

## Appendix II-D1

### Wetland and Streams Delineation Report – New Jersey

March 2024

**Note:** At the time of the initial development of this report, development of a substation and/or converter station at the Brook Road Site in Howell Township, New Jersey was considered. The Brook Road site is now expected to be prepared and developed as part of the State of New Jersey Board of Public Utility (BPU) State Agreement Approach 1.0 (SAA)<sup>1</sup> to support the delivery of offshore wind energy onshore. In collaboration with the regional grid operator PJM Interconnection (PJM), NJBPU conducted a study that examined whether an integrated suite of open access transmission facilities designated to support the delivery of offshore wind energy onshore could best facilitate meeting New Jersey's expanded offshore wind goals. Under the SAA 1.0 Award all permitting for site preparation activities, including construction activities to provide a "fit for purpose" site, for an associated substation and/or converter station will be the responsibility of the BPU's SAA-awardee at the Brook Road Site. Therefore, impacts associated with site preparation have not been considered as part of the Project Design Envelope (PDE) of the Project. Discussion of the site has been retained as part of the study area in this report to demonstrate the completeness of Atlantic Shores' multi-year development efforts.

<sup>1</sup>[New Jersey Board of Public Utilities Selects Offshore Wind Transmission Project Proposed by Mid-Atlantic Offshore Development and Jersey Central Power & Light Company in First in Nation State Agreement Approach Solicitation](#)



# Appendix II D1

## Wetland and Streams Delineation Report

### Atlantic Shores Offshore Wind – New Jersey Study Area

Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township

Monmouth and Ocean Counties, New Jersey

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## LIST OF ABBREVIATIONS AND ACRONYMS

EDR	Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C.
FAC	Facultative Plant
FACW	Facultative Wetland Plant
HUC	Hydrologic Unit Code
km <sup>2</sup>	square kilometer(s)
m <sup>2</sup>	square meter(s)
NHD	National Hydrology Dataset
NJDEP	New Jersey Department of Environmental Protection
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
PEM	Palustrine Emergent Wetland
PFO	Palustrine Forested Wetland
POW	Palustrine Open Wetland
PSS	Palustrine Scrub-Shrub Wetland
OBL	Obligate Wetland Plant
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service



## 1.0 INTRODUCTION

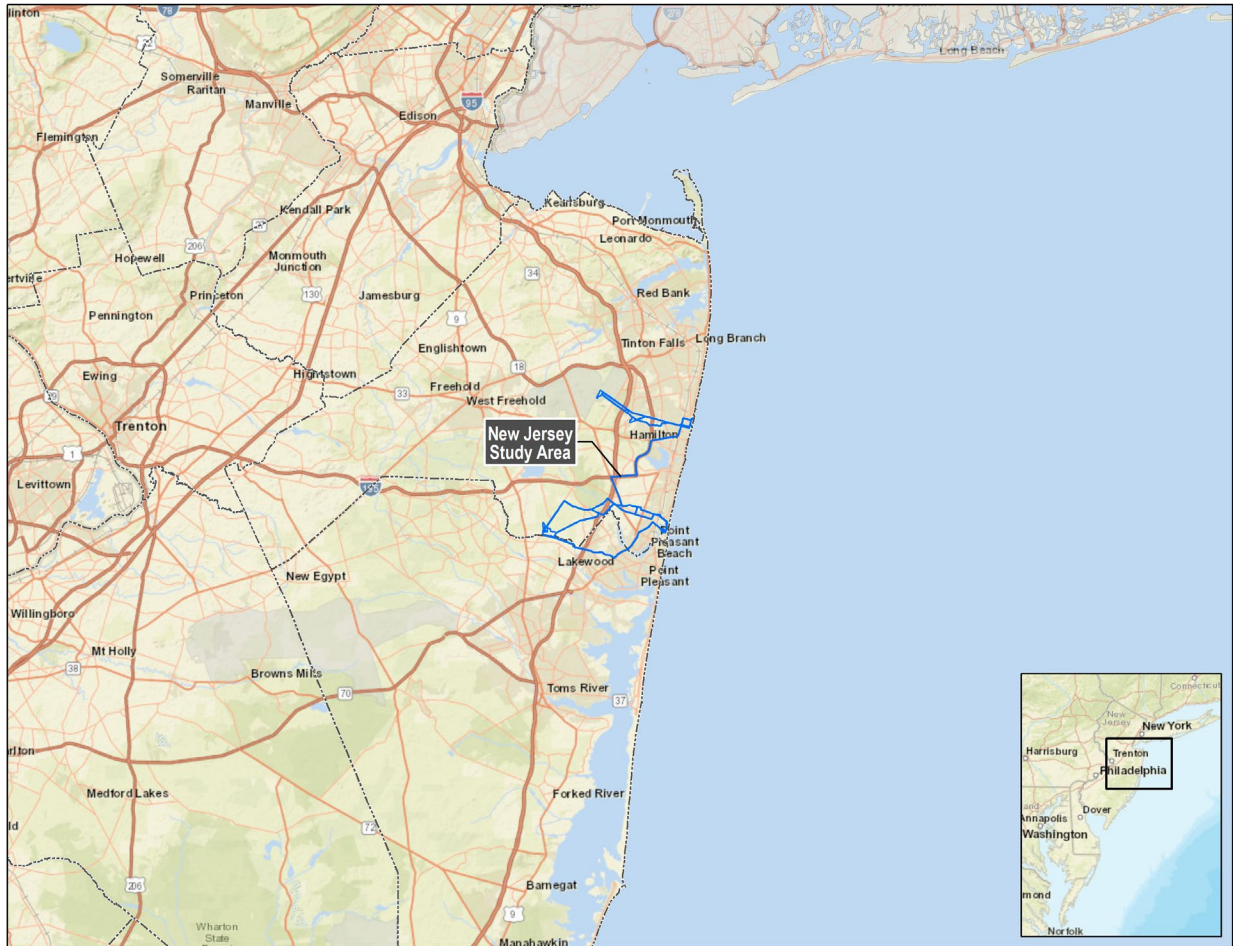
### 1.1 PROJECT LOCATION AND DESCRIPTION

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.) and Shell New Energies US LLC. Atlantic Shores is developing a Construction and Operations Plan for submittal to the Bureau of Ocean Energy Management for the development of an offshore wind energy generation project in Lease Area OCS-A 0549.

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) was contracted by Atlantic Shores to identify mapped and field delineated wetlands and streams within and adjacent to the proposed Project components in New Jersey, hereafter referred to as the New Jersey Study Area (see Figure 1). Specifically, the New Jersey Study Area includes all of the land within 150 feet (46 meters) of the potential onshore interconnection cable routes, landfall sites, substations/converter station site options and potential points of interconnection.

The New Jersey Study Area consists of approximately 59 miles (95 kilometers) encompassing approximately 1,402.7 acres (5.7 square kilometers [km<sup>2</sup>]), with the assumed New Jersey Study Area width of 150 feet (46 meters) in the municipalities of the Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan and Neptune Township in Monmouth and Ocean Counties, New Jersey (Figure 1 in Appendix A and Exhibit 1). This report provides information on mapped and field delineated wetland and stream locations. Additional field wetland delineations will be conducted as design progresses, and this report will be updated accordingly.

## Exhibit 1: New Jersey Study Area Location (not drawn to scale)



## 1.2 PURPOSE

This report describes the results of the field and desktop wetland and stream delineations conducted which includes identification of the federal and/or state jurisdictional wetland and water resources within the New Jersey Study Area, 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 New Jersey Department of Environmental Protection (NJDEP) regulations for the purpose of supporting required permit applications.

## 1.3 DATA SOURCES

Materials and data supporting this investigation have been derived from publicly available information sources that include United States Geological Survey topographic mapping (Long Branch, Ashbury Park, Farmingdale, Lakewood and Point Pleasant 7.5 minute quadrangles), United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping, NJDEP Wetlands mapping, the Natural Resources

Conservation Service (NRCS) Web Soil Survey (NRCS, 2022b), the NRCS List of Hydric Soils of the State of New Jersey (NRCS, 2022a), the National Land Cover Database land cover and vegetation classes (Yang et al., 2019), and recent aerial photography.

## 2.0 REGULATORY AUTHORITIES AND PERMITS

### 2.1 WATERS OF THE UNITED STATES

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” (40 CFR 239.3 and 33 CFR 328.3). Such areas are indicated by the presence of three conditions: 1) a dominance of hydrophytic vegetation, 2) the presence of hydric soils, and 3) evidence of wetland hydrology during the growing season (Environmental Laboratory, 1987).

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” (33 CFR 320.4).

Freshwater wetlands and waterbodies are typically under the regulatory jurisdiction of the United States 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 permitting program, a memorandum of understanding between the United States Environmental Protection Agency, United States Fish and Wildlife Service, and the 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 United States and other wetlands within 1,000 feet (304.8 meters) 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.

Wetland transition areas established under N.J.A.C. 7:7-9.28 and N.J.A.C. 7:7A-3.3(d) vary 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, are considered drainage ditches or swales, are detention facilities created for stormwater purposes or existing in lawns or are maintained landscaped areas and other disturbed locations.



- Intermediate Resource Value (50-foot [15.24-meter] transition area) wetlands are those wetlands that are not classified as either exceptional or ordinary resource value.
- Exceptional Resource Value (150-foot [45.75-meter] 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.<sup>1</sup>

Values will be assigned to wetland resources upon completion of field delineations, values cannot be determined through desktop analysis alone. Depending on project design and assessed impacts to the wetlands and waters identified, various NJDEP permits and/or Section 10/404 permits from the USACE may be required.

### 3.0 REVIEW OF BACKGROUND DATA AND MAPPING

#### 3.1 PHYSIOGRAPHY AND SOILS

The New Jersey 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. These shallow depths to groundwater support a diverse system of drainages and wetlands (NCTC, 2020).

Within the New Jersey Study Area, elevations range from 0 feet around the coastline and approximately 178 feet (54 meters) above sea level approaching the western-most portions for the New Jersey Study Area (see Figure 1).

Hydric soil is 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 typically is indicative of a wetland. Extended periods of inundation/saturation cause chemical reactions in the soil that alters 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 or mottles 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

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<sup>1</sup>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).

online databases, this is for general use and does not supersede specific conditions documented in the field.

The Web Soil Survey of Monmouth and Ocean Counties (NRCS, 2022b) indicates the occurrence of 43 soil series within the New Jersey Study Area (see Figure 2 and Table 1). Klej loamy sand (KkgB), Downer sandy loam (DoeBO), and Atsion Sand (AtsAO) are the predominant series occurring within the New Jersey Study Area. Other dominant soil series found throughout the New Jersey Study Area include Lakewood sand (LasB) and Downer-Urban land complex (DouB). Soils range from very poorly drained to excessively drained, with soil textures ranging from sand to urban land. Table 1 lists the soil series found within the New Jersey Study Area and their characteristics such as slope, drainage class, and hydric ratings. Hydric ratings and hydric soil classifications are based on information obtained from the NRCS Web Soil Survey (NRCS, 2022b). Based on NRCS mapped soils, 17.4% of soils mapped within the New Jersey Study Area are Hydric, 31.8% are partially hydric, 50.3% are not hydric and 0.4% are water. Although soil series may have a hydric rating in the online databases, this is for general use and does not supersede specific conditions documented in the field.

