> |
| 2. _____ | | | |
| 3. _____ | | | |
| 4. _____ | | | |
| 5. _____ | | | |
| 6. _____ | | | |
| 7. _____ | | | |
| 8. _____ | | | |
| 9. _____ | | | |
| 10. _____ | | | |
| 11. _____ | | | |
| 12. _____ | | | |

| | | | |
|--|----------|----------------------|--|
| | <u>5</u> | <u>= Total Cover</u> | |
| Woody Vine Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. _____ | | | |
| 2. _____ | | | |
| 3. _____ | | | |
| 4. _____ | | | |
| | <u>0</u> | <u>= Total Cover</u> | |

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

| 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>30</u> | x 3 = <u>90</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>20</u> | x 5 = <u>100</u> |
| Column Totals: <u>50</u> (A) | <u>190</u> (B) |

Prevalence Index = B/A = 3.8

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/16/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W015-1W
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Swale Local relief (concave, convex, none): concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR S Lat: 40.12801933 Long: -74.13536217 Datum: WGS 1984
 Soil Map Unit Name: Humaquepts, 0 to 3 percent slopes, frequently flooded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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 _____

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W015-1W

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|---------------------|----------------------|---------------------|--|
| Tree Stratum (Plot size: 30 Feet) | | | | |
| 1. <i>Acer rubrum</i> / Red maple | 35 | Yes | FAC | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 35 | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | | |
| 1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush | 45 | Yes | FAC | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 45 | = Total Cover | | |
| Herb Stratum (Plot size: 5 Feet) | | | | |
| 1. <i>Symplocarpus foetidus</i> / Skunk-cabbage | 15 | Yes | OBL | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| | 15 | = Total Cover | | |
| Woody Vine Stratum (Plot size: 30 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| | 0 | = Total Cover | | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

 Total Number of Dominant Species Across All Strata: 3 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

| Total % Cover of: | Multiply by: |
|------------------------------|------------------|
| OBL species <u>15</u> | x 1 = <u>15</u> |
| FACW species <u>0</u> | x 2 = <u>0</u> |
| FAC species <u>80</u> | x 3 = <u>240</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>0</u> | x 5 = <u>0</u> |
| Column Totals: <u>95</u> (A) | <u>255</u> (B) |

Prevalence Index = B/A = 2.68

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/21/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W016-1U
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): convex Slope (%): 0-3
 Subregion (LRR or MLRA): LRR S Lat: 40.12990367 Long: -74.05197133 Datum: WGS 1984
 Soil Map Unit Name: Downer-Urban land complex, 0 to 5 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W016-1U

| | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| Tree Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. <i>Picea abies</i> / Norway spruce | 20 | Yes | NI |
| 2. <i>Robinia pseudoacacia</i> / Black locust | 10 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |

| | | | |
|---|---|-----|----|
| <u>30</u> = Total Cover | | | |
| Sapling/Shrub Stratum (Plot size: <u>15 Feet</u>) | | | |
| 1. <i>Taxus</i> / Yew | 5 | Yes | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| <u>5</u> = Total Cover | | | |

| | | | |
|---|-----|-----|------|
| Herb Stratum (Plot size: <u>5 Feet</u>) | | | |
| 1. <i>Poa pratensis</i> / Kentucky blue grass | 100 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| <u>100</u> = Total Cover | | | |

| | | | |
|--|--|--|--|
| Woody Vine Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| <u>0</u> = Total Cover | | | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

| 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>110</u> | x 4 = <u>440</u> |
| UPL species <u>25</u> | x 5 = <u>125</u> |
| Column Totals: <u>135</u> (A) | <u>565</u> (B) |

Prevalence Index = B/A = 4.19

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/21/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W016-1W
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Bowl shaped depression Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR S Lat: 40.129932 Long: -74.051943 Datum: WGS 1984
 Soil Map Unit Name: Water NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>26-W016-1W</u> |
| Remarks: (Explain alternative procedures here or in a separate report.) Manmade pond. | |

HYDROLOGY

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

| | |
|--|--|
| Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>12+</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W016-1W

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|---------------------|----------------------|---------------------|--|
| Tree Stratum (Plot size: 30 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 0 | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 15 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| | 0 | = Total Cover | | |
| Herb Stratum (Plot size: 5 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| | 0 | = Total Cover | | |
| Woody Vine Stratum (Plot size: 30 Feet) | | | | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| | 0 | = Total Cover | | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 0 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

| 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>0</u> | x 4 = <u>0</u> |
| UPL species <u>0</u> | x 5 = <u>0</u> |
| Column Totals: <u>0</u> (A) | <u>0</u> (B) |

Prevalence Index = B/A = 0.0

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)
 No vegetation present at sample point, center of pond with duckweed.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/15/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W019-1U
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): convex Slope (%): 0-5
 Subregion (LRR or MLRA): LRR S Lat: 40.13705267 Long: -74.10948933 Datum: WGS 1984
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|---|--|
| Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
|---|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W019-1U

| | Absolute % Cover | Dominant Species? | Indicator Status |
|--|------------------|-------------------|------------------|
| Tree Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. <u>Betula lenta / Sweet birch</u> | <u>40</u> | <u>Yes</u> | <u>FACU</u> |
| 2. _____ | | | |
| 3. _____ | | | |
| 4. _____ | | | |
| 5. _____ | | | |
| 6. _____ | | | |
| 7. _____ | | | |

| | | |
|---|-----------|---------------|
| | <u>40</u> | = Total Cover |
| Sapling/Shrub Stratum (Plot size: <u>15 Feet</u>) | | |
| 1. _____ | | |
| 2. _____ | | |
| 3. _____ | | |
| 4. _____ | | |
| 5. _____ | | |
| 6. _____ | | |
| 7. _____ | | |
| | <u>0</u> | = Total Cover |

| | | | |
|--|-----------|---------------|-------------|
| Herb Stratum (Plot size: <u>5 Feet</u>) | | | |
| 1. <u>Allium / Onion</u> | <u>5</u> | <u>Yes</u> | <u>NI</u> |
| 2. <u>Lonicera japonica / Japanese honeysuckle</u> | <u>5</u> | <u>Yes</u> | <u>FACU</u> |
| 3. _____ | | | |
| 4. _____ | | | |
| 5. _____ | | | |
| 6. _____ | | | |
| 7. _____ | | | |
| 8. _____ | | | |
| 9. _____ | | | |
| 10. _____ | | | |
| 11. _____ | | | |
| 12. _____ | | | |
| | <u>10</u> | = Total Cover | |

| | | | |
|--|----------|---------------|--|
| Woody Vine Stratum (Plot size: <u>30 Feet</u>) | | | |
| 1. _____ | | | |
| 2. _____ | | | |
| 3. _____ | | | |
| 4. _____ | | | |
| | <u>0</u> | = Total Cover | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)

Prevalence Index worksheet:

| 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>45</u> | x 4 = <u>180</u> |
| UPL species <u>5</u> | x 5 = <u>25</u> |
| Column Totals: <u>50</u> (A) | <u>205</u> (B) |

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting 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 X No _____

Remarks: (Explain alternative procedures here or in a separate report.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South Larrabee City/County: Monmouth County, NJ Sampling Date: 02/15/2023
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W019-1W
 Investigator(s): TCAL Section, Township, Range: Monmouth County, NJ
 Landform (hillslope, terrace, etc): Depressional area Local relief (concave, convex, none): concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR S Lat: 40.13704317 Long: -74.10948883 Datum: WGS 1984
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| Remarks: (Explain alternative procedures here or in a separate report.) | |

HYDROLOGY

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

| | |
|--|--|
| Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>12+</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe) | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W019-1W

| | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|---------------------|----------------------|---------------------|--|
| Tree Stratum (Plot size: <u>30 Feet</u>) | | | | |
| 1. <u>Fraxinus pennsylvanica / Green ash</u> | 30 | Yes | FACW | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| | 30 | = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: <u>15 Feet</u>) | | | | |
| 1. _____ | | | | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| | 0 | = Total Cover | | |
| Herb Stratum (Plot size: <u>5 Feet</u>) | | | | |
| 1. <u>Juncus effusus / Common bog rush, Soft or lamp rush</u> | 15 | Yes | OBL | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| 12. _____ | | | | |
| | 15 | = Total Cover | | |
| Woody Vine Stratum (Plot size: <u>30 Feet</u>) | | | | |
| 1. _____ | | | | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| | 0 | = 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: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

| Total % Cover of: | Multiply by: |
|--------------------------|-------------------|
| OBL species <u>15</u> | x 1 = <u>15</u> |
| FACW species <u>30</u> | x 2 = <u>60</u> |
| FAC species <u>0</u> | x 3 = <u>0</u> |
| FACU species <u>0</u> | x 4 = <u>0</u> |
| UPL species <u>0</u> | x 5 = <u>0</u> |
| Column Totals: <u>45</u> | (A) <u>75</u> (B) |

Prevalence Index = B/A = 1.67

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting 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

Remarks: (Explain alternative procedures here or in a separate report.)

EDR Stream Determination Data Form

Project Name: Larabee Wetland Delineation Project Number: 20043

Survey Date: 6/25-6/26/2020

Evaluators: Matt Spadoni, Jacqueline McMillen

Stream ID: Watercourse 2 Data Point ID: WC1 (Previously :WC2)

Town: [Click or tap here to enter text.](#) County: Monmouth State: New Jersey

Latitude: 40.1463361041 Longitude: -74.1075399039

Stream ID: [Click or tap here to enter text.](#)

Previous Weather: Snow Heavy Rain Rain None Unknown

Adjacent Landcover: forested, pedestrian bike path, steep slope from bike path to stream

Ecological Communities: [Click or tap here to enter text.](#)

Hydrologic Characteristics

Perceptible Flow? Yes No

Flow Regime: R1-Tidal R2-Lower Perennial
R3-Upper Perennial R4-Intermittent
R5-Unknown Perennial R6-Ephemeral

Flow Direction: north to south

Surface Water Present: Yes No

Surface Water Depth at Thalweg: 6"

Wetted (Stream) Width: 3'

Geomorphologic Characteristics

Gradient: Gentle (0-5 %) Moderate (6-11 %) Steep (>12 %)

Substrate: Silt/Clay (<0.062 mm) Sand (0.062–2 mm) Gravel (2-64 mm)
Cobble (64-256 mm) Boulder (256-4096 mm) Bedrock (>4096 mm)

Bankful Width: 4'

Bank Height: 2'

Stream Conditions

Undercut Banks: Yes No Description: Click or tap here to enter text.

Overhanging Vegetation: Yes No Description: Click or tap here to enter text.

Deep Pools Present: Yes No Description: Click or tap here to enter text.

Coarse Woody Debris: Yes No Description:

Channel Alteration: Channelization Channel Armoring Impoundment Other: Click or tap here to enter text.

Is the stream a Drainage Ditch: Yes No

Additional Notes

Stream that drains large wetland pond along pedestrian bike path. Flow from north to south crossing under bike path.

EDR Stream Determination Data Form

Project Name: Larabee Wetland Delineation Project Number: 20043

Survey Date: 6/25-6/26/2020

Evaluators: Matt Spadoni, Jacqueline McMillen

Stream ID: Watercourse 2 Data Point ID: WC2

Town: Click or tap here to enter text. County: Monmouth State: New Jersey

Latitude: 40.1463361041 Longitude: -74.1075399039

Stream ID: Click or tap here to enter text.