Table 1. New Jersey Study Area Soils

Mapping Unit Symbol	Series	Slope (%)	Drainage <sup>1</sup>	Hydric Rating <sup>2</sup>	Hydric Soil <sup>3</sup>	Acreage within New Jersey Study Area
AptAv	Appoquinimink-Transquaking-Mispillion complex	0-1	VPD	95	Hydric	4.5
AtsAO	Atsion sand, Northern Tidewater Area	0-2	PD	95	Hydric	123.68
BerAr	Berryland sand, rarely flooded	0-2	VPD	100	Hydric	4.3
BerAt	Berryland sand, frequently flooded	0-2	VPD	100	Hydric	50.5
DocBO	Downer loamy sand, Northern Tidewater Area	0-5	WD	5	Partially Hydric	10.0
DocCO	Downer loamy sand, Northern Tidewater Area	5-10	WD	0	Not Hydric	37.7
DoeAO	Downer sandy loam, Northern Tidewater Area	0-2	WD	0	Not Hydric	10.5
DoeBO	Downer sandy loam, Northern Tidewater Area	2-5	WD	0	Not Hydric	128.4
DouB	Downer-Urban land complex	0-5	WD	0	Not Hydric	100.8
EkaAr	Elkton loam, rarely flooded	0-2	WD	95	Hydric	25.6
EveB	Evesboro sand	0-5	ED	10	Not Hydric	46.1
EveC	Evesboro sand	5-10	ED	0	Not Hydric	29.1
EveD	Evesboro sand	10-15	ED	0	Not Hydric	25.0
EveE	Evesboro sand, 15 to 25 percent slopes	15-25	ED	0	Not Hydric	13.9
EvuB	Evesboro-Urban land complex	0-5	ED	0	Not Hydric	79.1
FapA	Fallsington loams, Northern Coastal Plain	0-2	PD	85	Hydric	2.0
FrrC	Freehold-Urban land complex	0-10	WD	0	Not Hydric	8.9
HboB	Hammonton sandy loam	2-5	MWD	5	Partially Hydric	3.4
HofB	Holmdel-Urban land complex	0-5	MWD	5	Partially Hydric	1.0
HumAt	Humaquepts, frequently flooded	0-3	PD	100	Hydric	27.6

Mapping Unit Symbol	Series	Slope (%)	Drainage <sup>1</sup>	Hydric Rating <sup>2</sup>	Hydric Soil <sup>3</sup>	Acreage within New Jersey Study Area
KkgB	Klej loamy sand	0-5	SPD	10	Partially Hydric	137.7
KkgkB	Klej loamy sand, clayey substratum	0-5	SPD	10	Partially Hydric	2.3
KkhB	Klej loamy sand-Urban land complex	0-5	SPD	5	Partially Hydric	30.7
LakB	Lakehurst sand	0-5	MWD	10	Partially Hydric	46.8
LasB	Lakewood sand	0-5	ED	5	Partially Hydric	101.6
LasC	Lakewood sand	5-10	ED	5	Partially Hydric	20.2
MakAt	Manahawkin muck, frequently flooded	0-2	VPD	100	Hydric	3.5
PHG	Pits, sand and gravel		WD	0	Not Hydric	35.1
PstAt	Psammaquents, sulfidic substratum, frequently flooded	0-2	VPD	100	Hydric	2.1
SacBO	Sassafras sandy loam, Northern Tidewater Area	2-5	WD	0	Not Hydric	26.6
SacC	Sassafras sandy loam, Northern Coastal Plain	5-10	WD	4	Partially Hydric	2.3
SacD	Sassafras sandy loam	10-15	WD	0	Not Hydric	4.0
SacE	Sassafras sandy loam	15-25	WD	0	Not Hydric	5.4
SadB	Sassafras gravelly sandy loam	2-5	WD	5	Partially Hydric	1.0
SadC	Sassafras gravelly sandy loam	5-10	WD	0	Not Hydric	1.2
SafA	Sassafras loam	0-2	WD	4	Partially Hydric	1.3
UdaB	Udorthents	0-8	WD	0	Not Hydric	78.4
UdauB	Udorthents-Urban land complex	0-8	WD	0	Not Hydric	2.8
UR	Urban land		N/A	0	Not Hydric	97.5
USBROA	Urban land-Brockatonorton complex, occasionally flooded	0-2	MWD	0	Not Hydric	22.2



Mapping Unit Symbol	Series	Slope (%)	Drainage <sup>1</sup>	Hydric Rating <sup>2</sup>	Hydric Soil <sup>3</sup>	Acreage within New Jersey Study Area
USKLEA	Urban land-Klej complex	0-2	SPD	10	Partially Hydric	5.9
WATER	Water	N/A	N/A	0	Water	6.2
WoeB	Woodstown sandy loam, Northern Coastal Plain	2-5	MWD	7	Partially Hydric	-0.6

<sup>1</sup> 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.

<sup>2</sup> Map units are composed of one or more component soil types, each of which is individually rated as hydric or not hydric. The hydric rating, as provided in the USDA Web Soil Survey, indicates the percentage of the map unit that meets hydric criteria.

<sup>3</sup> "Yes" indicates that this soil series is listed as containing 66% or more hydric components within the map unit as listed on the USDA Web Soil Survey.

## 3.2 HYDROLOGY

The New Jersey Study Area is located in the NJDEP Monmouth and Barnegat Bay Water Management Areas (WMA) as shown in Figure 3. The Monmouth WMA extends from Point Pleasant Beach to Perth Amboy and is comprised of coastal sub-watersheds (NJDEP, 2012). The majority of the Barnegat Bay WMA lies within Ocean County and stretches into Monmouth County and is approximately fifty percent forested with the remainder consisting of residential developments, agriculture, and a military installation (NJDEP, 2015). The New Jersey Study Area spans across the following Hydrologic Unit Codes (HUCs) that are within the WMAs (Figure 3).

- HUC 8:
  - Sandy Hook-Staten Island (02030104)
  - Mullica-Toms (02040301)
- HUC 10:
  - Navesink River-Shrewsbury River (0203010403)
  - Manasquan River-Frontal Atlantic Ocean (0204030101)
  - Metedeconk River (0204030102)
- HUC 12:
  - Poplar Brook-Frontal Atlantic Ocean (020403010103)
  - Swimming River (020301040302)
  - Shark River-Frontal Atlantic Ocean (020403010104)
  - Middle Manasquan River (020403010102)
  - North Branch-Metedeconk River (020403010201)
  - Lower Manasquan River (020403010105)
  - Cedar Bridge Branch-Metedeconk River (020403010203).

Most of the surface hydrology within the New Jersey Study Area is generated by precipitation and surface water run-off from adjacent land. The total annual precipitation (from 2000 to 2022) averages 52.01 inches (132.1 centimeters) in the Long Branch-Oakhurst Region (NOAA, 2022). The on-site wetland delineations took place in early December 2020, late June 2022, early July 2022, and early March 2023. Precipitation for the preceding month of November 2020 was slightly below average (3.46 inches [8.79 centimeters]) when compared to the long-term monthly average for November 2000–2022 (3.96 inches [10.05 centimeters]). Precipitation for the month of June 2022 was low (3.18 inches [8.07 centimeters]) compared to the long-term monthly average for April 2000 - 2022 (5.01 inches [12.73 centimeters]). Precipitation for the month of

February 2023 was low (1.85 inches [4.70 centimeters]) compared to the long-term monthly average for February 2000 – 2023 (3.31 inches [8.40 centimeters]).

Due to the sandy texture of the soil and portions of the New Jersey Study Area close to sea level, there are areas where surface hydrology is influenced by groundwater discharge as well as connectivity of surface waters such as Hollow Brook, Musquash Brook and Shark River and floodplains of other various tidal and non-tidal creeks (Figure 3).

There are two Traditional Navigable Waters within the New Jersey Study Area within Monmouth County: Shark River and Manasquan River. Shark River has a drainage area of 22.4 square miles (58.01 km<sup>2</sup>) (EPA, 2019) which flows into the Atlantic Ocean. Manasquan River has a drainage area of 76.6 square miles (198.3 km<sup>2</sup>) which flows into the Atlantic Ocean.

### 3.3 FEDERAL AND STATE MAPPED WETLANDS AND STREAMS

All federal and state mapped wetland and stream resources can be used as a guide due to known inaccuracies. As such, this data can be used for preliminary Project planning and to guide field delineations and jurisdictional determinations which will be required to establish wetland location and extent.

New Jersey State mapped wetlands indicate the presence of 17 wetland types within the New Jersey Study Area, totaling approximately 172.1 acres (695,654.7 m<sup>2</sup>) (Figure 4). Deciduous wooded wetlands and wetland rights-of-way are the dominant wetland type mapped on site, totaling approximately 106.4 acres (430,585.5 m<sup>2</sup>). Other New Jersey State mapped wetlands within the New Jersey Study Area and their approximate areas are summarized in Table 2.

**Table 2. New Jersey State Mapped Wetland Types**

Wetland Type	Acres	Square Meters
Deciduous Wooded Wetlands	72.1	291,778.3
Wetland Rights-of-Way	34.3	138,807.2
Mixed Wooded Wetlands (Deciduous Dom.)	25.7	104,004.2
Mixed Wooded Wetlands (Coniferous Dom.)	19.7	79,723.1
Agricultural Wetlands (Modified)	7.2	29,137.4
Coniferous Wooded Wetlands	6.8	27,518.6
Deciduous Scrub/Shrub Wetlands	2.1	8,498.4
Mixed Scrub/Shrub Wetlands (Deciduous Dom.)	1.7	6,879.7
Herbaceous Wetlands	1.0	4,046.9
Mixed Scrub/Shrub Wetlands (Coniferous Dom.)	0.7	2,832.8
Managed Wetland in Maintained Lawn Greenspace	0.3	1,214.1
Disturbed Wetlands (Modified)	0.2	809.3

Wetland Type	Acres	Square Meters
Coniferous Scrub/Shrub Wetlands	0.04	161.9
Phragmites Dominated Coastal Wetlands	0.02	80.9
Saline Marsh (Low Marsh)	0.02	80.9
Vegetated Dune Communities	0.01	40.5
Cemetery on Wetland	0.01	40.5
<b>Total</b>	<b>172.1</b>	<b>695,654.7</b>

NWI mapping indicates the presence of five wetland types, totaling approximately 126.4 acres (511,522.7 m<sup>2</sup>) within the New Jersey Study Area (Figure 4). Freshwater forested/shrub wetland communities are the dominant wetland types mapped on site, totaling approximately 112.4 acres (454,866.7 m<sup>2</sup>). Other NWI-mapped wetlands within the New Jersey Study Area and their approximate areas are summarized in Table 3.

**Table 3. NWI-Mapped Wetland Types**

Wetland Type	Area (acres)	Area (m <sup>2</sup> )
Freshwater Forested/Shrub	112.4	454,866.7
Freshwater Pond	6.0	24,281.1
Estuarine and Marine Deepwater	3.9	15,782.7
Riverine	2.8	11,331.2
Freshwater Emergent	1.3	5,260.91
<b>Total</b>	<b>126.4</b>	<b>511,522.7</b>

New Jersey National Hydrology Dataset (NHD) mapping identifies 19 waterways within the New Jersey Study Area. The NHD mapped waterways within the New Jersey Study Area total approximately 19,045 feet (5,804.9 m) and are summarized in Table 4.

**Table 4. New Jersey NHD Mapped Waterways**

New Jersey NHD ID	Total Length in New Jersey Study Area (feet)	Total Length in New Jersey Study Area (meters)
North Branch Metedeconk River	4,401.10	1,341.4
Jumping Brook	3,060.70	932.9
Hollow Brook	3,047.60	928.9
Manasquan River	2,222.80	677.5
Dicks Brook	1,555.70	474.2

New Jersey NHD ID	Total Length in New Jersey Study Area (feet)	Total Length in New Jersey Study Area (meters)
Judas Creek	1,313.30	400.3
Haystack Brook	737.9	224.9
Wreck Pond Brook	518.8	1458.1
Beaverdam Creek	325.9	99.3
Watson Creek	307.5	93.7
Squankum Brook	267.3	81.5
Muddy Ford Brook	241.9	73.7
Sandyhill Brook	233.4	71.1
Hannabrand Brook	174.7	53.3
Tarkiln Brook	174.7	53.2
Laurel Gully Brook	157	47.9
Roberts Swamp Brook	150.5	45.9
Shark River	150.1	45.8
Musquash Brook	4.1	1.2
<b>Total</b>	<b>19,045</b>	<b>5,805.9</b>

### 3.4 MAPPED FLOODPLAINS

According to the Federal Emergency Management Agency map service, portions of the New Jersey Study Area are within the 1% chance annual floodplain as well as an areas of undetermined flood hazard risk (zone D) and are generally associated with the surface waters identified in Section 3.3. Figure 5 shows the locations of the mapped floodplain areas in relation to the New Jersey Study Area.

### 3.5 VEGETATION

Land cover and vegetation occurring within the Study Area were evaluated using data from 2015 Land Use/Land Cover of New Jersey (NJDEP, 2015), and further verified during the on-site field investigations. The New Jersey Area encompasses approximately 1,402.7 acres (5,676,526 m<sup>2</sup>) and primarily consists of urban land (commercial/services, residential [single unit, medium density], and major roadway, etc.).

Table 5. Vegetation/Land Cover Within the New Jersey Study Area

Land Cover Class	Type	Area (acres)	Area (m <sup>2</sup> )	Percent Cover (%)
Developed, Low Intensity	Urban	329.2	1,332,311.0	23.5
Developed, Open Space	Urban	308.4	1,248,217.0	22.0

Land Cover Class	Type	Area (acres)	Area (m <sup>2</sup> )	Percent Cover (%)
Developed, Medium Intensity	Urban	268	1,084,558	19.1
Woody Wetlands	Wetlands	149.3	604,319.5	10.6
Deciduous Forest	Forest	142.3	575,910.4	10.1
Developed, High Intensity	Urban	75.3	304,851	5.4
Mixed Forest	Forest	53.9	218,247.8	3.8
Evergreen Forest	Forest	24.1	97,651	1.7
Cultivated Crops	Agriculture	23	93,077.7	1.6
Barren Land (Rock/Sand/Clay)	Urban	13	52,609.1	0.9
Grassland/Herbaceous	Forest	6.2	25,090.6	0.4
Scrub/Shrub	Forest, Wetlands	5.0	20,234.3	0.4
Open Water	Water	3.6	14,568.7	0.3
Emergent Herbaceous Wetland	Wetlands	0.9	3,601.7	0.1
Pasture/Hay	Agriculture	0.4	1,618.7	<0.1

Source: NLCD 2016 (Yang et al., 2019).

## 4.0 METHODOLOGY

An initial desktop analysis using the data sources described in Section 3.0 was conducted by EDR personnel prior to performing on-site wetland delineations to identify areas likely to contain wetland and stream resources within the New Jersey Study Area. Field wetland delineations were conducted by EDR personnel in December 2020, June 2022, July 2022, and March 2023. Areas that were not field delineated were evaluated by desktop delineation in October and November 2022.

### 4.1 Field Delineations

The identification of wetland boundaries was based on the methodology described in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1989 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 inches/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 in 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 wetland, 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 by 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 (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 New Jersey Study Area were classified based on the Cowardin Classification System (1979).

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

## **4.2 Desktop Delineations**

Desktop delineations for wetlands and streams located within portions of the Study Area that were not field delineated were conducted in October and November 2022 by EDR personnel. These areas are located on parcels of land where access has not been granted for site investigations as of March 2023. As discussed in Section 3.0, materials and data supporting this investigation have been derived from publicly available information sources that include United States Geological Survey topographic mapping (Long Branch, Ashbury Park, Farmingdale, Lakewood and Point Pleasant 7.5 minute quadrangles), USFWS NWI mapping, NJDEP Wetlands mapping, the NRCS Web Soil Survey (NRCS, 2022b), the NRCS List of Hydric Soils of the

State of New Jersey (NRCS, 2022a), the National Land Cover Database land cover and vegetation classes (Yang et al., 2019), and recent aerial photography.

All desktop delineations for wetlands and streams were conducted in ArcGIS Pro using recent and historic aerial photographs. The wetlands and streams identified through the desktop delineation will be field verified utilizing the methodology described in Section 4.1 as design progresses and this report updated accordingly.

## 5.0 RESULTS

EDR personnel field delineated 47 wetlands and 37 streams within the 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 6. A detailed description of each field delineated resource is located in Section 5.1 (wetlands) and Section 5.2 (streams). In accordance with the Cowardin Classification System (1979), the waters delineated and/or identified within the Study Area consist of the following community types: palustrine emergent (PEM), and palustrine forested (PFO), palustrine open water (POW), and palustrine scrub-shrub (PSS).

Additionally, EDR personnel desktop delineated 6 wetlands and 5 streams within the Study Area. The desktop delineated wetlands and streams are summarized in Table 7. The wetlands and streams identified through the desktop delineation will be field verified utilizing the methodology described in Section 4.1.

Most of these wetlands and streams are not tidal or within 1,000 feet (305 meters) of the head of tide; therefore, USACE jurisdiction does not apply to the majority of the streams and wetlands as it relates to Section 404 of the Clean Water Act (CWA) because the NJDEP has assumed jurisdiction under the state's Freshwater Wetlands Protection Act. The wetlands and streams that are tidal or within 1,000 feet (305 meters) of the head of tide may fall under USACE jurisdiction. The presumed federal and/or state jurisdiction of delineated wetlands and streams is summarized in Table 6. Descriptions of the delineated wetlands and delineated streams within the Study Area are provided in Sections 5.1 and Section 5.2, respectively. Details on the desktop delineated wetlands and streams are provided in Section 5.3.

Table 6. Delineated Wetlands and Streams

Delineation ID <sup>1</sup>	Latitude of Centroid	Longitude of Centroid	Wetland Acreage Within Study Area by Type <sup>2</sup>					Stream Type <sup>3</sup>	Linear Feet of Stream Within Study Area	Resource Value Classification	Anticipated Federal Jurisdiction <sup>4</sup>	Anticipated State Jurisdiction <sup>5</sup>
			POW	PEM	PFO	PSS	Total					
26-W008	40.121004	-74.195893	--	--	0.1	--	0.1	--	--	Exceptional	Yes	Yes
26-W009	40.118593	-74.195839	--	--	0.2	--	0.2	--	--	Exceptional	Yes	Yes
26-W010	40.115434	-74.17603	--	0.1	--	--	0.1	--	--	Exceptional	Yes	Yes
26-W011	40.115468	-74.175067	--	--	0.1	--	0.1	--	--	Exceptional	Yes	Yes
26-W012	40.117349	-74.170169	--	--	0.4	--	0.4	--	--	Exceptional	Yes	Yes
26-W014	40.118947	-74.1659	--	--	--	0.1	0.1	--	--	Exceptional	Yes	Yes
26-W015	40.128265	-74.13556	--	--	0.1	--	0.1	--	--	Intermediate	Yes	Yes
26-W016	40.130071	-74.051801	0.1	--	--	--	0.1	--	--	Ordinary	Yes	Yes
26-W017	40.155331	-74.098383	--	0.1	--	--	0.1	--	--	Exceptional	Yes	Yes
26-W018	40.171209	-74.082639	--	--	0.2	--	0.2	--	--	Exceptional	Yes	Yes
26-W019	40.137226	-74.109186	--	--	--	0.2	0.2	--	--	Exceptional	Yes	Yes
W007	40.119056	-74.057142	--	--	0.5	--	0.5	--	--	Intermediate	Yes	Yes
W008	40.104039	-74.077483	--	0.2	--	--	0.2	--	--	Ordinary	Yes	Yes
W009	40.108316	-74.072708	--	--	0.1	--	0.1	--	--	Intermediate	Yes	Yes
W010	40.094269	-74.118686	--	--	0.7	--	0.7	--	--	Intermediate	Yes	Yes
W011	40.090269	-74.100406	--	--	0.1	--	0.1	--	--	Ordinary	Yes	Yes
W012	40.094274	-74.122149	--	--	0.7	--	0.7	--	--	Exceptional	Yes	Yes
W013	40.090946	-74.099038	--	--	0.5	--	0.5	--	--	Intermediate	Yes	Yes
W014	40.09253	-74.096867	--	--	0.5	--	0.5	--	--	Intermediate	Yes	Yes
W015	40.093391	-74.117737	--	--	0.5	--	0.5	--	--	Exceptional	Yes	Yes
W016	40.093857	-74.123005	--	--	0.1	--	0.1	--	--	Exceptional	Yes	Yes
W017	40.139095	-74.108156	--	--	0.3	--	0.3	--	--	Intermediate	Yes	Yes
W017A	40.138902	-74.107758	--	--	0.4	--	0.4	--	--	Intermediate	Yes	Yes
W018	40.141023	-74.079964	--	--	0.8	--	0.8	--	--	Ordinary	Yes	Yes

Delineation ID <sup>1</sup>	Latitude of Centroid	Longitude of Centroid	Wetland Acreage Within Study Area by Type <sup>2</sup>					Stream Type <sup>3</sup>	Linear Feet of Stream Within Study Area	Resource Value Classification	Anticipated Federal Jurisdiction <sup>4</sup>	Anticipated State Jurisdiction <sup>5</sup>
			POW	PEM	PFO	PSS	Total					
W019	40.136662	-74.110322	--	--	2.3	--	2.3	--	--	Exceptional	Yes	Yes
W020	40.240365	-74.094579	--	--	0.6	--	0.6	--	--	Intermediate	Yes	Yes
W021	40.246077	-74.09828	--	--	0.9	--	0.9	--	--	Intermediate	Yes	Yes
W022	40.244507	-74.096124	--	--	0.4	--	0.4	--	--	Intermediate	Yes	Yes
W023	40.243071	-74.093018	--	--	1.3	--	1.3	--	--	Exceptional	Yes	Yes
W024	40.237035	-74.082182	--	--	1.8	--	1.8	--	--	Exceptional	Yes	Yes
W025	40.231177	-74.061714	--	--	0.1	--	0.1	--	--	Intermediate	Yes	Yes
W026	40.23001	-74.056456	0.2	--	--	--	0.2	--	--	Exceptional	Yes	Yes
W027	40.224455	-74.031423	--	--	0.7	--	0.7	--	--	Exceptional	Yes	Yes
WL1	40.120301	-74.033958	--	0.6	--	--	0.6	--	--	Exceptional	Yes	Yes
WL10	40.133906	-74.179492	--	--	1.2	--	1.2	--	--	Exceptional	Yes	Yes
WL11	40.128772	-74.184049	--	--	0.5	--	0.5	--	--	Exceptional	Yes	Yes
WL12	40.124342	-74.187698	--	0.4	--	--	0.4	--	--	Ordinary	Yes	Yes
WL13	40.118727	-74.192792	--	--	0.3	--	0.3	--	--	Exceptional	Yes	Yes
WL2	40.146067	-74.10696	0.2	--	--	--	0.2	--	--	Intermediate	Yes	Yes
WL3	40.146101	-74.107643	--	--	0.3	--	0.3	--	--	Intermediate	Yes	Yes
WL4	40.144079	-74.116155	--	--	3.5	--	3.5	--	--	Exceptional	Yes	Yes
WL5	40.136989	-74.137713	--	--	0.2	--	0.2	--	--	Intermediate	Yes	Yes
WL6A	40.137924	-74.144525	--	--	0.3	--	0.3	--	--	Ordinary	Yes	Yes
WL6B	40.143678	-74.162614	--	--	0.9	--	0.9	--	--	Exceptional	Yes	Yes
WL7	40.146436	-74.167963	0.1	--	0.2	--	0.3	--	--	Intermediate	Yes	Yes
WL8	40.143712	-74.170264	--	--	0.2	--	0.2	--	--	Intermediate	Yes	Yes
WL9	40.138808	-74.174871	--	--	1.4	--	1.4	--	--	Exceptional	Yes	Yes
S005	40.115039	-74.035636	--	--	--	--	--	R1	64.8	FW2-NT/SE1	Yes	Yes
S006	40.113676	-74.037994	--	--	--	--	--	R1	133	FW2-NT/SE1	Yes	Yes

Delineation ID <sup>1</sup>	Latitude of Centroid	Longitude of Centroid	Wetland Acreage Within Study Area by Type <sup>2</sup>					Stream Type <sup>3</sup>	Linear Feet of Stream Within Study Area	Resource Value Classification	Anticipated Federal Jurisdiction <sup>4</sup>	Anticipated State Jurisdiction <sup>5</sup>
			POW	PEM	PFO	PSS	Total					
S007	40.11907	-74.057234	--	--	--	--	--	R3	92.2	FW2-NT/SE1	Yes	Yes
S008	40.094355	-74.129931	--	--	--	--	--	R3	47.6	FW2-NT/SE1	Yes	Yes
S009A	40.096981	-74.085632	--	--	--	--	--	R1	828.6	SE1	Yes	Yes
S009B	40.136724	-74.110136	--	--	--	--	--	R3	581.7	FW-TMC1	Yes	Yes
S010	40.237082	-74.082167	--	--	--	--	--	R3	76.8	FW2-NT/SE1	Yes	Yes
S011	40.235314	-74.079003	--	--	--	--	--	R3	91.2	FW2-NT/SE1	Yes	Yes
S012	40.231084	-74.061794	--	--	--	--	--	R3	108.7	No Classification	Yes	Yes
26-ST04	40.142478	-74.12032	--	--	--	--	--	R3	885.3	FW1-TM	Yes	Yes
26-ST09	40.127377	-74.055339	--	--	--	--	--	R6	120.3	FW2-NT/SE1	Yes	Yes
26-ST005	40.118484	-74.195904	--	--	--	--	--	R3	119.8	FW2-NTC1	Yes	Yes
26-ST006	40.115677	-74.175301	--	--	--	--	--	R3	400.6	FW2-NTC1	Yes	Yes
26-ST007	40.118116	-74.168116	--	--	--	--	--	R3	190.6	FW2-TMC1	Yes	Yes
26-ST008	40.128401	-74.135539	--	--	--	--	--	R4	94.2	FW2-NT/SE1	Yes	Yes
ST009	40.243408	-74.093567	--	--	--	--	--	R3	183	FW2-NT/SE1	Yes	Yes
26-ST011	40.171148	-74.083307	--	--	--	--	--	R6	169	FW2-NT	Yes	Yes
26-ST012	40.171208	-74.082346	--	--	--	--	--	R6	48.7	FW2-NT	Yes	Yes
ST013	40.224249	-74.030876	--	--	--	--	--	R3	135	FW2-NT/SE1	Yes	Yes
26-ST013	40.11817	-74.167968	--	--	--	--	--	R6	67.6	FW2-TMC1	Yes	Yes
26-ST014	40.119058	-74.16567	--	--	--	--	--	R3	60.8	FW2-TMC1	Yes	Yes
26-ST015	40.189	-74.070745	--	--	--	--	--	R3	21.2	SE1	Yes	Yes
26-ST016	40.157248	-74.099366	--	--	--	--	--	R3	15.3	FW2-NT	Yes	Yes
26-ST017	40.15536	-74.098433	--	--	--	--	--	R4	27.2	FW2-NT	Yes	Yes
26-ST018	40.171345	-74.07965	--	--	--	--	--	R3	467.5	FW2-NT	Yes	Yes
26-ST019	40.171274	-74.080937	--	--	--	--	--	R4	43.3	FW2-NT	Yes	Yes

Delineation ID <sup>1</sup>	Latitude of Centroid	Longitude of Centroid	Wetland Acreage Within Study Area by Type <sup>2</sup>					Stream Type <sup>3</sup>	Linear Feet of Stream Within Study Area	Resource Value Classification	Anticipated Federal Jurisdiction <sup>4</sup>	Anticipated State Jurisdiction <sup>5</sup>
			POW	PEM	PFO	PSS	Total					
26-ST020	40.193238	-74.059949	--	--	--	--	--	R1	150	SE1	Yes	Yes
WC1	40.146344	-74.107541	--	--	--	--	--	R3	171.6	FW2-TMC1	Yes	Yes
WC10	40.118672	-74.192965	--	--	--	--	--	R2	122.9	FW2-NTC1	Yes	Yes
WC2	40.14342	-74.117733	--	--	--	--	--	R3	331.5	FW2-TMC1	Yes	Yes
WC3	40.144365	-74.163353	--	--	--	--	--	R4	130.8	FW2-NTC1	Yes	Yes
WC4	40.146766	-74.167917	--	--	--	--	--	R2	55.3	FW2-NTC1	Yes	Yes
WC5	40.138332	-74.175139	--	--	--	--	--	R2	108.8	FW2-TMC1	Yes	Yes
WC6	40.135076	-74.178157	--	--	--	--	--	R2	127.3	No Classification	Yes	Yes
WC7	40.128609	-74.184312	--	--	--	--	--	R2	315.9	FW2-TMC1	Yes	Yes
WC8	40.124908	-74.18719	--	--	--	--	--	R4	144.5	No Classification	Yes	Yes
WC9	40.123934	-74.188289	--	--	--	--	--	R2	149	FW2-NTC1	Yes	Yes
<b>Totals</b>			<b>0.6</b>	<b>1.4</b>	<b>23.4</b>	<b>0.3</b>	<b>25.7</b>	--	<b>6,881.6</b>	--	--	--

<sup>1</sup> Field ID assigned by EDR.