Previous Weather: Snow Heavy Rain Rain None Unknown

Adjacent Landcover: forested, pedestrian bike path, steep slope from bike path to stream

Ecological Communities: Click or tap here to enter text.

Hydrologic Characteristics

Perceptible Flow? Yes No

Flow Regime: R1-Tidal R2-Lower Perennial
R3-Upper Perennial R4-Intermittent
R5-Unknown Perennial R6-Ephemeral

Flow Direction: north to south

Surface Water Present: Yes No

Surface Water Depth at Thalweg: 6"

Wetted (Stream) Width: 3'

Geomorphologic Characteristics

Gradient: Gentle (0-5 %) Moderate (6-11 %) Steep (>12 %)

Substrate: Silt/Clay (<0.062 mm) Sand (0.062–2 mm) Gravel (2-64 mm)
Cobble (64-256 mm) Boulder (256-4096 mm) Bedrock (>4096 mm)

Bankful Width: 4'

Bank Height: 2'

Stream Conditions

Undercut Banks: Yes No Description: [Click or tap here to enter text.](#)

Overhanging Vegetation: Yes No Description: [Click or tap here to enter text.](#)

Deep Pools Present: Yes No Description: [Click or tap here to enter text.](#)

Coarse Woody Debris: Yes No Description:

Channel Alteration: Channelization Channel Armoring Impoundment Other: [Click or tap here to enter text.](#)

Is the stream a Drainage Ditch: Yes No

Additional Notes

Stream that drains large wetland pond along pedestrian bike path. Flow from north to south crossing under bike path.

EDR Stream Determination Data Form

Project Name: Larabee Wetland Delineation Project Number: 20043

Survey Date: 6/25-6/26/2020

Evaluators: Matt Spadoni, Jacqueline McMillen

Stream ID: Watercourse 3 Data Point ID: WC3

Town: [Click or tap here to enter text.](#) County: Monmouth State: New Jersey

Latitude: 40.1515109229 Longitude: -74.1158297112

Stream ID: [Click or tap here to enter text.](#)

Previous Weather: Snow Heavy Rain Rain None Unknown

Adjacent Landcover: mowed lawn, common reed stand, bike path, meadow

Ecological Communities: [Click or tap here to enter text.](#)

Hydrologic Characteristics

Perceptible Flow? Yes No

Flow Regime: R1-Tidal R2-Lower Perennial
R3-Upper Perennial R4-Intermittent
R5-Unknown Perennial R6-Ephemeral

Flow Direction: north to south

Surface Water Present: Yes No

Surface Water Depth at Thalweg: 4"

Wetted (Stream) Width: 3'

Geomorphologic Characteristics

Gradient: Gentle (0-5 %) Moderate (6-11 %) Steep (>12 %)

Substrate: Silt/Clay (<0.062 mm) Sand (0.062–2 mm) Gravel (2-64 mm)
Cobble (64-256 mm) Boulder (256-4096 mm) Bedrock (>4096 mm)

Bankful Width: 8'

Bank Height: 1'

Stream Conditions

Undercut Banks: Yes No Description: [Click or tap here to enter text.](#)

Overhanging Vegetation: Yes No Description: [Click or tap here to enter text.](#)

Deep Pools Present: Yes No Description: [Click or tap here to enter text.](#)

Coarse Woody Debris: Yes No Description:

Channel Alteration: Channelization Channel Armoring Impoundment Other: [Click or tap here to enter text.](#)

Is the stream a Drainage Ditch: Yes No

Additional Notes

Stream flowing from north to south controlled by channelization and piping under bikepath from meadow.

EDR Stream Determination Data Form

Project Name: Larabee Wetland Delineation Project Number: 20043

Survey Date: 6/25-6/26/2020

Evaluators: Matt Spadoni, Jacqueline McMillen

Stream ID: Watercourse 14 Data Point ID: WC4 (Previously: WC14)

Town: Click or tap here to enter text. County: Monmouth State: New Jersey

Latitude: 40.1323690109 Longitude: -74.1657166857

Stream ID: Click or tap here to enter text.

Previous Weather: Snow Heavy Rain Rain None Unknown

Adjacent Landcover: sand, sparsely vegetated areas, sand access road

Ecological Communities: Click or tap here to enter text.

Hydrologic Characteristics

Perceptible Flow? Yes No

Flow Regime: R1-Tidal R2-Lower Perennial
R3-Upper Perennial R4-Intermittent
R5-Unknown Perennial R6-Ephemeral

Flow Direction: north to south

Surface Water Present: Yes No

Surface Water Depth at Thalweg: 3"

Wetted (Stream) Width: 1'

Geomorphologic Characteristics

Gradient: Gentle (0-5 %) Moderate (6-11 %) Steep (>12 %)

Substrate: Silt/Clay (<0.062 mm) Sand (0.062–2 mm) Gravel (2-64 mm)
Cobble (64-256 mm) Boulder (256-4096 mm) Bedrock (>4096 mm)

Bankful Width: 3'

Bank Height: <0.5'

Stream Conditions

Undercut Banks: Yes No Description: [Click or tap here to enter text.](#)

Overhanging Vegetation: Yes No Description: [Click or tap here to enter text.](#)

Deep Pools Present: Yes No Description: [Click or tap here to enter text.](#)

Coarse Woody Debris: Yes No Description:

Channel Alteration: Channelization Channel Armoring Impoundment Other: [Click or tap here to enter text.](#)

Is the stream a Drainage Ditch: Yes No

Additional Notes

Stream that runs through the powerline ROW along sand access road, washes into access road at certain points, very shallow banks.

EDR Stream Determination Data Form

Project Name: Larabee Wetland Delineation Project Number: 20043

Survey Date: 6/25-6/26/2020

Evaluators: Matt Spadoni, Jacqueline McMillen

Stream ID: Watercourse 10 Data Point ID: WC5 (Previously: WC10)

Town: [Click or tap here to enter text.](#) County: Monmouth State: New Jersey

Latitude: 40.1629444857 Longitude: -74.1479998296

Stream ID: UNT to Mingamahone Brook

Previous Weather: Snow Heavy Rain Rain None Unknown

Adjacent Landcover: upland, flows into wetland

Ecological Communities: [Click or tap here to enter text.](#)

Hydrologic Characteristics

Perceptible Flow? Yes No

Flow Regime: R1-Tidal R2-Lower Perennial
R3-Upper Perennial R4-Intermittent
R5-Unknown Perennial R6-Ephemeral

Flow Direction: west to east

Surface Water Present: Yes No

Surface Water Depth at Thalweg: 1"

Wetted (Stream) Width: 1'

Geomorphologic Characteristics

Gradient: Gentle (0-5 %) Moderate (6-11 %) Steep (>12 %)

Substrate: Silt/Clay (<0.062 mm) Sand (0.062–2 mm) Gravel (2-64 mm)
Cobble (64-256 mm) Boulder (256-4096 mm) Bedrock (>4096 mm)

Bankful Width: 1'

Bank Height: 0.25'

Stream Conditions

Undercut Banks: Yes No Description: [Click or tap here to enter text.](#)

Overhanging Vegetation: Yes No Description: [Click or tap here to enter text.](#)

Deep Pools Present: Yes No Description: [Click or tap here to enter text.](#)

Coarse Woody Debris: Yes No Description:

Channel Alteration: Channelization Channel Armoring Impoundment Other: [Click or tap here to enter text.](#)

Is the stream a Drainage Ditch: Yes No

Additional Notes

Trib to Mingamahone Brook, flows into wetland 2 before feeding in to Mingmahone. Low flow along bottom of slope from highway, slight channel development.

EDR Stream Determination Data Form

Project Name: Larabee Wetland Delineation Project Number: 20043

Survey Date: 6/25-6/26/2020

Evaluators: Matt Spadoni, Jacqueline McMillen

Stream ID: Watercourse 16 Data Point ID: WC6 (Previously: WC16)

Town: [Click or tap here to enter text.](#) County: Monmouth State: New Jersey

Latitude: 40.1186308557 Longitude: -74.1905728632

Stream ID: Dicks Brook

Previous Weather: Snow Heavy Rain Rain None Unknown

Adjacent Landcover: wetland and transmission line ROW

Ecological Communities: [Click or tap here to enter text.](#)

Hydrologic Characteristics

Perceptible Flow? Yes No

Flow Regime: R1-Tidal R2-Lower Perennial
R3-Upper Perennial R4-Intermittent
R5-Unknown Perennial R6-Ephemeral

Flow Direction: west to east

Surface Water Present: Yes No

Surface Water Depth at Thalweg: 4"

Wetted (Stream) Width: 6'

Geomorphologic Characteristics

Gradient: Gentle (0-5 %) Moderate (6-11 %) Steep (>12 %)

Substrate: Silt/Clay (<0.062 mm) Sand (0.062–2 mm) Gravel (2-64 mm)
Cobble (64-256 mm) Boulder (256-4096 mm) Bedrock (>4096 mm)

Bankful Width: 8'

Bank Height: 2.5'

Stream Conditions

Undercut Banks: Yes No Description: [Click or tap here to enter text.](#)

Overhanging Vegetation: Yes No Description: [Click or tap here to enter text.](#)

Deep Pools Present: Yes No Description: [Click or tap here to enter text.](#)

Coarse Woody Debris: Yes No Description:

Channel Alteration: Channelization Channel Armoring Impoundment Other: [Click or tap here to enter text.](#)

Is the stream a Drainage Ditch: Yes No

Additional Notes

[Click or tap here to enter text.](#)

20043 Atlantic Shores Stream Scoring Data Form 1

| | |
|---|---|
| Project | 20043 - Atlantic Shores |
| ID | 125587 |
| Survey Date | 12/10/2020 |
| User | Heather Berry |
| Town/County/State | Sea Girt/Monmouth/New Jersey |
| Investigator(s) | HB SM |
| Stream Delineation ID | WC7 (Previously WC17) |
| Latitude, Longitude | 40.12792995, -74.18451483 |
| Latitude | 40.12792995 |
| Longitude | -74.18451483 |
| Accuracy | 7.44 m |
| Current Precipitation | <input type="checkbox"/> Heavy Rain <input checked="" type="checkbox"/> None <input type="checkbox"/> Rain <input type="checkbox"/> Snow |
| Precipitation in Past 48 Hours | <input type="checkbox"/> Heavy Rain <input type="checkbox"/> None <input type="checkbox"/> Rain <input checked="" type="checkbox"/> Snow <input type="checkbox"/> Unknown |
| General Characteristics | |
| NYSDEC Mapped Stream | <input checked="" type="checkbox"/> No <input type="checkbox"/> No, but connects to mapped stream <input type="checkbox"/> Yes |
| Drainage Ditch | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes |
| Surface Water Depth at Thalweg (Inches) | 10 |
| Stream Gradient | <input checked="" type="checkbox"/> Gentle (0-5%) <input type="checkbox"/> Moderate (6-11%) <input type="checkbox"/> Steep (>12%) |
| Substrate | <input checked="" type="checkbox"/> Silt/Clay (No grit) |



- Sand (Gritty feel)
- Gravel
- Cobble
- Boulder
- Bedrock

Range of Bankfull width for stream reach

15

Geomorphology

Continuity of channel bed and bank

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Sinuosity of channel along thalweg

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

In Channel Structures

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Particle Size of Stream Substrate

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Active/Relic Floodplain

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Depositional Bars or Benches

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Recent Alluvial Deposits

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Are Headcuts present

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Grade Control

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Natural Valley

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Second or Greater Order Channel

- No (0)
- Yes (3)

Hydrology

Presence of Baseflow

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Iron Oxidizing Bacteria

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Leaf Litter

- Absent (1.5)
- Weak (1)
- Moderate (0.5)
- Strong (0)

Sediment on Plants or Debris

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Organic Debris Lines or Piles

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)



Soil-based evidence of high water table

- No (0)
 Yes (3)

Biology

Fibrous Roots in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Rooted Upland Plants in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Aquatic Macroinvertebrates

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Aquatic Mollusks

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Fish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Crayfish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Amphibians

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Algae

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)



- FACW (0.75)
- OBL (1.5)
- Other (0)

Stream Type Determination

Total Score

30.25

Stream Determination

- Ephemeral (<19)
- Intermittent (≥19)
- Perennial (≥30)

Photos and Notes

Photo up and downstream



Notes

wetland beyond stream feature.