<sup>2</sup> Wetland community types are based upon the Cowardin et al. (1979) classification system: palustrine open water (POW), palustrine emergent wetland (PEM), palustrine forested wetland (PFO).

<sup>3</sup> Stream type is based upon the Cowardin et al. (1979) classification system: tidal (R1), lower perennial (R2), perennial (R3), intermittent (R4), and ephemeral (R6).

<sup>4</sup> Based on visual observation of hydrologic connectivity in the field and review of available spatial data. NJDEP has assumed Section 404 jurisdiction of Waters of the United States, so Section 404 jurisdiction is included under federal jurisdiction.

<sup>5</sup> Based on existing NYSDEC mapping of freshwater wetlands and streams. See Sections 2.2 and 3.3 for additional information.

## 5.1 Field Delineated Wetlands

EDR personnel field delineated 47 wetlands totaling approximately 26 acres (10.52 hectares) within the New Jersey Study Area. The total acreage of each community type is summarized in Table 6 and descriptions of wetlands categorized by the Cowardin Classification System (1979) are provided below. Since the desktop delineated wetlands are in the same general area as the field delineated wetlands, the community types summarized are likely accurate descriptions of the desktop delineated wetlands. Desktop delineated wetlands will be field verified, and the community described in this report, as design progresses.

### *Palustrine Open Water (POW)*

Four wetlands with a classification of POW (See Table 6) were field delineated within the Study Area with a total size of 0.6 acre (0.24 hectare). Dominant vegetation consisted of Duckweed (*Lemna minor*, OBL) and Yellow Pond Lilly (*Nuphar lutea*, OBL) which meets the criteria for hydrophytic vegetation. Soils consisted of a thick layer of sandy muck (10YR 2/1) which meets the criteria of a histic epipedon and therefore meets the criteria for hydric soils. Wetland hydrology indicators observed were surface water, soil saturation, aquatic fauna, and a sparsely vegetated concave surface. See Appendix B for wetland-specific details on the four field delineated wetlands.

### *Palustrine Emergent Wetland (PEM)*

Five wetlands with a classification of PEM (See Table 6) were field delineated within the Study Area with a total size of 1.4 acres (0.57 hectare). Dominant vegetation consisted of Pennsylvania Smartweed (*Polygonum pensylvanicum*, FACW), Late Boneset (*Eupatorium serotinum*, FAC), Common Rush (*Juncus effusus*, OBL), Broadleaf cattail (*Typha latifolia*, OBL) and Common Reed (*Phragmites australis*, FACW) which meets the criteria for hydrophytic vegetation. Soils consisted of thick organic muck with a low chroma matrix (10YR 2/1), clayey loam with a low chroma matrix (10YR 2/1) and mottles (10YR 5/8), sandy muck with a low chroma matrix (10YR 2/1), and sandy loam (10YR 4/1) with mottles (10YR 5/4) and a depleted matrix. These soils meet the criteria for hydric soils. Wetland hydrology indicators observed were ground saturated soils, water-stained leaves, a high-water table, hydrogen sulfide odor, geomorphic position, and drainage patterns. See Appendix B for wetland-specific details on the five field delineated wetlands.

### *Palustrine Forested Wetland (PFO)*

Thirty-seven wetlands with a classification of PFO (see Table 6) were field delineated within the Study Area with a total size of 23.4 acres (9.47 hectares). Dominant vegetation across the numerous wetlands consisted of, but was not limited, to Red Maple (*Acer rubrum*, FAC), Pepperbush (*Clethra alnifolia*, FACW), Green Ash (*Fraxinus pennsylvanica*, FACW), Swamp White Oak (*Quercus bicolor*, FACW), Skunk Cabbage (*Symplocarpus foetidus*, OBL), Common Reed (*Phragmites australis*, FACW), Narrowleaf Cattail (*Typha angustifolia*, OBL) and Soft Rush (*Juncus effusus*, OBL), which meets the criteria for hydrophytic vegetation. There were numerous types of soils sampled across the various wetlands. Some of the more common soils sampled were thick organic muck with a low chroma matrix (10YR 2/1), thick muck (10YR 2/1) Histic epipedon, thick muck (10YR 2/1; 10YR 2/2) Histosol, and Sandy loam (10YR 2/1) with redox features and a low chroma matrix.



Additionally, redox dark surfaces and depleted matrices were observed at a large percentage of the wetlands. These soils meet the criteria for hydric soils. Wetland hydrology indicators observed across the various wetlands include, but are not limited to, surface inundation, soil saturation, a high-water table, hydrogen sulfide odor, geomorphic position, sparsely vegetated concave surface, water-stained leaves, and drainage patterns. See Appendix B for wetland-specific details on the thirty-seven field delineated wetlands.

#### *Palustrine Scrub-Shrub (PSS)*

Two wetlands with a classification of PSS (see Table 6) were field delineated within the Study Area with a total size of 0.3 acres (0.12 hectares). Dominant vegetation for both wetlands consisted of Red Maple (*Acer rubrum*, FAC) saplings, Green Ash (*Fraxinus pennsylvanica*, FACW) saplings, and Pepperbush (*Clethra alnifolia*, FACW), which meets the criteria for hydrophytic vegetation. Soils samples across the two wetlands consisted of thick muck (10YR 2/1) Histosol. Wetland hydrology indicators observed across both wetlands were surface water, a high-water table, saturation, iron deposits, water-stained leaves, and hydrogen sulfide odor. See Appendix B for wetland-specific details on the two field delineated wetlands.

## **5.2 Field Delineated Streams**

EDR personnel field delineated 37 streams within the Study Area as shown in the Wetland and Stream Delineation Plan in Appendix D. The area of each stream type is summarized in Table 6 and descriptions of wetlands categorized by the Cowardin Classification System (1979) are provided below. Since the desktop delineated streams are in the same general area as the field delineated streams, the stream types summarized are likely accurate descriptions of the desktop delineated streams. Desktop delineated streams will be field verified, and the community described in this report, as design progresses.

#### *Tidal (R1)*

Four streams with a classification of Tidal (R1) (See Table 6) were field delineated within the Study Area with a total length of 1,176.4 linear feet. The streams are part of the following streams and/or tributary:

- Watson Creek – S005 and S006
- Manasquan River – S009A
- Shark River – 26-ST020

The stream gradient for all four streams is gentle (0-5%). The substrate for S005 and S006 is sand and the substrate for S009A is a mix of sand, silt, and clay. The surface water depth at Thalweg for S005, S006 and S009A ranges from 80 to 100 inches (203 to 254 centimeters). Substrate and surface water depth data were unable to be obtained for stream 26-ST020 due to access issues. 26-ST020 is located within the tidal portion of the Shark River which drains into the Atlantic Ocean. None of the four streams are drainage ditches.

### *Lower Perennial (R2)*

Six streams with a classification of Lower Perennial (R2) (See Table 6) were field delineated within the Study Area with a total length of 879.29 linear feet. The streams are part of the following streams and/or tributary:

- Squankum Brook – WC4
- Muddy Ford Brook – WC5 and possibly WC6
- Woodcock Brook – Possibly WC6
- Tarkiln Brook – WC7
- Haystack Brook – WC9
- Dicks Brook – WC10

The stream gradient is gentle (0–5%) for WC4, WC6, WC7, WC9 and W10 and is moderate (6–11%) for WC5. The substrate is composed of a mix of sand, silt, and clay with cobble present in WC9, and gravel present in WC4, WC5, WC6, and WC10. The surface water depth at Thalweg ranges across the 6 streams from 0.5 inches to 24 inches (1.3 to 61 centimeters). None of the six streams are drainage ditches.

### *Perennial (R3)*

Eighteen streams with a classification of Perennial (R3) (see Table 6) were field delineated within the Study Area with a total length of 3,980.4 linear feet. The streams are part of the following streams and/or tributary:

- Robert Swamp Brook – S007
- Beaverdam Creek – S008
- Jumping Brook tributary – ST009, S010, and S011
- Hollow Brook – ST013
- Manasquan River – S009B, WC1, and WC2
- Manasquan River Tributary – 26-ST04
- Dicks Brook – 26-ST005
- Haystack Brook – 26-ST006
- Muddy Ford Brook – 26-ST007
- Sandyhill Brook – 26-ST014
- Laurel Gully Brook – 26-ST015
- Hannabrand Brook – 26-ST016
- Wreck Pond Brook – 26-ST018
- Unclassified Stream – S012

The stream gradient for all 18 streams is gentle (0–5%). The substrate varies across the 18 streams and is composed of varying levels of a mix of bedrock, cobble, gravel, sand, silt, and clay. The surface depth at Thalweg ranges across the 18 streams from 0 to 100 inches (0 to 254 centimeters). None of the eighteen streams are drainage ditches.

### *Intermittent (R4)*

Five streams with a classification of Intermittent (R4) (See Table 6) were field delineated within the Study Area with a total length of 440 linear feet. The streams are part of the following streams and/or tributary:

- Squankum Brook – WC3
- Haystack Brook – WC8
- Sawmill Creek – Possibly 26-ST008
- Hannabrand Brook – 26-ST017
- Wreck Pond Brook – 26-ST019

The stream gradient for all five streams is gentle (0-5%). The substrate for WC3 is a mix of silt, clay, cobble, and gravel. The substrate for WC8 is a mix of sand, silt and clay. The substrate for 26-ST008 is a mix of cobble, gravel, and sand. The substrate for 26-ST017 is a mix of silt and clay. The substrate for 26-ST019 is a mix of gravel, sand, silt, and clay. The surface water depth at Thalweg ranges across the five streams from 0 to 4 inches (0 to 10 centimeters). WC3 is a drainage ditch. The remaining four streams are not drainage ditches.

### *Ephemeral (R6)*

Four streams with a classification of Ephemeral (R6) (See Table 6) were field delineated within the Study Area with a total length of 405.6 linear feet. The streams are part of the following streams and/or tributary:

- Judas Creek – 26-ST09
- Wreck Pond Brook tributary – 26-ST011 and 26-ST012
- Muddy Ford Brook – 26-ST013

The stream gradient for 26-ST09 and 26-ST012 is gentle (0-5%) and the stream gradient for 26-ST011 and 26-ST013 is moderate (6-11%). The substrate for 26-ST09 is a mix of gravel and sand. The substrate for 26-ST011 and 26-ST012 is a mix of gravel, sand, silt, and clay. The substrate for 26-ST013 is a mix of sand, silt, and clay. The surface water depth at Thalweg ranges across the four streams from 0 to 1 inch (0 to 2.5 centimeters) across the four streams. 26-ST011 is a drainage ditch. The remaining three streams are not drainage ditches.

## **5.3 Desktop Delineated Wetlands and Streams**

EDR personnel desktop delineated 6 wetlands and 5 streams within the Study Area. The desktop delineated wetlands and streams are summarized in Table 7. The wetlands and streams identified through the desktop delineation will be field verified utilizing the methodology described in Section 4.1.

**Table 7. Desktop Delineated Wetlands and Streams**

Delineation ID <sup>1</sup>	Latitude of Centroid	Longitude of Centroid	Wetland Acreage within Study Area	Linear Feet of Stream Within Study Area
DDW001*	40.121228	-74.195748	0.2	--
DDW002*	40.111859	-74.185659	25.0	--
DDW033*	40.226629	-74.078776	13.7	--
DDW034*	40.235551	-74.083499	7.0	--
DDW035*	40.253743	-74.119368	17.1	--
DDW080_NJ*	40.118292	-74.188324	10.6	--
DDS001*	40.119065	-74.194955	--	392.6
DDS002*	40.110884	-74.185355	--	3846.7
DDS025*	40.226176	-74.079693	--	1,072.1
DDS026*	40.235925	-74.082419	--	558.4
DDS042_NJ*	40.118512	-74.18827	--	1182
<b>Totals</b>			<b>73.6</b>	<b>7,051.8</b>

<sup>1</sup> ID assigned by EDR.

\* Feature has been desktop delineated. These features will be field verified as design progresses and this report updated accordingly.

## 6.0 CONCLUSIONS

EDR conducted a field wetland and watercourse delineation in June and December 2020, September 2021, June 2022, and March 2023 for the Atlantic Shores proposed onshore interconnection cable route to the Larrabee and Atlantic POIs and associated onshore infrastructure site options. A total of 47 wetlands encompassing approximately 25.7 acres and 37 streams totaling approximately 6,881.6 linear feet were identified and delineated within the New Jersey Study Area. Six wetlands totaling approximately 73.6 acres and five streams totaling 7,051.8 linear feet were desktop delineated within the New Jersey Study Area. These wetlands and streams will be field verified, and this report will be updated accordingly as design progresses and access issues are resolved. Wetlands and streams were identified and approximated using aerial imagery and other publicly available data sources (see Section 4.1)

All wetlands and watercourses are under the jurisdiction of the NJDEP under the Freshwater Wetlands Protection Act and/or Wetlands Act of 1970 (coastal wetlands). In additional, all tidally influenced systems or non-tidal wetlands within 1,000 feet (305 meters) of the head of tide may also be under the jurisdiction of the USACE under Section 10 of the River and Harbors Act and the Section 404 of the Clean Water Act (CWA). Any wetlands and watercourses greater than 1,000 feet (305 meters) upslope from the head of tide are under the assumed jurisdiction of the NJDEP.

This wetland and waterway delineation and presumed jurisdictional determination should not be considered final until a Letter of Interpretation is issued by the NJDEP, and a review has been conducted by the USACE 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 6.

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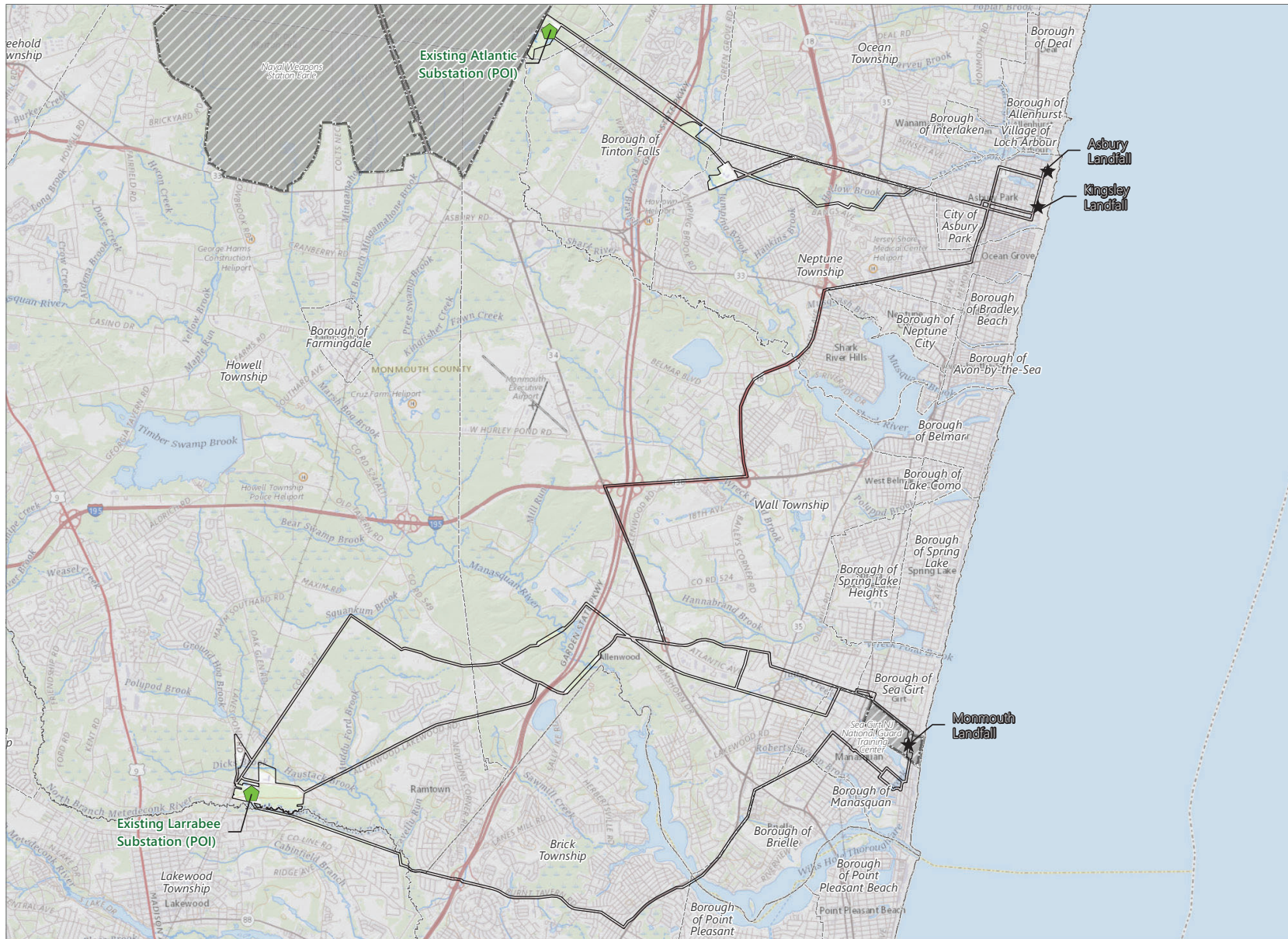
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# Appendix A

## Figures

**Figure 1**  
Project Location Map

**Figure 1. Project Location**



Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township, Monmouth and Ocean County, New Jersey

**Wetland Delineation Report**

- ★ Landfall Location
- 🟢 Point of Interconnection
- 🏢 Military Installations Ranges and Training Areas
- ▭ Study Area
- ⋯ Municipal Boundary



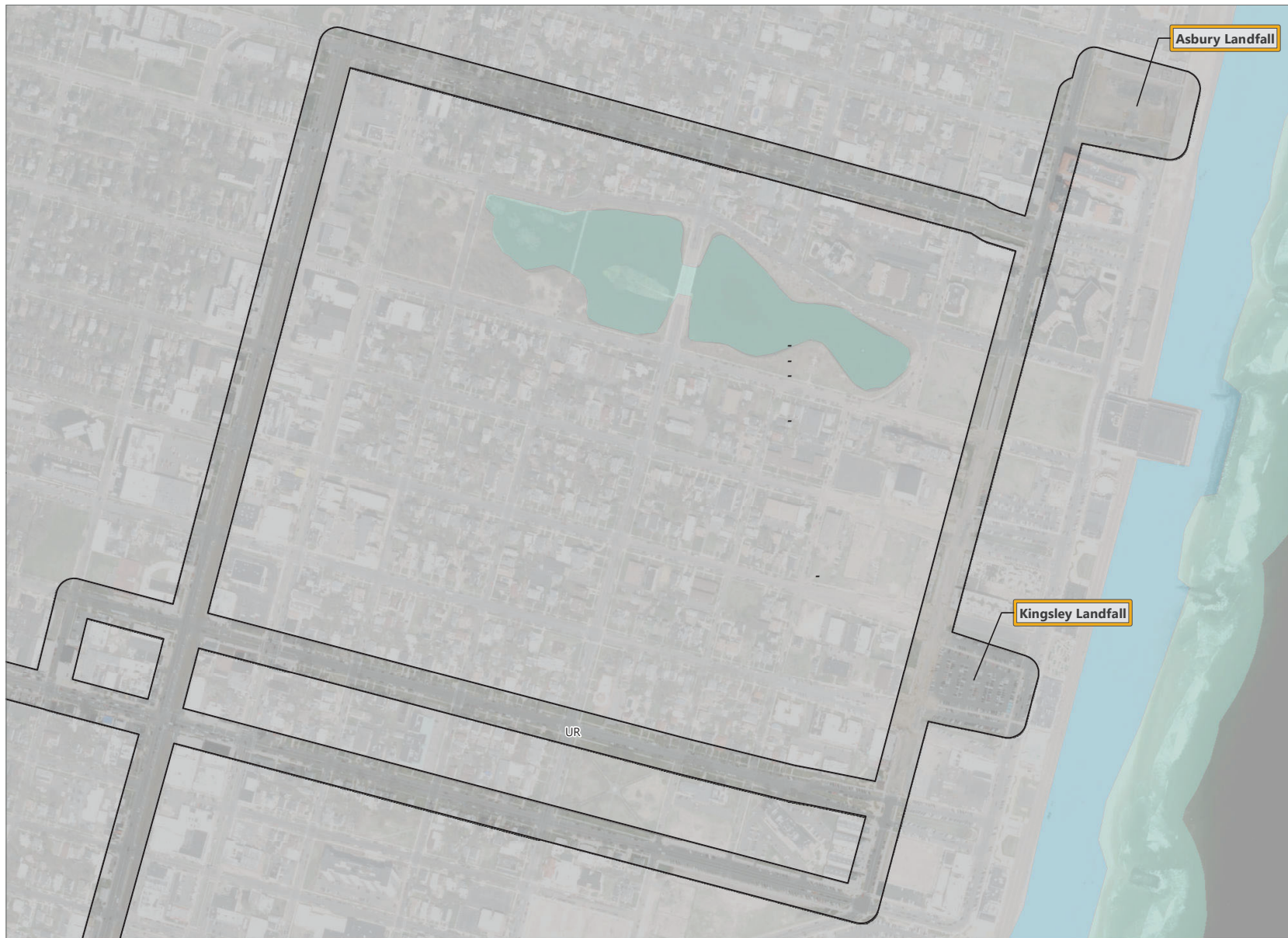
Prepared January 4, 2023  
 Basemap: Esri ArcGIS Online "USGS Topo" map service.

**ATLANTIC SHORES**  
 offshore wind

**Figure 2**  
SSURGO Soils Map









Figure 2. Soils Map

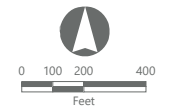
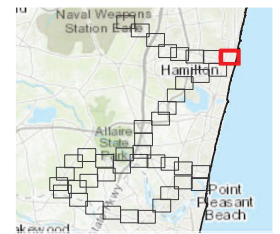


## Atlantic Shores North Offshore Wind – New Jersey Onshore Project Study Area

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### Wetland Delineation Report

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

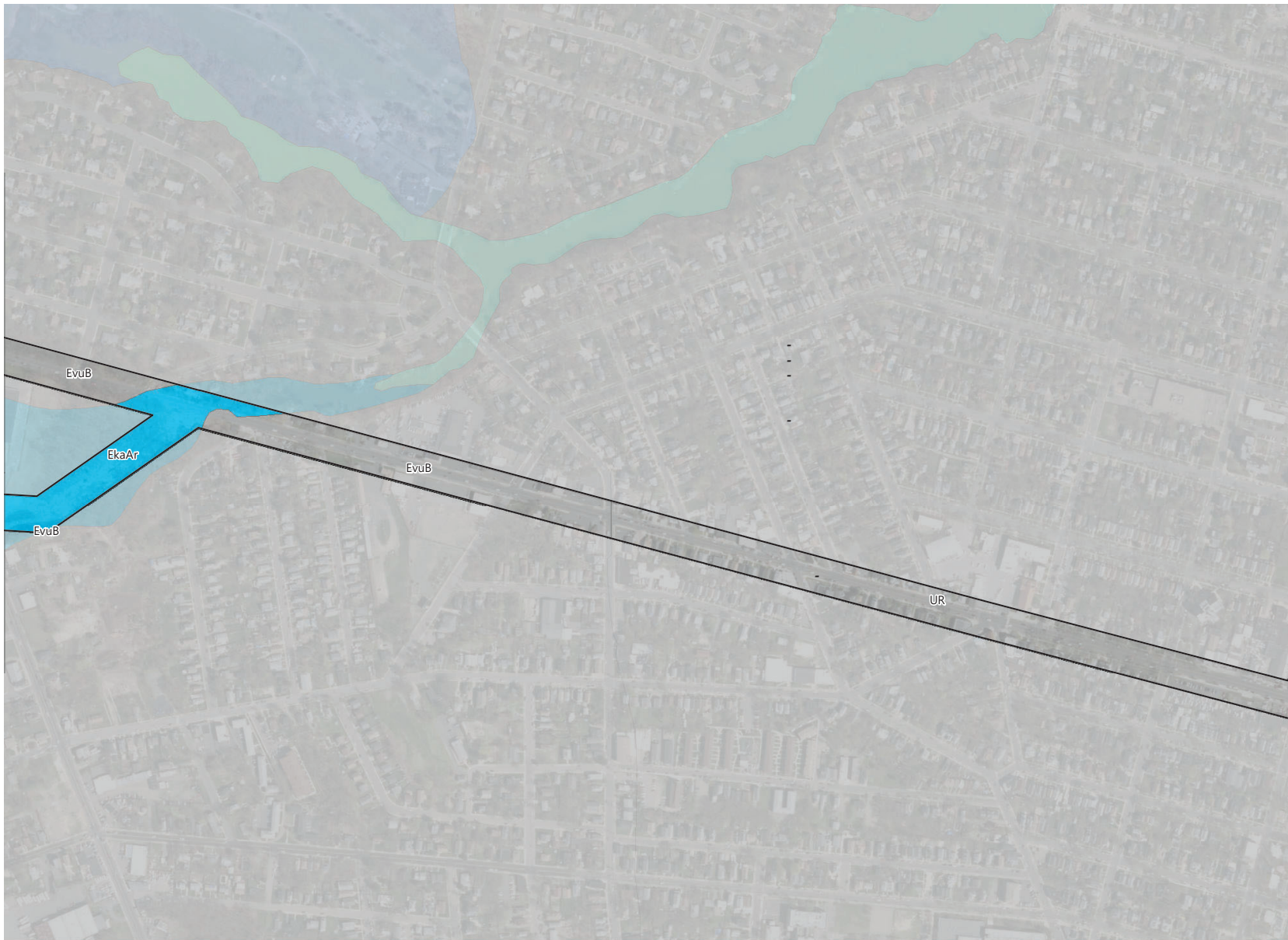


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Basemap: NJ Office of GIS 2015 Natural Color Imagery