20043 Atlantic Shores Stream Scoring Data Form 1

| | |
|---|---|
| Project | 20043 - Atlantic Shores |
| ID | 128741 |
| Survey Date | 12/10/2020 |
| User | Heather Berry |
| Town/County/State | Sea Girt/Monmouth/New Jersey |
| Investigator(s) | HB SM |
| Stream Delineation ID | WC 8 Previously WC18 |
| Latitude, Longitude | |
| Latitude | 40.125333 |
| Longitude | -74.187329 |
| Accuracy | m |
| Current Precipitation | <input type="checkbox"/> Heavy Rain <input checked="" type="checkbox"/> None <input type="checkbox"/> Rain <input type="checkbox"/> Snow |
| Precipitation in Past 48 Hours | <input type="checkbox"/> Heavy Rain <input type="checkbox"/> None <input checked="" type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Unknown |
| General Characteristics | |
| NYSDEC Mapped Stream | <input type="checkbox"/> No <input type="checkbox"/> No, but connects to mapped stream <input type="checkbox"/> Yes |
| Drainage Ditch | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes |
| Surface Water Depth at Thalweg (Inches) | 3 |
| Stream Gradient | <input checked="" type="checkbox"/> Gentle (0-5%) <input type="checkbox"/> Moderate (6-11%) <input type="checkbox"/> Steep (>12%) |
| Substrate | <input checked="" type="checkbox"/> Silt/Clay (No grit) |

- Sand (Gritty feel)
- Gravel
- Cobble
- Boulder
- Bedrock

Range of Bankfull width for stream reach

5

Geomorphology

Continuity of channel bed and bank

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Sinuosity of channel along thalweg

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

In Channel Structures

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Particle Size of Stream Substrate

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Active/Relic Floodplain

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Depositional Bars or Benches

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Recent Alluvial Deposits

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Are Headcuts present

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Grade Control

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Natural Valley

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Second or Greater Order Channel

- No (0)
- Yes (3)

Hydrology

Presence of Baseflow

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Iron Oxidizing Bacteria

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Leaf Litter

- Absent (1.5)
- Weak (1)
- Moderate (0.5)
- Strong (0)

Sediment on Plants or Debris

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Organic Debris Lines or Piles

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)



Soil-based evidence of high water table

- No (0)
 Yes (3)

Biology

Fibrous Roots in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Rooted Upland Plants in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Aquatic Macroinvertebrates

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Aquatic Mollusks

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Fish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Crayfish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Amphibians

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Algae

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Wetland Plants in Streambed

- FACW (0.75)
- OBL (1.5)
- Other (0)

Stream Type Determination

Total Score

18

Stream Determination

- Ephemeral (<19)
- Intermittent (≥19)
- Perennial (≥30)

Photos and Notes

Photo up and downstream



Notes

20043 Atlantic Shores Stream Scoring Data Form 1

| | |
|---|---|
| Project | 20043 - Atlantic Shores |
| ID | 125590 |
| Survey Date | 12/10/2020 |
| User | Heather Berry |
| Town/County/State | Sea Girt/Monmouth/New Jersey |
| Investigator(s) | HB SM |
| Stream Delineation ID | WC9 (Previously WC19) |
| Latitude, Longitude | 40.12389394, -74.18817077 |
| Latitude | 40.12389394 |
| Longitude | -74.18817077 |
| Accuracy | 4.02 m |
| Current Precipitation | <input type="checkbox"/> Heavy Rain <input checked="" type="checkbox"/> None <input type="checkbox"/> Rain <input type="checkbox"/> Snow |
| Precipitation in Past 48 Hours | <input type="checkbox"/> Heavy Rain <input type="checkbox"/> None <input type="checkbox"/> Rain <input checked="" type="checkbox"/> Snow <input type="checkbox"/> Unknown |
| General Characteristics | |
| NYSDEC Mapped Stream | <input checked="" type="checkbox"/> No <input type="checkbox"/> No, but connects to mapped stream <input type="checkbox"/> Yes |
| Drainage Ditch | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes |
| Surface Water Depth at Thalweg (Inches) | 24 |
| Stream Gradient | <input checked="" type="checkbox"/> Gentle (0-5%) <input type="checkbox"/> Moderate (6-11%) <input type="checkbox"/> Steep (>12%) |
| Substrate | <input checked="" type="checkbox"/> Silt/Clay (No grit) |

- Sand (Gritty feel)
- Gravel
- Cobble
- Boulder
- Bedrock

Range of Bankfull width for stream reach

40

Geomorphology

Continuity of channel bed and bank

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Sinuosity of channel along thalweg

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

In Channel Structures

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Particle Size of Stream Substrate

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Active/Relic Floodplain

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Depositional Bars or Benches

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Recent Alluvial Deposits

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)



Are Headcuts present

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Grade Control

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Natural Valley

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Second or Greater Order Channel

- No (0)
- Yes (3)

Hydrology

Presence of Baseflow

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Iron Oxidizing Bacteria

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Leaf Litter

- Absent (1.5)
- Weak (1)
- Moderate (0.5)
- Strong (0)

Sediment on Plants or Debris

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Organic Debris Lines or Piles

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)



Soil-based evidence of high water table

- No (0)
 Yes (3)

Biology

Fibrous Roots in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Rooted Upland Plants in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Aquatic Macroinvertebrates

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Aquatic Mollusks

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Fish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Crayfish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Amphibians

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Algae

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)



Wetland Plants in Streambed

- FACW (0.75)
- OBL (1.5)
- Other (0)

Stream Type Determination

Total Score

40.5

Stream Determination

- Ephemeral (<19)
- Intermittent (≥ 19)
- Perennial (≥ 30)

Photos and Notes

Photo up and downstream



Notes

20043 Atlantic Shores Stream Scoring Data Form 1

| | |
|---|---|
| Project | 20043 - Atlantic Shores |
| ID | 125591 |
| Survey Date | 12/10/2020 |
| User | Heather Berry |
| Town/County/State | Sea Girt/Monmouth/New Jersey |
| Investigator(s) | HB SM |
| Stream Delineation ID | WC10 (Previously: WC20) |
| Latitude, Longitude | 40.11870505, -74.19284781 |
| Latitude | 40.11870505 |
| Longitude | -74.19284781 |
| Accuracy | 6.46 m |
| Current Precipitation | <input type="checkbox"/> Heavy Rain <input checked="" type="checkbox"/> None <input type="checkbox"/> Rain <input type="checkbox"/> Snow |
| Precipitation in Past 48 Hours | <input type="checkbox"/> Heavy Rain <input type="checkbox"/> None <input type="checkbox"/> Rain <input checked="" type="checkbox"/> Snow <input type="checkbox"/> Unknown |
| General Characteristics | |
| NYSDEC Mapped Stream | <input checked="" type="checkbox"/> No <input type="checkbox"/> No, but connects to mapped stream <input type="checkbox"/> Yes |
| Drainage Ditch | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes |
| Surface Water Depth at Thalweg (Inches) | 12 |
| Stream Gradient | <input checked="" type="checkbox"/> Gentle (0-5%) <input type="checkbox"/> Moderate (6-11%) <input type="checkbox"/> Steep (>12%) |
| Substrate | <input type="checkbox"/> Silt/Clay (No grit) |

- Sand (Gritty feel)
- Gravel
- Cobble
- Boulder
- Bedrock

Range of Bankfull width for stream reach

10

Geomorphology

Continuity of channel bed and bank

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Sinuosity of channel along thalweg

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

In Channel Structures

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Particle Size of Stream Substrate

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Active/Relic Floodplain

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Depositional Bars or Benches

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Recent Alluvial Deposits

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)



Are Headcuts present

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Grade Control

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Natural Valley

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Second or Greater Order Channel

- No (0)
- Yes (3)

Hydrology

Presence of Baseflow

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Iron Oxidizing Bacteria

- Absent (0)
- Weak (1)
- Moderate (2)
- Strong (3)

Leaf Litter

- Absent (1.5)
- Weak (1)
- Moderate (0.5)
- Strong (0)

Sediment on Plants or Debris

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)

Organic Debris Lines or Piles

- Absent (0)
- Weak (0.5)
- Moderate (1)
- Strong (1.5)



Soil-based evidence of high water table

- No (0)
 Yes (3)

Biology

Fibrous Roots in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Rooted Upland Plants in Streambed

- Absent (3)
 Weak (2)
 Moderate (1)
 Strong (0)

Aquatic Macroinvertebrates

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Aquatic Mollusks

- Absent (0)
 Weak (1)
 Moderate (2)
 Strong (3)

Fish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Crayfish

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Amphibians

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Algae

- Absent (0)
 Weak (0.5)
 Moderate (1)
 Strong (1.5)

Wetland Plants in Streambed

FACW (0.75)

OBL (1.5)

Other (0)

Stream Type Determination

Total Score

42.75

Stream Determination

Ephemeral (<19)

Intermittent (≥ 19)

Perennial (≥ 30)

Photos and Notes

Photo up and downstream



Notes

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317003 |
| Survey Date | 02/16/2023 |
| User | Andrew Leonardi |
| Stream ID: | 26-ST005 |

Administrative 1

| | |
|--------------------------------|---------------------|
| Investigator(s) | ALTC |
| Latitude, Longitude | |
| Latitude | 40.11850767 |
| Longitude | -74.19572567 |
| Current Precipitation | None |
| Precipitation in Past 48 Hours | None |
| Town/County/State | Monmouth County, NJ |

General Characteristics 1

| | |
|---|---|
| NYSDEC Mapped Stream | No |
| Drainage Ditch | No |
| Surface Water Depth at Thalweg (Inches) | 6 |
| Stream Gradient | Gentle (0-5%) |
| Substrate | Gravel, Sand (Gritty feel), Silt/Clay (No grit) |
| OHWM width for stream reach (feet) | 6-12 |

Geomorphology

| | |
|------------------------------------|------------|
| Continuity of channel bed and bank | 3-Strong |
| Sinuosity of channel along thalweg | 2-Moderate |
| In Channel Structures | 1-Weak |
| Particle Size of Stream Substrate | 3-Strong |
| Active/Relic Floodplain | 2-Moderate |
| Depositional Bars or Benches | 3-Strong |
| Recent Alluvial Deposits | 3-Strong |
| Are Headcuts present | 0-Absent |
| Grade Control | 0-Absent |
| Natural Valley | 0.5-Weak |
| Second or Greater Order Channel | 0-No |
| Subtotal = | 17.5 |

Hydrology

| | |
|----------------------|----------|
| Presence of Baseflow | 3-Strong |
|----------------------|----------|

| | |
|---|----------|
| Iron Oxidizing Bacteria | 0-Absent |
| Leaf Litter | 1-Weak |
| Sediment on Plants or Debris | 0-Absent |
| Organic Debris Lines or Piles | 0-Absent |
| Soil-based evidence of high water table | 3-Yes |
| Subtotal = | 7 |

Biology

| | |
|-----------------------------------|----------|
| Fibrous Roots in Streambed | 3-Absent |
| Rooted Upland Plants in Streambed | 3-Absent |
| Aquatic Macroinvertebrates | 0-Absent |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |
| Algae | 0-Absent |
| Wetland Plants in Streambed | 0-Other |
| Subtotal = | 6 |

Stream Type Determination

| | |
|----------------------|-------------------------|
| Total Score | 30.5 |
| Stream Determination | Perennial (≥ 30) |

Notes

Notes

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317004 |
| Survey Date | 02/16/2023 |
| User | Andrew Leonardi |
| Stream ID: | 26-ST006 |

Administrative 1

| | |
|--------------------------------|---------------------|
| Investigator(s) | ALTC |
| Latitude, Longitude | |
| Latitude | 40.115496 |
| Longitude | -74.175991 |
| Current Precipitation | None |
| Precipitation in Past 48 Hours | None |
| Town/County/State | Monmouth County, NJ |

General Characteristics 1

| | |
|---|---|
| NYSDEC Mapped Stream | No |
| Drainage Ditch | No |
| Surface Water Depth at Thalweg (Inches) | 10 |
| Stream Gradient | Gentle (0-5%) |
| Substrate | Gravel, Sand (Gritty feel), Silt/Clay (No grit) |
| OHWM width for stream reach (feet) | 15-25 |

Geomorphology

| | |
|------------------------------------|----------|
| Continuity of channel bed and bank | 3-Strong |
| Sinuosity of channel along thalweg | 0-Absent |
| In Channel Structures | 1-Weak |
| Particle Size of Stream Substrate | 3-Strong |
| Active/Relic Floodplain | 1-Weak |
| Depositional Bars or Benches | 3-Strong |
| Recent Alluvial Deposits | 3-Strong |
| Are Headcuts present | 0-Absent |
| Grade Control | 0-Absent |
| Natural Valley | 0.5-Weak |
| Second or Greater Order Channel | 0-No |
| Subtotal = | 14.5 |

Hydrology

| | |
|---|------------|
| Presence of Baseflow | 3-Strong |
| Iron Oxidizing Bacteria | 1-Weak |
| Leaf Litter | 1.5-Absent |
| Sediment on Plants or Debris | 0-Absent |
| Organic Debris Lines or Piles | 1-Moderate |
| Soil-based evidence of high water table | 3-Yes |
| Subtotal = | 9.5 |

Biology

| | |
|-----------------------------------|----------|
| Fibrous Roots in Streambed | 3-Absent |
| Rooted Upland Plants in Streambed | 3-Absent |
| Aquatic Macroinvertebrates | 0-Absent |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |

| | |
|-----------------------------|----------|
| Algae | 0.5-Weak |
| Wetland Plants in Streambed | 0-Other |
| Subtotal = | 6.5 |

Stream Type Determination

| | |
|----------------------|-------------------------|
| Total Score | 30.5 |
| Stream Determination | Perennial (≥ 30) |

Notes

Notes

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317256 |
| Survey Date | 02/16/2023 |
| User | Andrew Leonardi |
| Stream ID: | 26-ST007 |

Administrative 1

| | |
|--------------------------------|---------------------|
| Investigator(s) | AL |
| Latitude, Longitude | |
| Latitude | 40.11840367 |
| Longitude | -74.16799 |
| Current Precipitation | None |
| Precipitation in Past 48 Hours | None |
| Town/County/State | Monmouth County, NJ |

General Characteristics 1

| | |
|---|---|
| NYSDEC Mapped Stream | No |
| Drainage Ditch | No |
| Surface Water Depth at Thalweg (Inches) | 6 |
| Stream Gradient | Gentle (0-5%) |
| Substrate | Gravel, Sand (Gritty feel), Silt/Clay (No grit) |
| OHWM width for stream reach (feet) | 4-12 |

Geomorphology

| | |
|------------------------------------|----------|
| Continuity of channel bed and bank | 3-Strong |
| Sinuosity of channel along thalweg | 1-Weak |
| In Channel Structures | 3-Strong |
| Particle Size of Stream Substrate | 3-Strong |
| Active/Relic Floodplain | 0-Absent |

| | |
|---------------------------------|------------|
| Depositional Bars or Benches | 2-Moderate |
| Recent Alluvial Deposits | 0-Absent |
| Are Headcuts present | 0-Absent |
| Grade Control | 0-Absent |
| Natural Valley | 0.5-Weak |
| Second or Greater Order Channel | 0-No |
| Subtotal = | 12.5 |

Hydrology

| | |
|---|----------|
| Presence of Baseflow | 3-Strong |
| Iron Oxidizing Bacteria | 3-Strong |
| Leaf Litter | 1-Weak |
| Sediment on Plants or Debris | 0-Absent |
| Organic Debris Lines or Piles | 0-Absent |
| Soil-based evidence of high water table | 3-Yes |
| Subtotal = | 10 |

Biology

| | |
|-----------------------------------|------------|
| Fibrous Roots in Streambed | 3-Absent |
| Rooted Upland Plants in Streambed | 3-Absent |
| Aquatic Macroinvertebrates | 1-Weak |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |
| Algae | 1-Moderate |
| Wetland Plants in Streambed | 0-Other |
| Subtotal = | 8 |

Stream Type Determination

| | |
|----------------------|-------------------------|
| Total Score | 30.5 |
| Stream Determination | Perennial (≥ 30) |

Notes

Notes

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317251 |
| Survey Date | 02/16/2023 |
| User | Andrew Leonardi |

Stream ID: 26-ST013

Administrative 1

Investigator(s) ALTC

Latitude, Longitude

Latitude 40.11819683

Longitude -74.16796

Current Precipitation None

Precipitation in Past 48 Hours None

Town/County/State Monmouth County, NJ

General Characteristics 1

NYSDEC Mapped Stream No

Drainage Ditch No

Surface Water Depth at Thalweg (Inches) 0

Stream Gradient Moderate (6-11%)

Substrate Sand (Gritty feel), Silt/Clay (No grit)

OHWL width for stream reach (feet) 2-4

Geomorphology

Continuity of channel bed and bank 2-Moderate

Sinuosity of channel along thalweg 0-Absent

In Channel Structures 1-Weak

Particle Size of Stream Substrate 1-Weak

Active/Relic Floodplain 0-Absent

Depositional Bars or Benches 0-Absent

Recent Alluvial Deposits 0-Absent

Are Headcuts present 0-Absent

Grade Control 0-Absent

Natural Valley 0-Absent

Second or Greater Order Channel 0-No

Subtotal = 4

Hydrology

Presence of Baseflow 0-Absent

Iron Oxidizing Bacteria 0-Absent

Leaf Litter 0-Strong

Sediment on Plants or Debris 0-Absent

Organic Debris Lines or Piles 0-Absent

| | |
|---|------|
| Soil-based evidence of high water table | 0-No |
| Subtotal = | 0 |

Biology

| | |
|-----------------------------------|------------|
| Fibrous Roots in Streambed | 1-Moderate |
| Rooted Upland Plants in Streambed | 1-Moderate |
| Aquatic Macroinvertebrates | 0-Absent |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |
| Algae | 0.5-Weak |
| Wetland Plants in Streambed | 0-Other |
| Subtotal = | 2.5 |

Stream Type Determination

| | |
|----------------------|-----------------|
| Total Score | 6.5 |
| Stream Determination | Ephemeral (<19) |

Notes

Notes

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317262 |
| Survey Date | 02/16/2023 |
| User | Andrew Leonardi |
| Stream ID: | 26-ST008 |

Administrative 1

| | |
|--------------------------------|---------------------|
| Investigator(s) | ALTC |
| Latitude, Longitude | |
| Latitude | 40.12809967 |
| Longitude | -74.135174 |
| Current Precipitation | None |
| Precipitation in Past 48 Hours | None |
| Town/County/State | Monmouth County, NJ |

General Characteristics 1

| | |
|---|---------------|
| NYSDEC Mapped Stream | No |
| Drainage Ditch | No |
| Surface Water Depth at Thalweg (Inches) | 0 |
| Stream Gradient | Gentle (0-5%) |

| | |
|---|------------------------------------|
| Substrate | Cobble, Gravel, Sand (Gritty feel) |
| OHWL width for stream reach (feet) | 2-6 |
| Geomorphology | |
| Continuity of channel bed and bank | 3-Strong |
| Sinuosity of channel along thalweg | 0-Absent |
| In Channel Structures | 0-Absent |
| Particle Size of Stream Substrate | 2-Moderate |
| Active/Relic Floodplain | 1-Weak |
| Depositional Bars or Benches | 0-Absent |
| Recent Alluvial Deposits | 2-Moderate |
| Are Headcuts present | 0-Absent |
| Grade Control | 0-Absent |
| Natural Valley | 1-Moderate |
| Second or Greater Order Channel | 0-No |
| Subtotal = | 9 |
| Hydrology | |
| Presence of Baseflow | 0-Absent |
| Iron Oxidizing Bacteria | 0-Absent |
| Leaf Litter | 0-Strong |
| Sediment on Plants or Debris | 0-Absent |
| Organic Debris Lines or Piles | 0-Absent |
| Soil-based evidence of high water table | 3-Yes |
| Subtotal = | 3 |
| Biology | |
| Fibrous Roots in Streambed | 3-Absent |
| Rooted Upland Plants in Streambed | 3-Absent |
| Aquatic Macroinvertebrates | 1-Weak |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |
| Algae | 0-Absent |
| Wetland Plants in Streambed | 0-Other |
| Subtotal = | 7 |

| Stream Type Determination | |
|---------------------------|----------------------------|
| Total Score | 19 |
| Stream Determination | Intermittent (≥ 19) |
| Notes | |
| Notes | |

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317267 |
| Survey Date | 02/21/2023 |
| User | Andrew Leonardi |
| Stream ID: | 26-ST04 |

Administrative 1

| | |
|--------------------------------|---------------------|
| Investigator(s) | ALTCSM |
| Latitude, Longitude | |
| Latitude | 40.142521 |
| Longitude | -74.120226 |
| Current Precipitation | None |
| Precipitation in Past 48 Hours | None |
| Town/County/State | Monmouth County, NJ |

General Characteristics 1

| | |
|---|---|
| NYSDEC Mapped Stream | No |
| Drainage Ditch | No |
| Surface Water Depth at Thalweg (Inches) | 6 |
| Stream Gradient | Gentle (0-5%) |
| Substrate | Gravel, Sand (Gritty feel), Silt/Clay (No grit) |
| OHWM width for stream reach (feet) | 1-4 |