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



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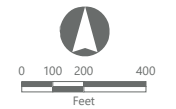
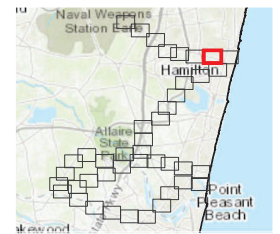


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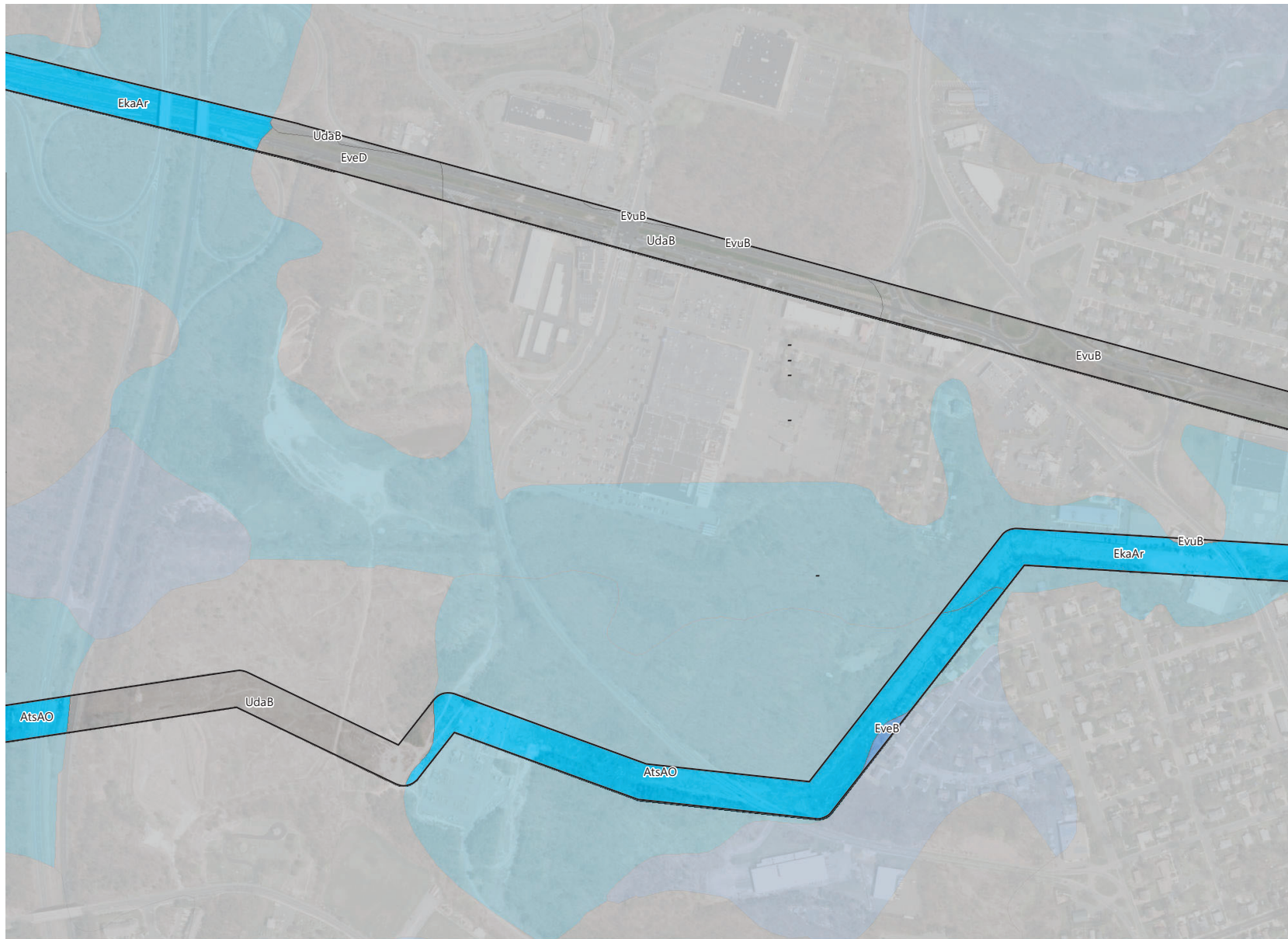
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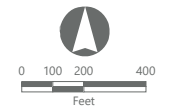
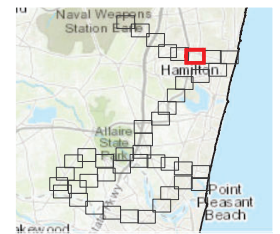


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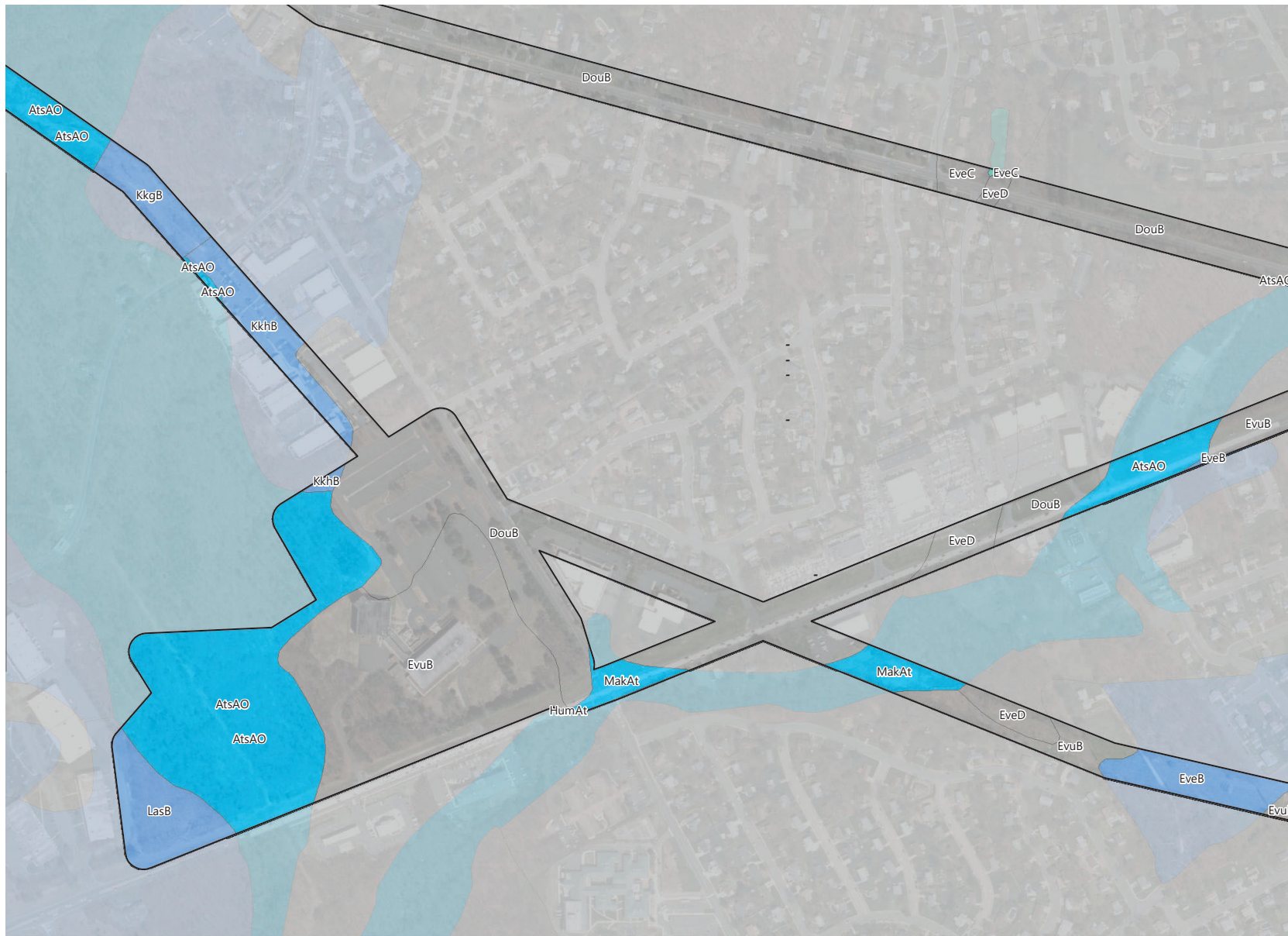








Figure 2. Soils Map

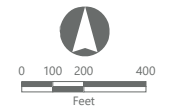
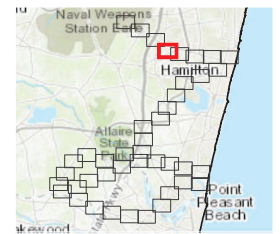


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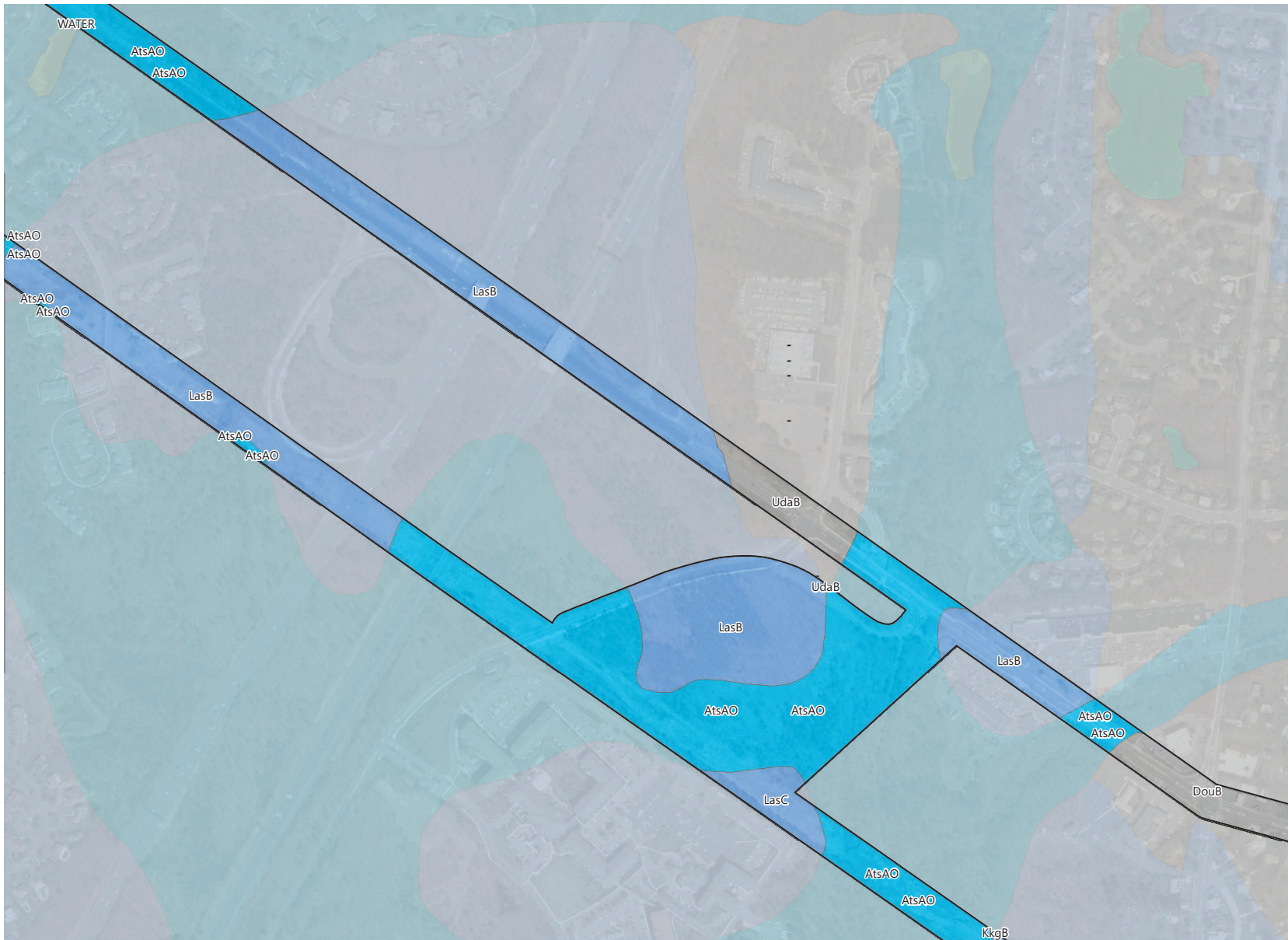
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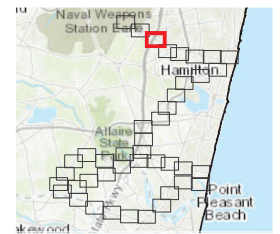