Geomorphology

| | |
|------------------------------------|------------|
| Continuity of channel bed and bank | 3-Strong |
| Sinuosity of channel along thalweg | 2-Moderate |
| In Channel Structures | 2-Moderate |
| Particle Size of Stream Substrate | 3-Strong |
| Active/Relic Floodplain | 1-Weak |
| Depositional Bars or Benches | 0-Absent |
| Recent Alluvial Deposits | 0-Absent |
| Are Headcuts present | 0-Absent |

| | |
|---------------------------------|------------|
| Grade Control | 0.5-Weak |
| Natural Valley | 1.5-Strong |
| Second or Greater Order Channel | 0-No |
| Subtotal = | 13 |

Hydrology

| | |
|---|------------|
| Presence of Baseflow | 3-Strong |
| Iron Oxidizing Bacteria | 2-Moderate |
| Leaf Litter | 1-Weak |
| Sediment on Plants or Debris | 0.5-Weak |
| Organic Debris Lines or Piles | 0-Absent |
| Soil-based evidence of high water table | 3-Yes |
| Subtotal = | 9.5 |

Biology

| | |
|-----------------------------------|-----------|
| Fibrous Roots in Streambed | 3-Absent |
| Rooted Upland Plants in Streambed | 3-Absent |
| Aquatic Macroinvertebrates | 1-Weak |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |
| Algae | 0-Absent |
| Wetland Plants in Streambed | 0.75-FACW |
| Subtotal = | 7.75 |

Stream Type Determination

| | |
|----------------------|-------------------------|
| Total Score | 30.25 |
| Stream Determination | Perennial (≥ 30) |

Notes

Notes

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317265 |
| Survey Date | 02/21/2023 |
| User | Andrew Leonardi |
| Stream ID: | 26-ST09 |

Administrative 1

| | |
|---------------------|------|
| Investigator(s) | TCAL |
| Latitude, Longitude | |

| | |
|--------------------------------|---------------------|
| Latitude | 40.12772433 |
| Longitude | -74.05554183 |
| Current Precipitation | None |
| Precipitation in Past 48 Hours | Rain |
| Town/County/State | Monmouth County, NJ |

General Characteristics 1

| | |
|---|----------------------------|
| NYSDEC Mapped Stream | No |
| Drainage Ditch | No |
| Surface Water Depth at Thalweg (Inches) | 0 |
| Stream Gradient | Gentle (0-5%) |
| Substrate | Gravel, Sand (Gritty feel) |
| OHWM width for stream reach (feet) | 2-10 |

Geomorphology

| | |
|------------------------------------|----------|
| Continuity of channel bed and bank | 1-Weak |
| Sinuosity of channel along thalweg | 0-Absent |
| In Channel Structures | 0-Absent |
| Particle Size of Stream Substrate | 1-Weak |
| Active/Relic Floodplain | 0-Absent |
| Depositional Bars or Benches | 0-Absent |
| Recent Alluvial Deposits | 0-Absent |
| Are Headcuts present | 0-Absent |
| Grade Control | 0-Absent |
| Natural Valley | 0.5-Weak |
| Second or Greater Order Channel | 0-No |
| Subtotal = | 2.5 |

Hydrology

| | |
|---|----------|
| Presence of Baseflow | 0-Absent |
| Iron Oxidizing Bacteria | 0-Absent |
| Leaf Litter | 0-Strong |
| Sediment on Plants or Debris | 0-Absent |
| Organic Debris Lines or Piles | 0-Absent |
| Soil-based evidence of high water table | 0-No |
| Subtotal = | 0 |

Biology

| | |
|-----------------------------------|----------|
| Fibrous Roots in Streambed | 0-Strong |
| Rooted Upland Plants in Streambed | 2-Weak |
| Aquatic Macroinvertebrates | 0-Absent |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |
| Algae | 0-Absent |
| Wetland Plants in Streambed | 0-Other |
| Subtotal = | 2 |

| | |
|----------------------------------|-----------------|
| Stream Type Determination | |
| Total Score | 4.5 |
| Stream Determination | Ephemeral (<19) |

| | |
|--------------|--|
| Notes | |
| Notes | |

COP South Stream Scoring Form 1

| | |
|-------------|--|
| Project | 20043 Atlantic Shores COP South Larrabee |
| ID | 317287 |
| Survey Date | 02/22/2023 |
| User | Andrew Leonardi |
| Stream ID: | 26-ST014 |

Administrative 1

| | |
|--------------------------------|---------------------|
| Investigator(s) | TCAL |
| Latitude, Longitude | |
| Latitude | 40.119071 |
| Longitude | -74.165685 |
| Current Precipitation | None |
| Precipitation in Past 48 Hours | Rain |
| Town/County/State | Monmouth County, NJ |

General Characteristics 1

| | |
|---|---|
| NYSDEC Mapped Stream | No |
| Drainage Ditch | No |
| Surface Water Depth at Thalweg (Inches) | 6 |
| Stream Gradient | Gentle (0-5%) |
| Substrate | Bedrock, Cobble, Gravel, Sand (Gritty feel) |
| OHWM width for stream reach (feet) | 2-15 |

Geomorphology

| | |
|------------------------------------|----------|
| Continuity of channel bed and bank | 3-Strong |
| Sinuosity of channel along thalweg | 1-Weak |
| In Channel Structures | 3-Strong |
| Particle Size of Stream Substrate | 3-Strong |
| Active/Relic Floodplain | 3-Strong |
| Depositional Bars or Benches | 1-Weak |
| Recent Alluvial Deposits | 0-Absent |
| Are Headcuts present | 0-Absent |
| Grade Control | 0-Absent |
| Natural Valley | 0.5-Weak |
| Second or Greater Order Channel | 0-No |
| Subtotal = | 14.5 |

Hydrology

| | |
|---|------------|
| Presence of Baseflow | 3-Strong |
| Iron Oxidizing Bacteria | 3-Strong |
| Leaf Litter | 1.5-Absent |
| Sediment on Plants or Debris | 0-Absent |
| Organic Debris Lines or Piles | 0.5-Weak |
| Soil-based evidence of high water table | 3-Yes |
| Subtotal = | 11 |

Biology

| | |
|-----------------------------------|----------|
| Fibrous Roots in Streambed | 3-Absent |
| Rooted Upland Plants in Streambed | 3-Absent |
| Aquatic Macroinvertebrates | 0-Absent |
| Aquatic Mollusks | 0-Absent |
| Fish | 0-Absent |
| Crayfish | 0-Absent |
| Amphibians | 0-Absent |
| Algae | 0-Absent |
| Wetland Plants in Streambed | 0-Other |
| Subtotal = | 6 |

Stream Type Determination

| | |
|----------------------|-------------------------|
| Total Score | 31.5 |
| Stream Determination | Perennial (≥ 30) |

Notes

APPENDIX C

Photo Documentation

Photo 1

Larrabee Landfall and Wetland 1 (WL1) in far background on Army National Guard Facility

Coordinates:
40.118978°N, -74.032386°W



Photo 2

Facing East at Wetland 2 (WL2)

Coordinates:
40.146181°N, -74.107161°W



Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 3

Facing West at Wetland 3 (WL3)

Coordinates:

40.146111°N, -74.107606°W



Photo 4

Facing Northwest at Wetland 4 (WL4)

Coordinates:

40.143784°N, -74.116799°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report

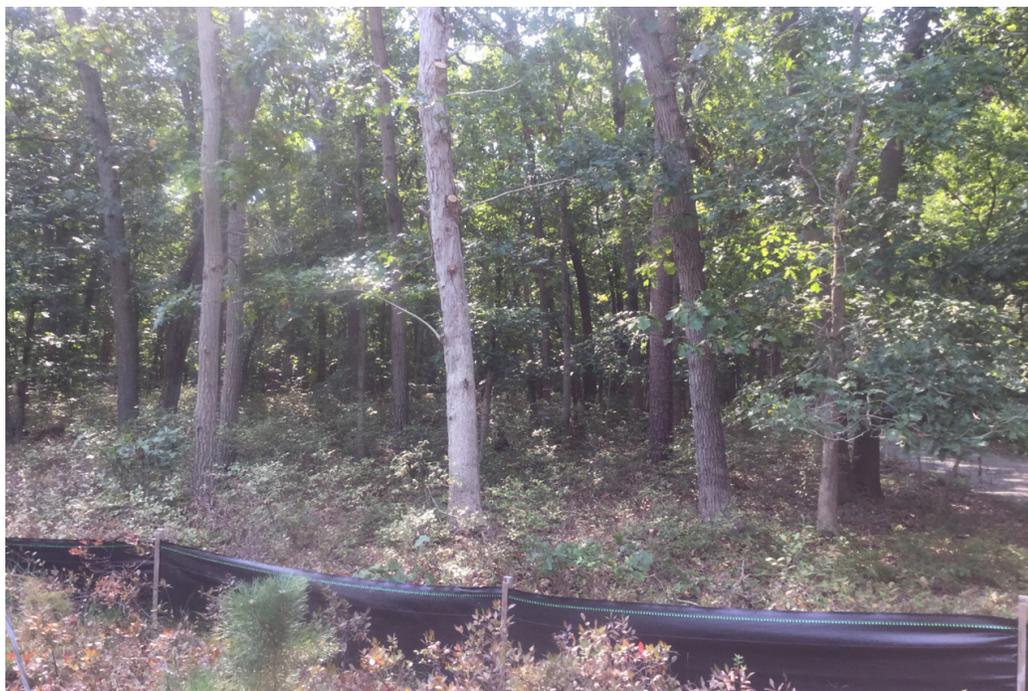


Photo 5

Facing South at Wetland 5 (WL5) north of County Route 524

Coordinates:
40.137003°N, -74.137936°W



Photo 6

Facing North at Wetland 6 (WL6) north of County Route 524

Coordinates:
40.137795°N, -74.143728°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 7

Facing East at Wetland 7 (WL7)

Coordinates:

40.146233°N, -74.168458°W



Photo 8

Facing Southeast at Wetland 8 (WL8)

Coordinates:

40.143908°N, -74.170189°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 9

Facing Southwest at Wetland 9 (WL9) and Watercourse 5 (WC5)

Coordinates:

40.138383°N, -74.175217°W



Photo 10

Facing Northeast at Wetland 10 (WL10) west of County Route 547

Coordinates:

40.135086°N, -74.178353°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 11

Facing West at Wetland 11 (WL11)

Coordinates:

40.128703°N, -74.184172°W



Photo 12

Facing North at Wetland 12 (WL12)

Coordinates:

40.124181°N, -74.187875°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 13

Facing East at Wetland 13 (WL13)

Coordinates:

40.118617°N, -74.192956°W



Photo 14

Facing Northwest at
Watercourse 1 (WC1)

Coordinates:

40.146494°N, -74.107772°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 15

Facing Southeast at
Watercourse 2 (WC2)

Coordinates:

40.143641°N, -74.116545°W



Photo 16

Facing South at Watercourse 3
(WC3)

Coordinates:

40.144312°N, -74.163582°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 17

Facing East at Watercourse 4
(WC4)

Coordinates:

40.146717°N, -74.167686°W



Photo 18

Facing East at Watercourse 5
(WC5)

Coordinates:

40.162983°N, -74.148597°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 19

Facing East at Watercourse 6 (WC6)

Coordinates:
40.135078°N, -74.178161°W



Photo 20

Facing Southeast at Watercourse 7 (WC7)

Coordinates:
40.128342°N, -74.184242°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 21

Facing Southeast at
Watercourse 9 (WC9)

Coordinates:
40.123961°N, -74.188178°W



Photo 22

Facing Northwest at
Watercourse 10 (WC10)

Coordinates:
40.118728°N, -74.193061°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report



Photo 23

Representative view of forested uplands

Coordinates:

40.141006°N, -74.172858°W



Photo 24

Representative view of roadside and open field uplands

Coordinates:

40.155067°N, -74.114861°W

Atlantic Shores Offshore Wind – Larrabee Onshore Study Area

Borough of Sea Girt, Township of Wall, Township of Howell, and Borough of Manasquan, Monmouth County, New Jersey

Wetland and Stream Delineation Report

APPENDIX D

Field Delineated Wetlands and Streams Plans

Monmouth Landfall Site

Wetland WL1
Exceptional

05+
04
01+
02
03

2nd Ave

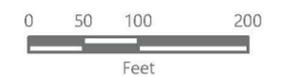
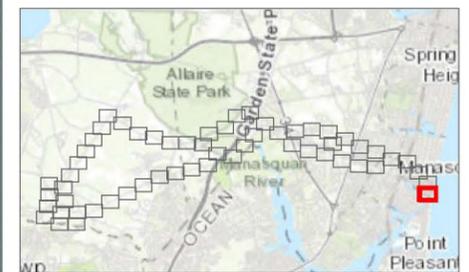
1st Ave

Atlantic Shores South Offshore Wind – Larrabee Onshore Project Design Envelope

Borough of Sea Girt, Township of
Wall, and Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

- Wetland Flag
- Delineated Wetland
- ▨ Wetland Transition Area
- Study Area



Prepared February 27, 2023
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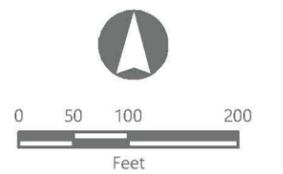
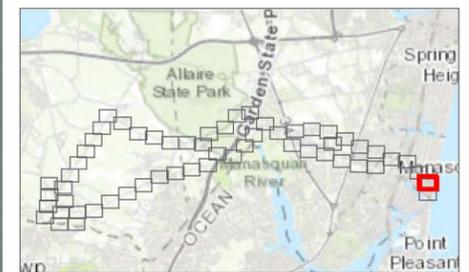


Atlantic Shores South Offshore Wind – Larrabee Onshore Project Design Envelope

Borough of Sea Girt, Township of
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Monmouth County, New Jersey

Wetland Delineation Report

-  Wetland Transition Area
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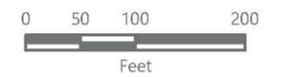
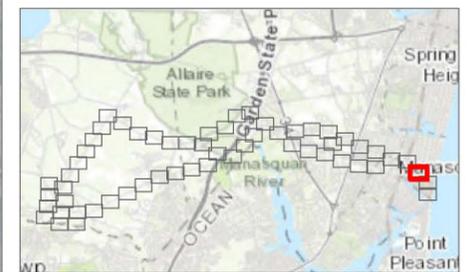


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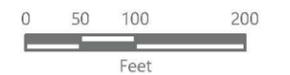
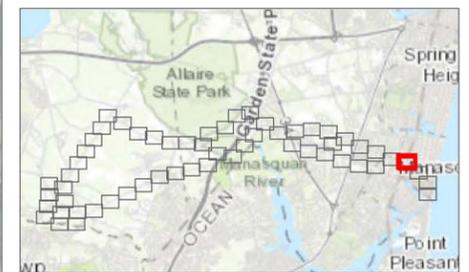


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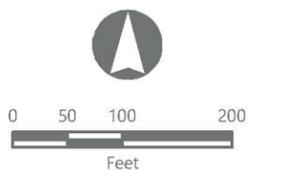


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Borough of Sea Girt, Township of Wall, and Township of Howell
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Wetland Delineation Report

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- ▨ Delineated Wetland
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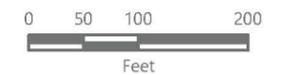
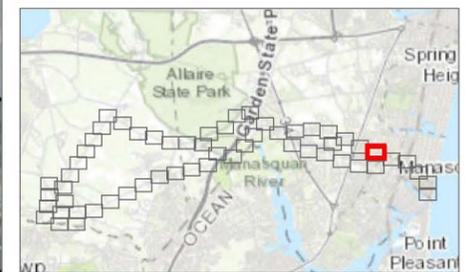


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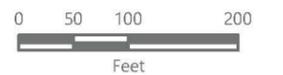
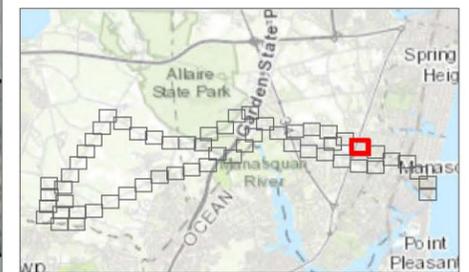


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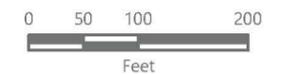


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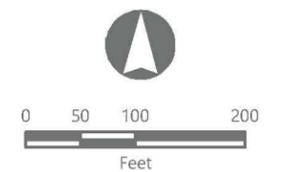


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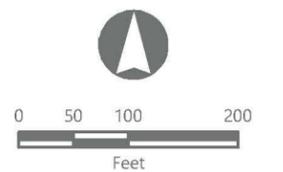
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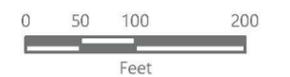


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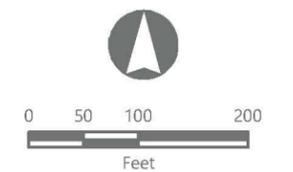
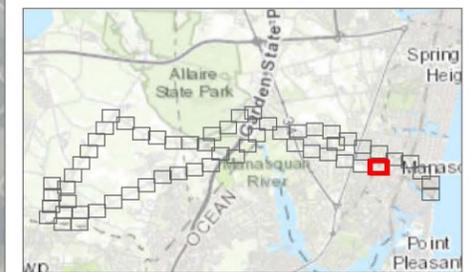


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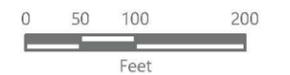


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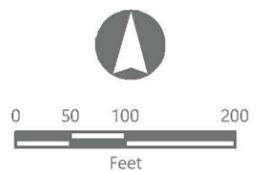
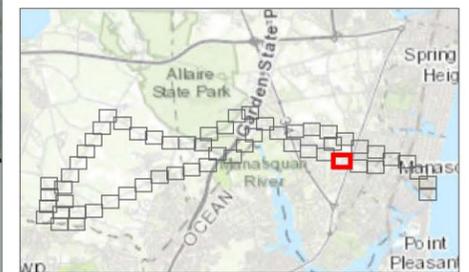
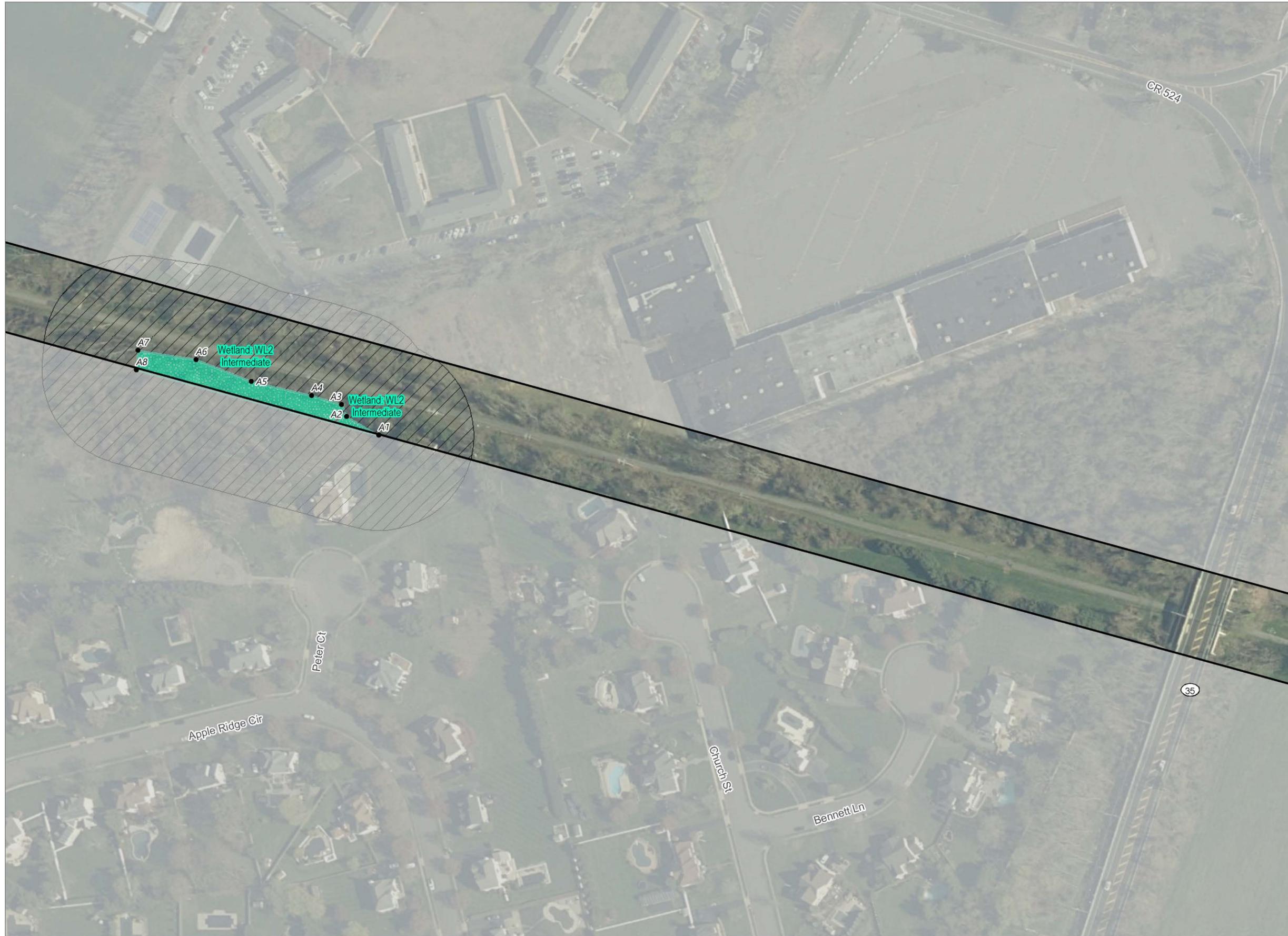


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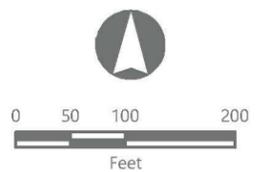


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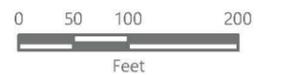


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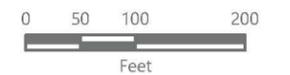


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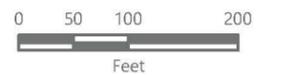


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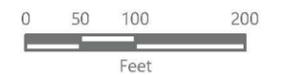