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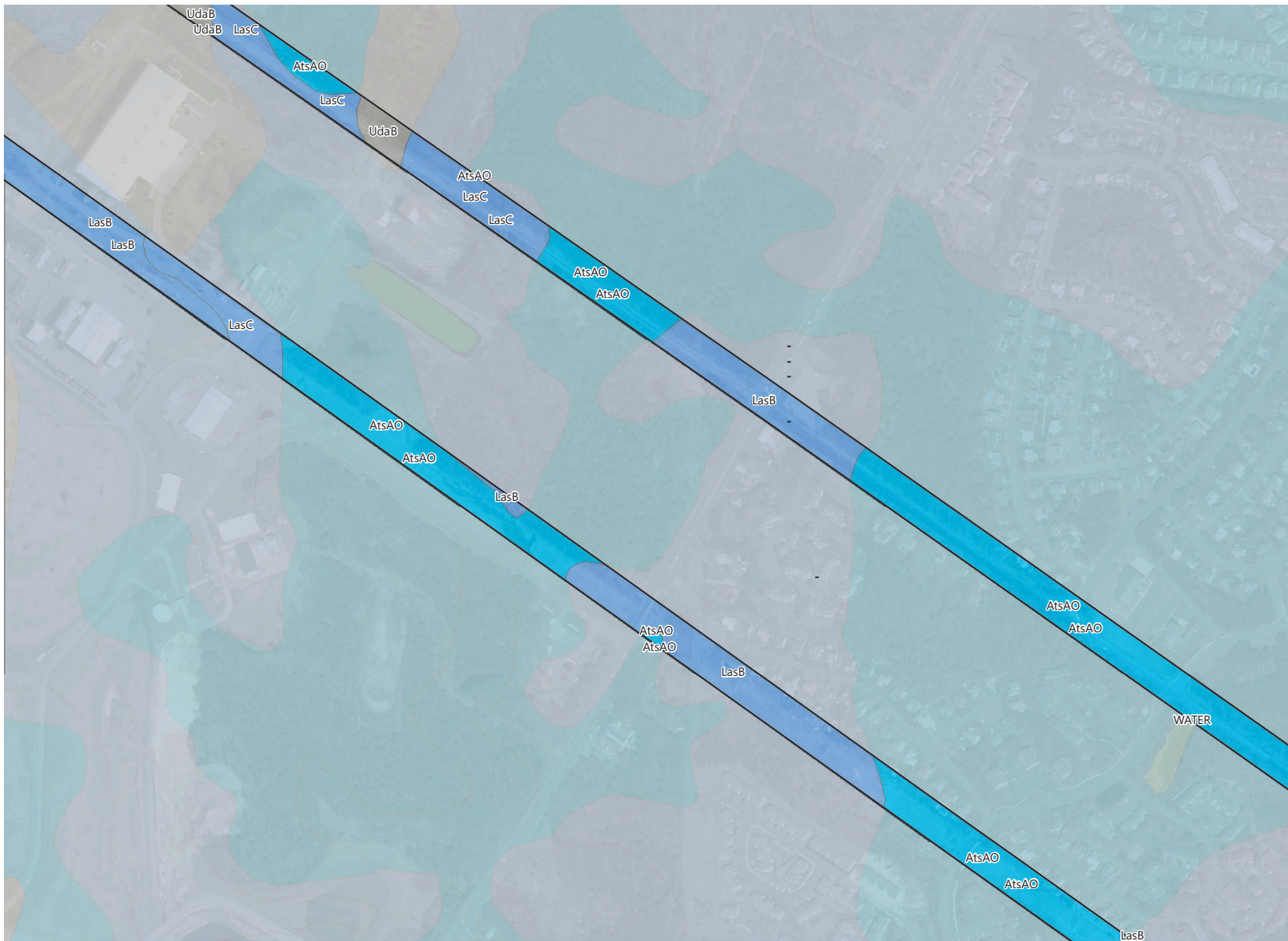


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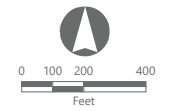
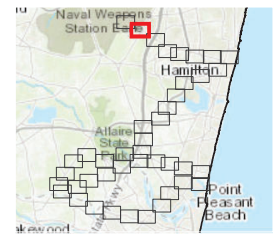


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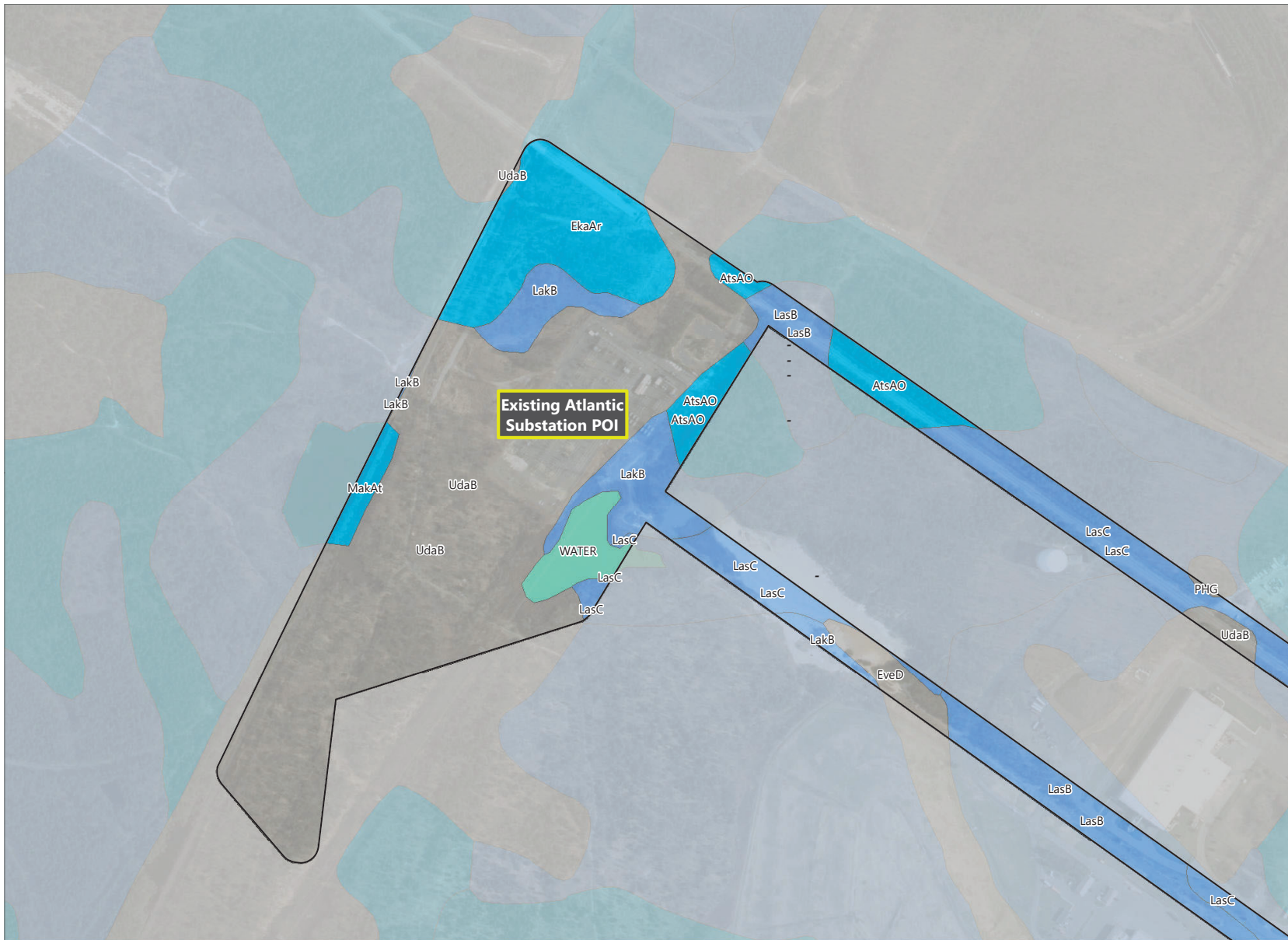
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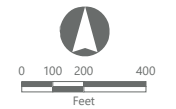
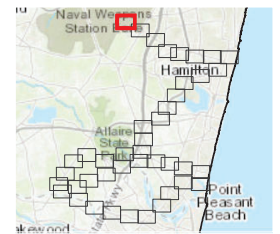


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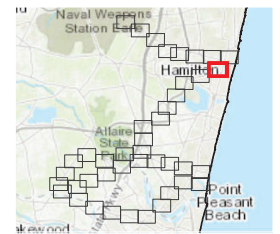


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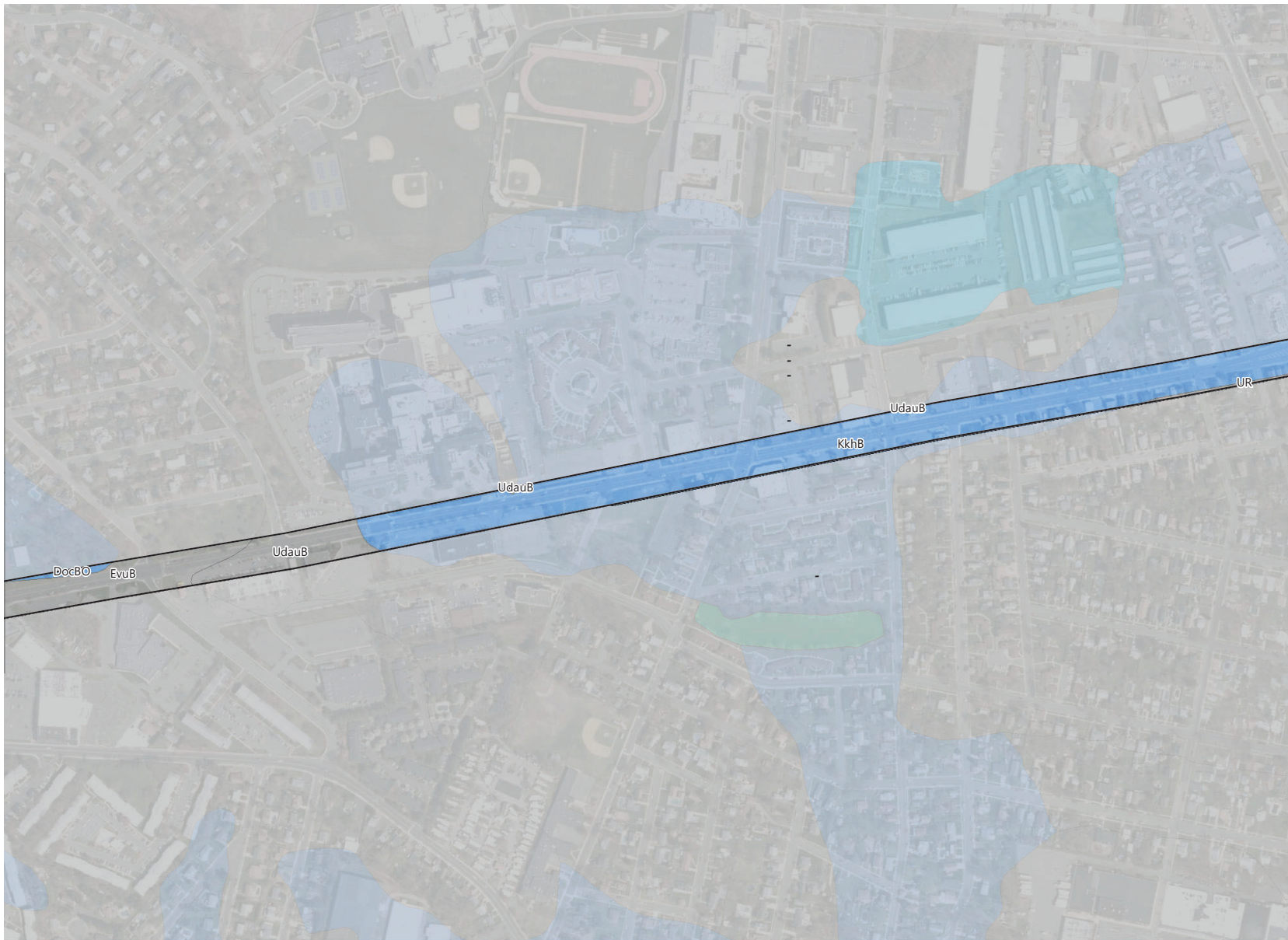


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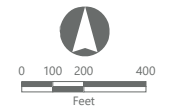
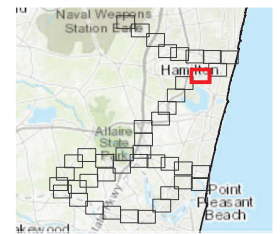