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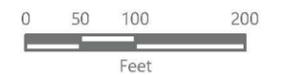


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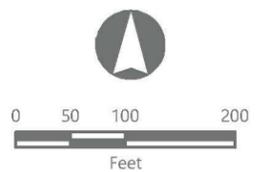


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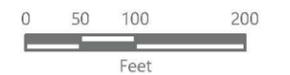


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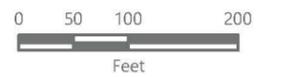


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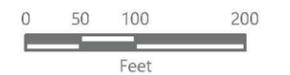


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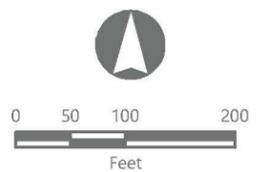


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Borough of Sea Girt, Township of
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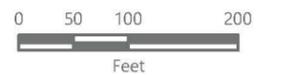


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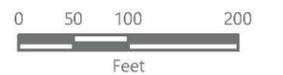
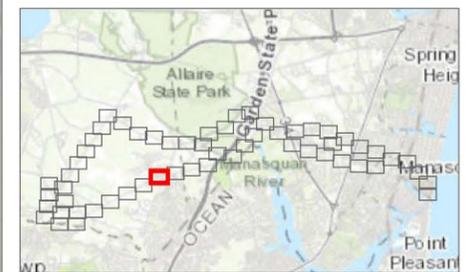


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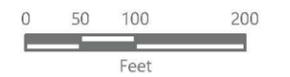


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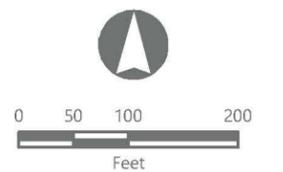
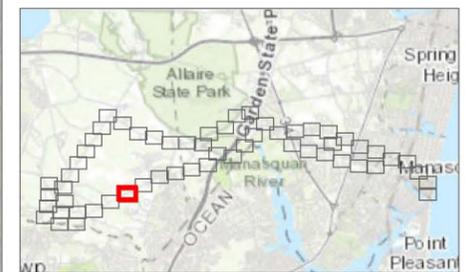


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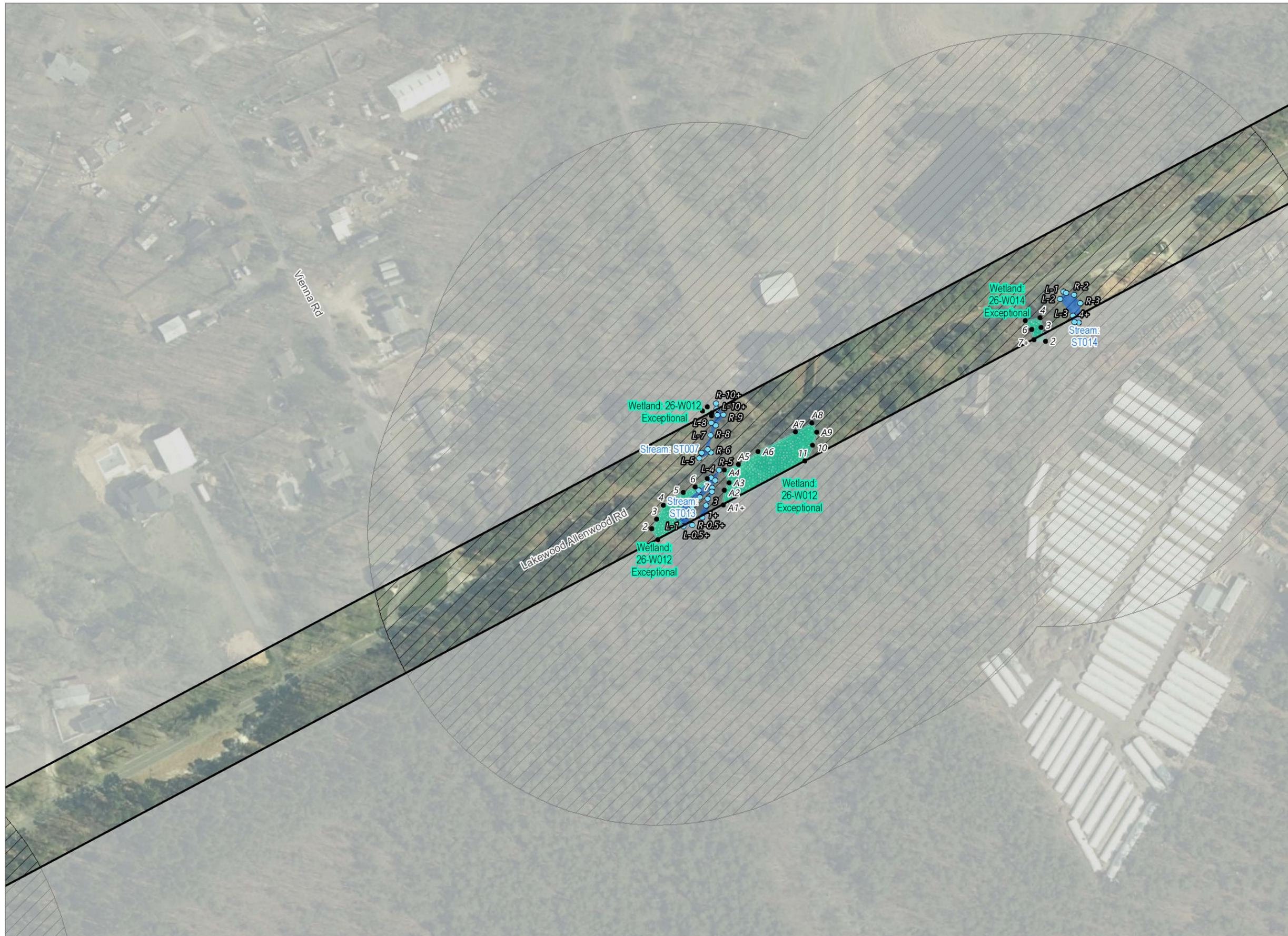
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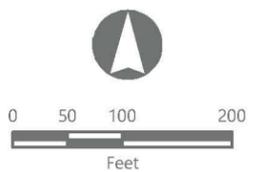
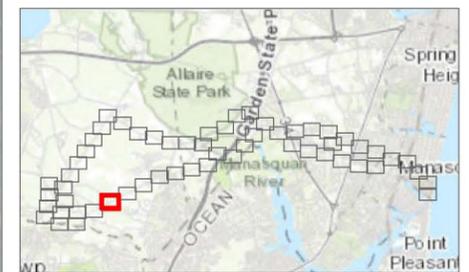
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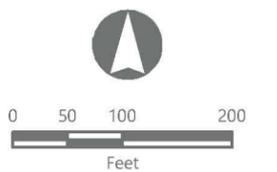
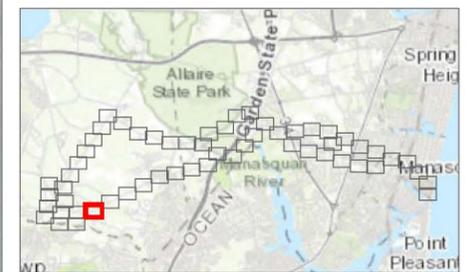
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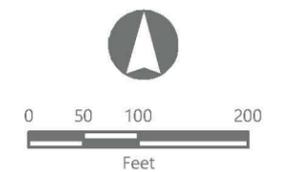
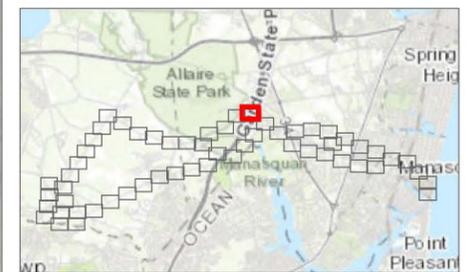


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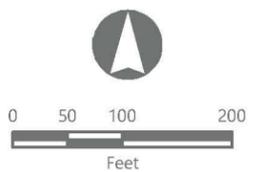
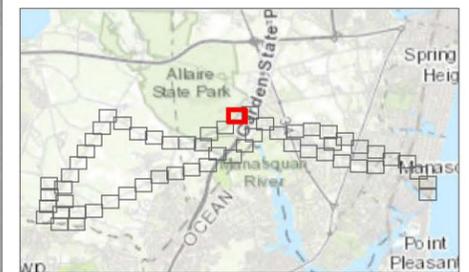
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offshore wind

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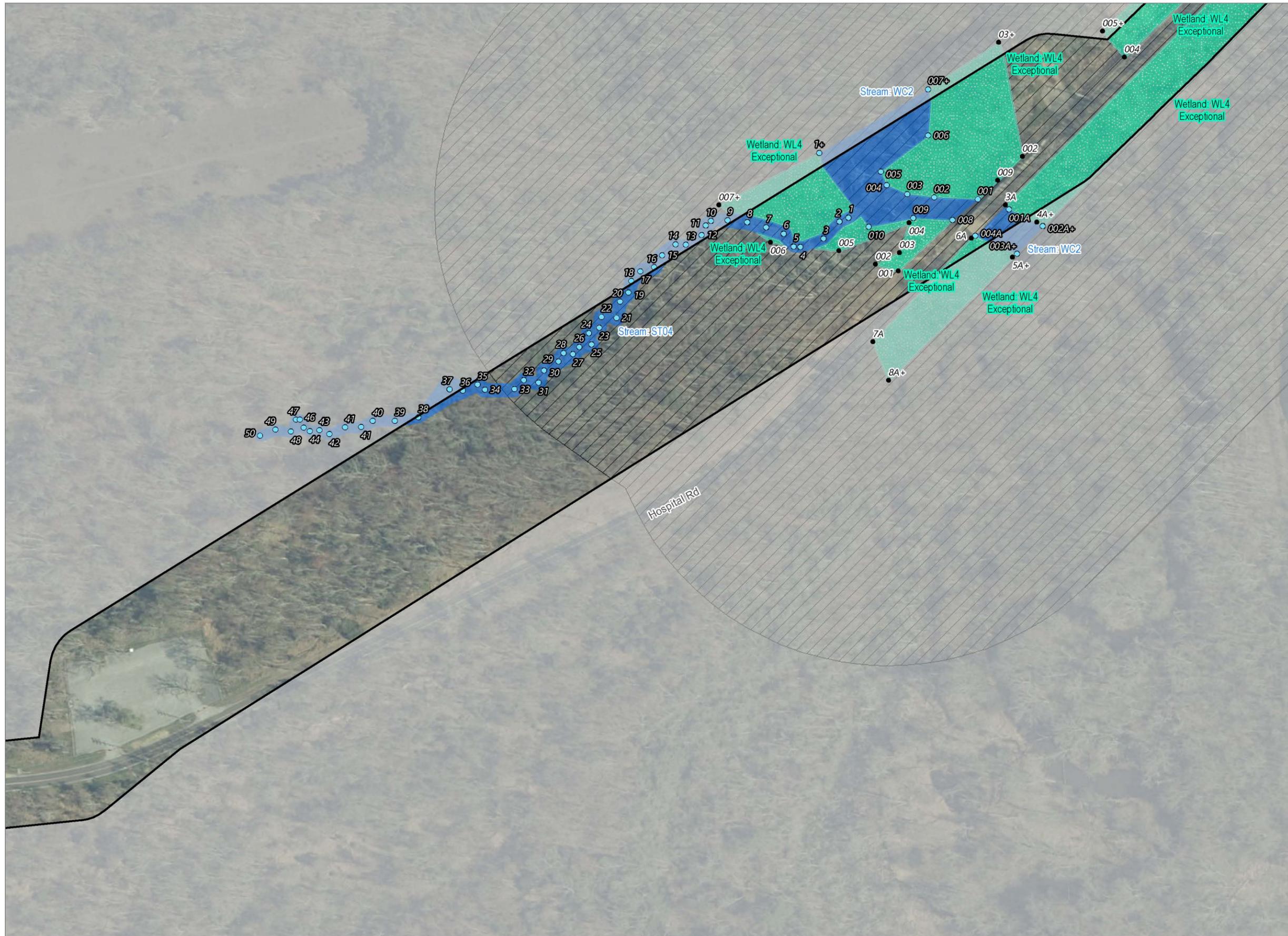
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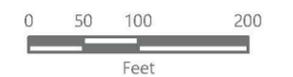


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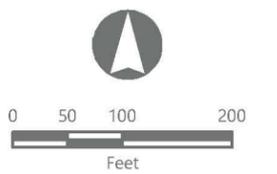


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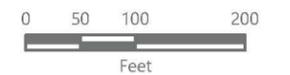


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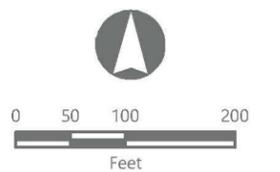
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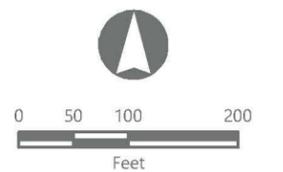


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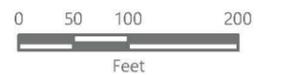
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offshore wind

Atlantic Shores South Offshore Wind – Larrabee Onshore Project Design Envelope

Borough of Sea Girt, Township of
Wall, and Township of Howell
Monmouth County, New Jersey

Wetland Delineation Report

 Study Area



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Basemap: NJ Office of GIS 2015 Natural Color Imagery

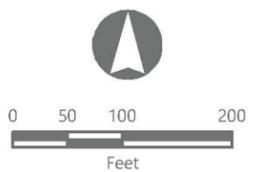


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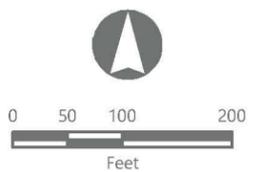
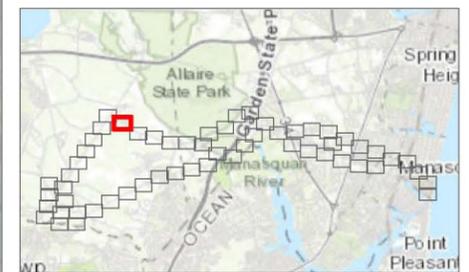
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Wetland Delineation Report



- Wetland Flag
- Stream Flag
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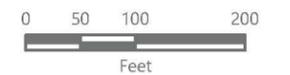
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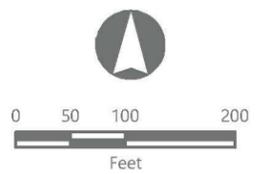
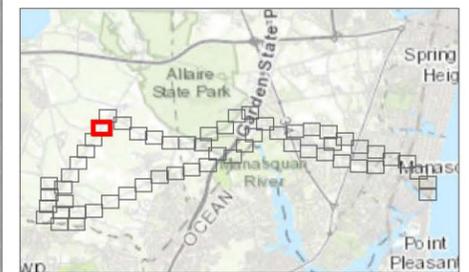


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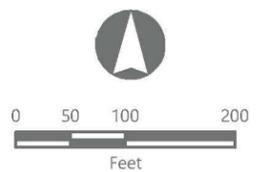
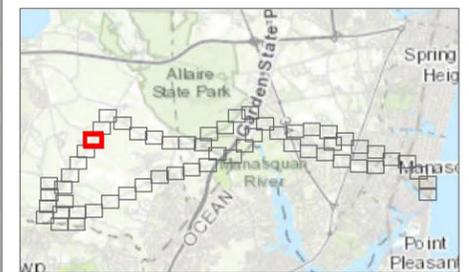
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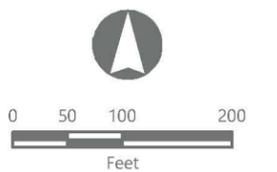
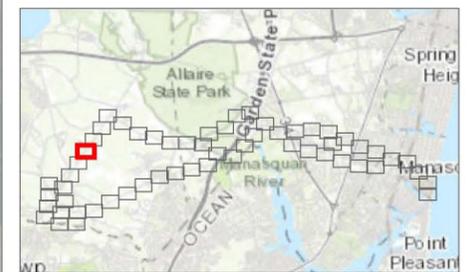
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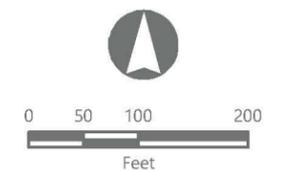
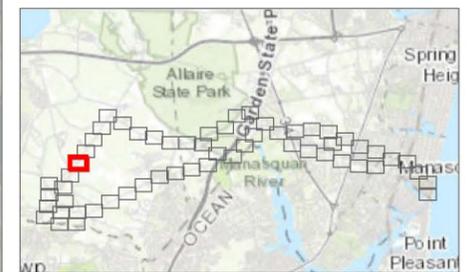


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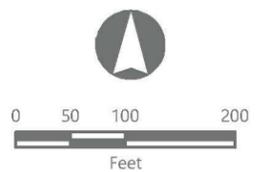
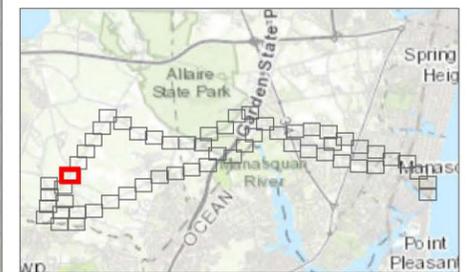


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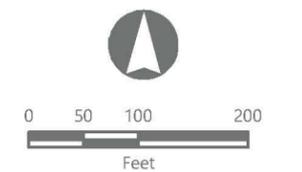
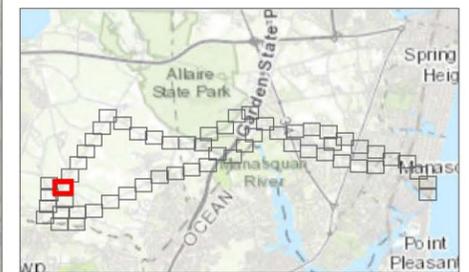


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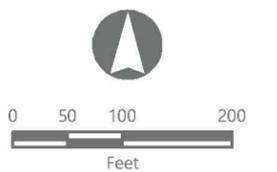


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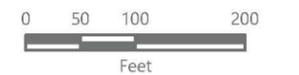
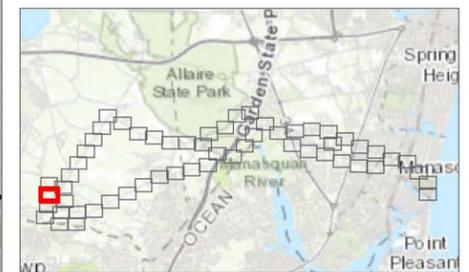


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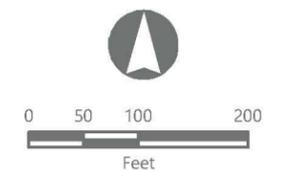
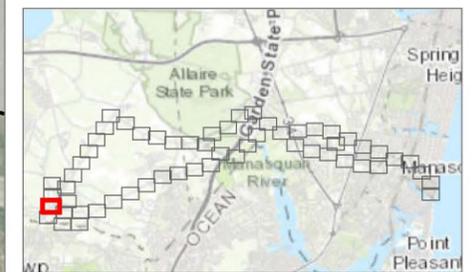


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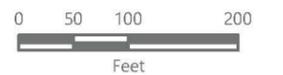
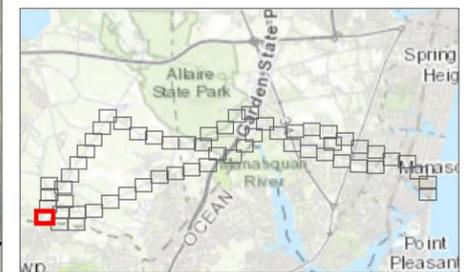
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Existing Larrabee Substation (POI)



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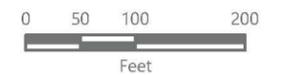
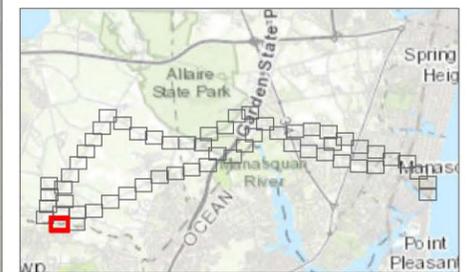


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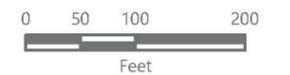
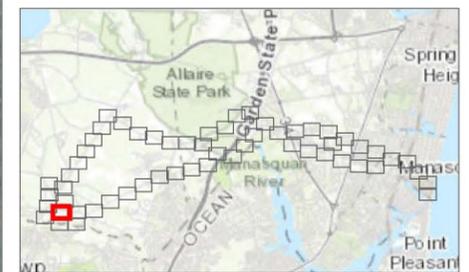


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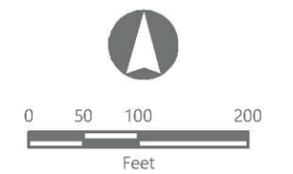
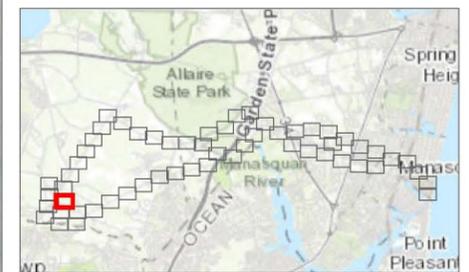


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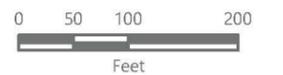
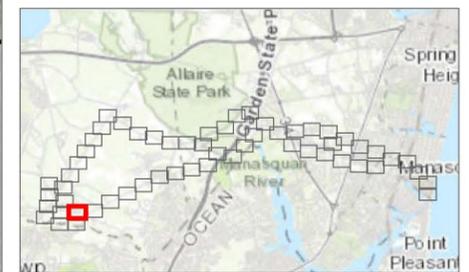


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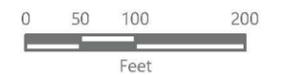
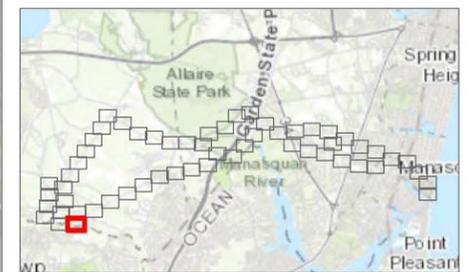


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