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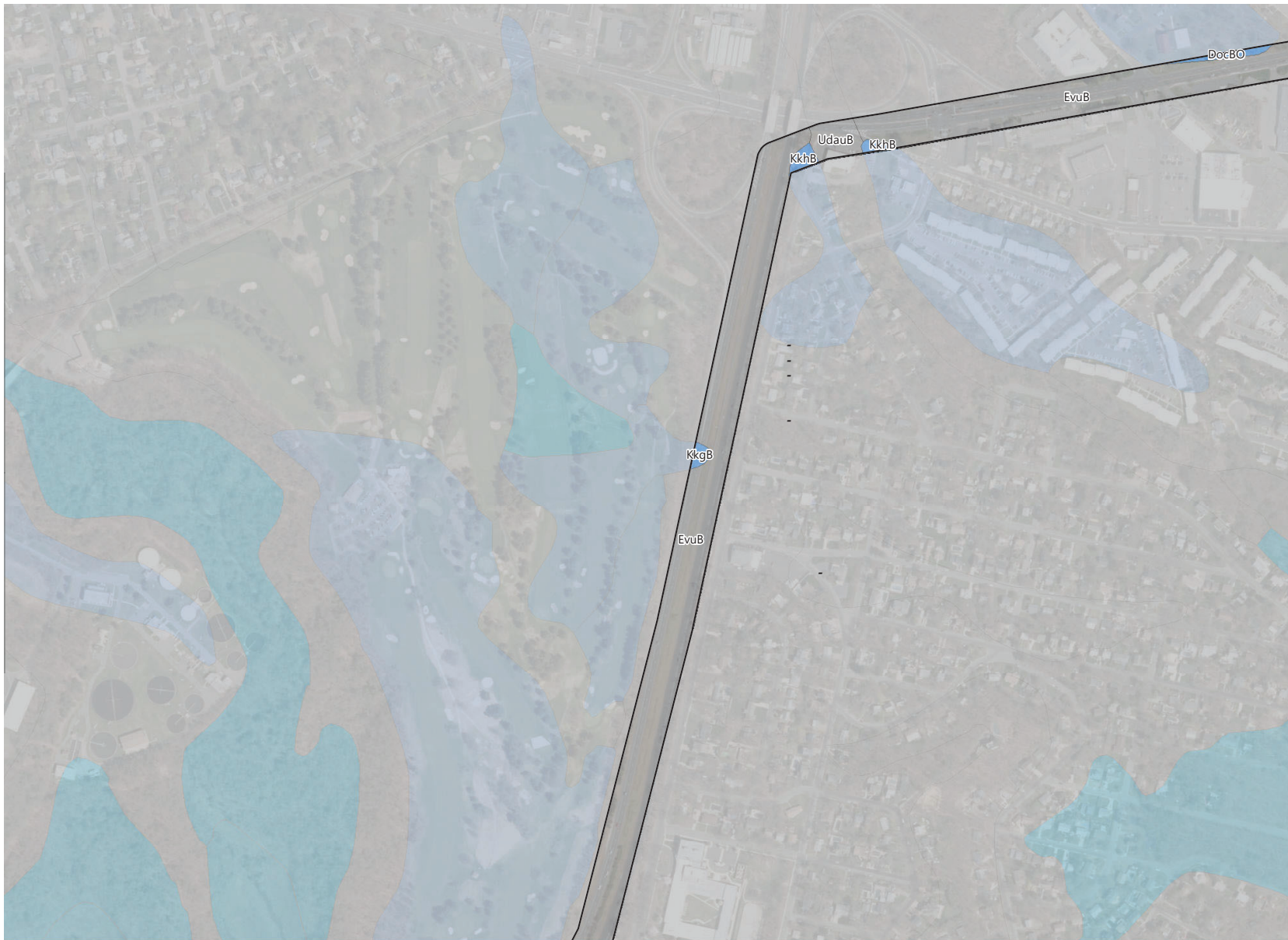
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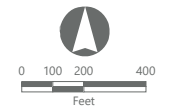
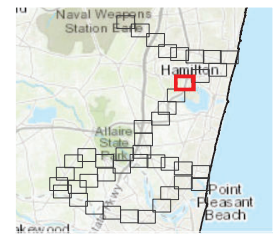


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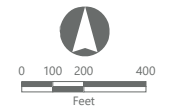
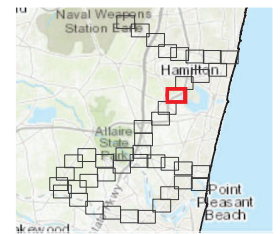


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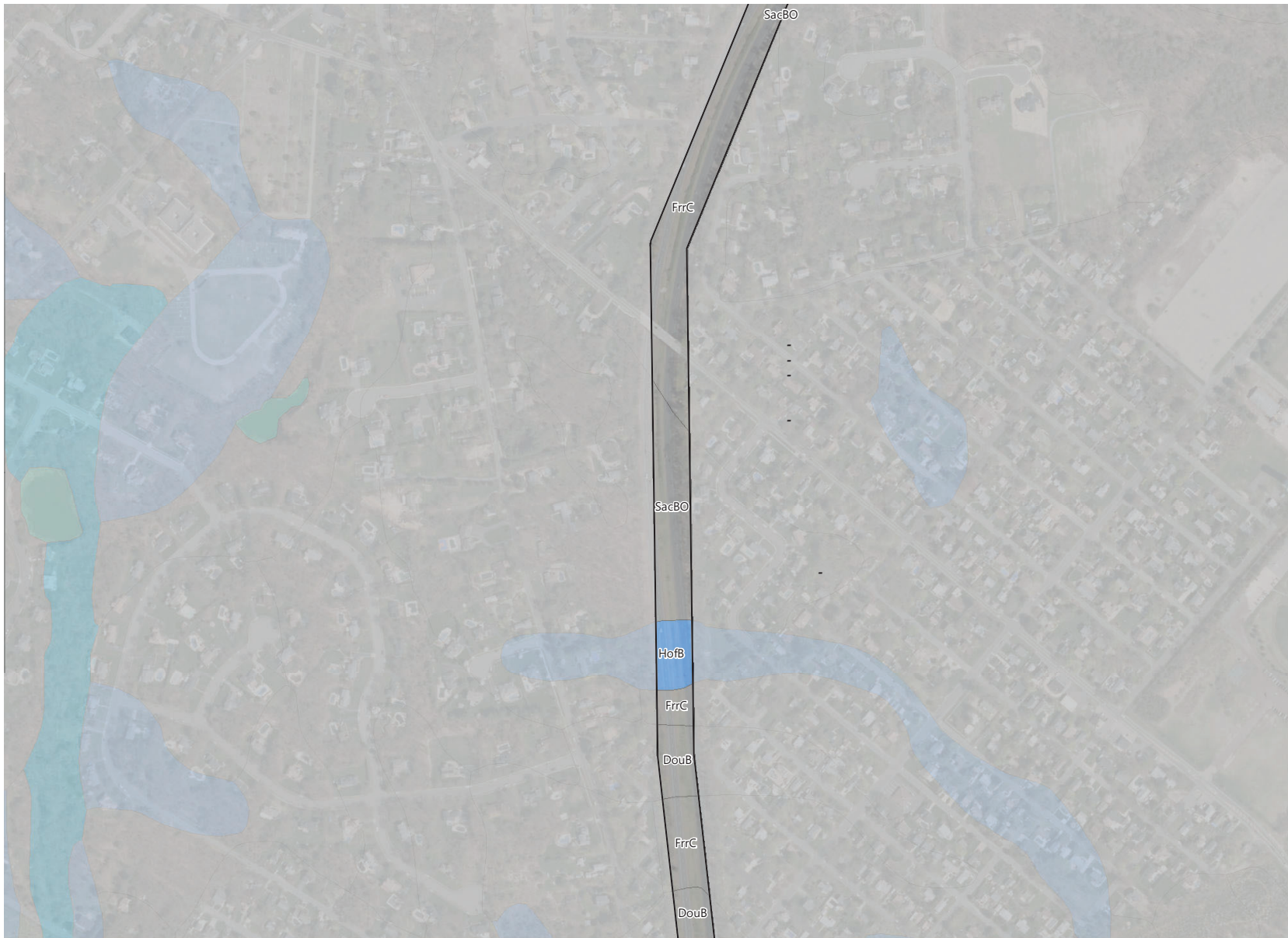


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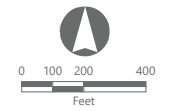
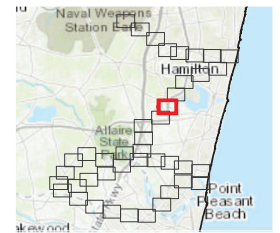


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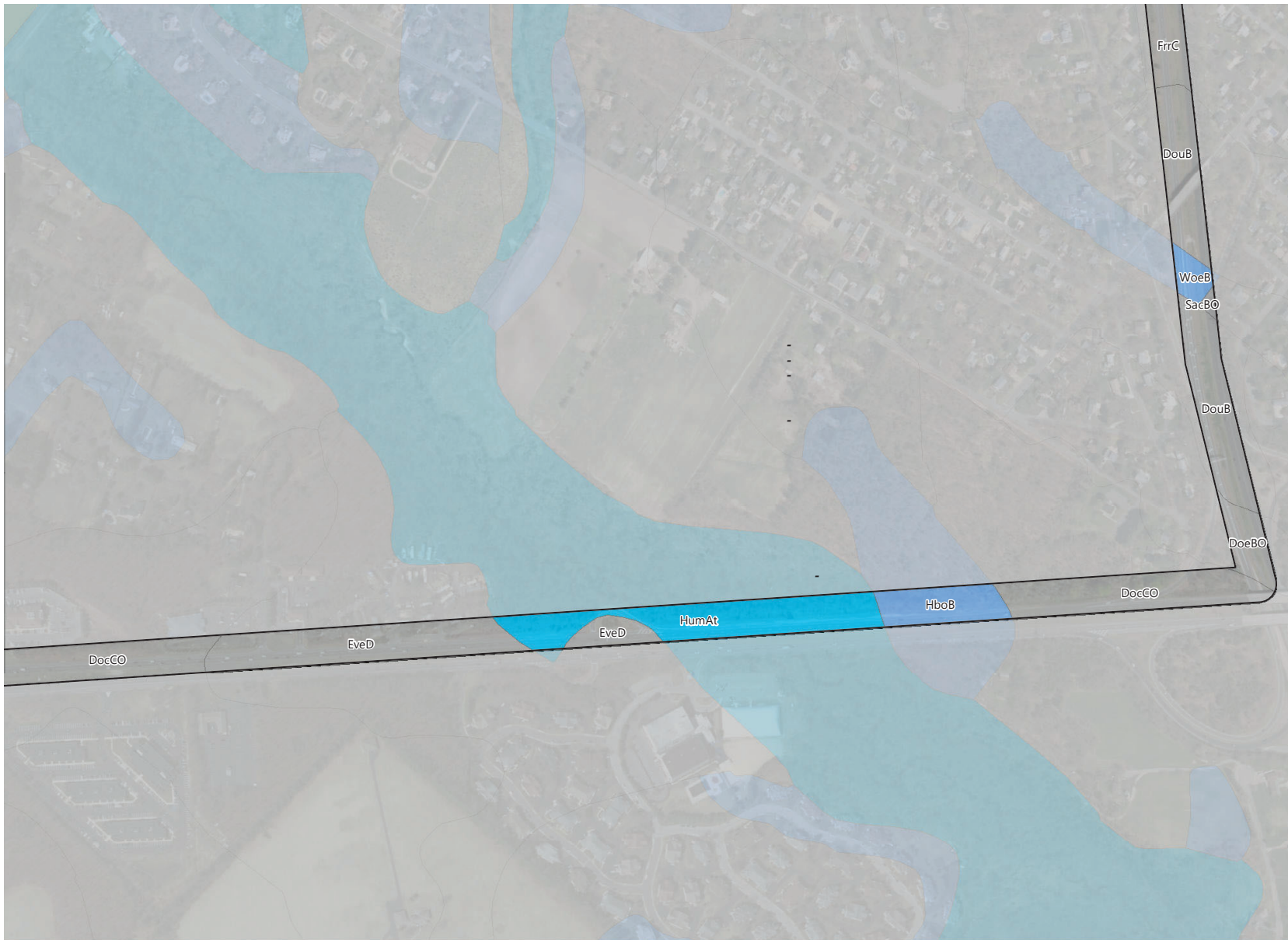
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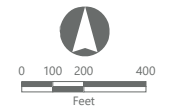
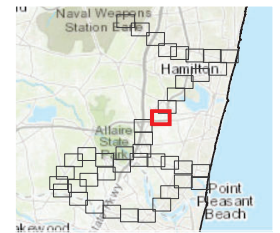


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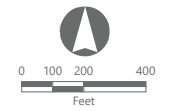
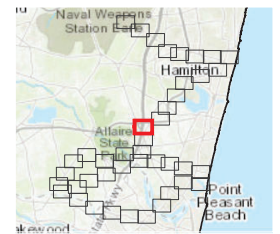


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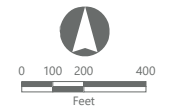
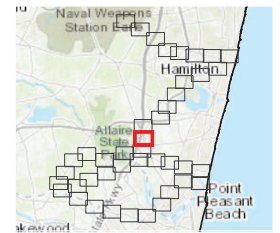


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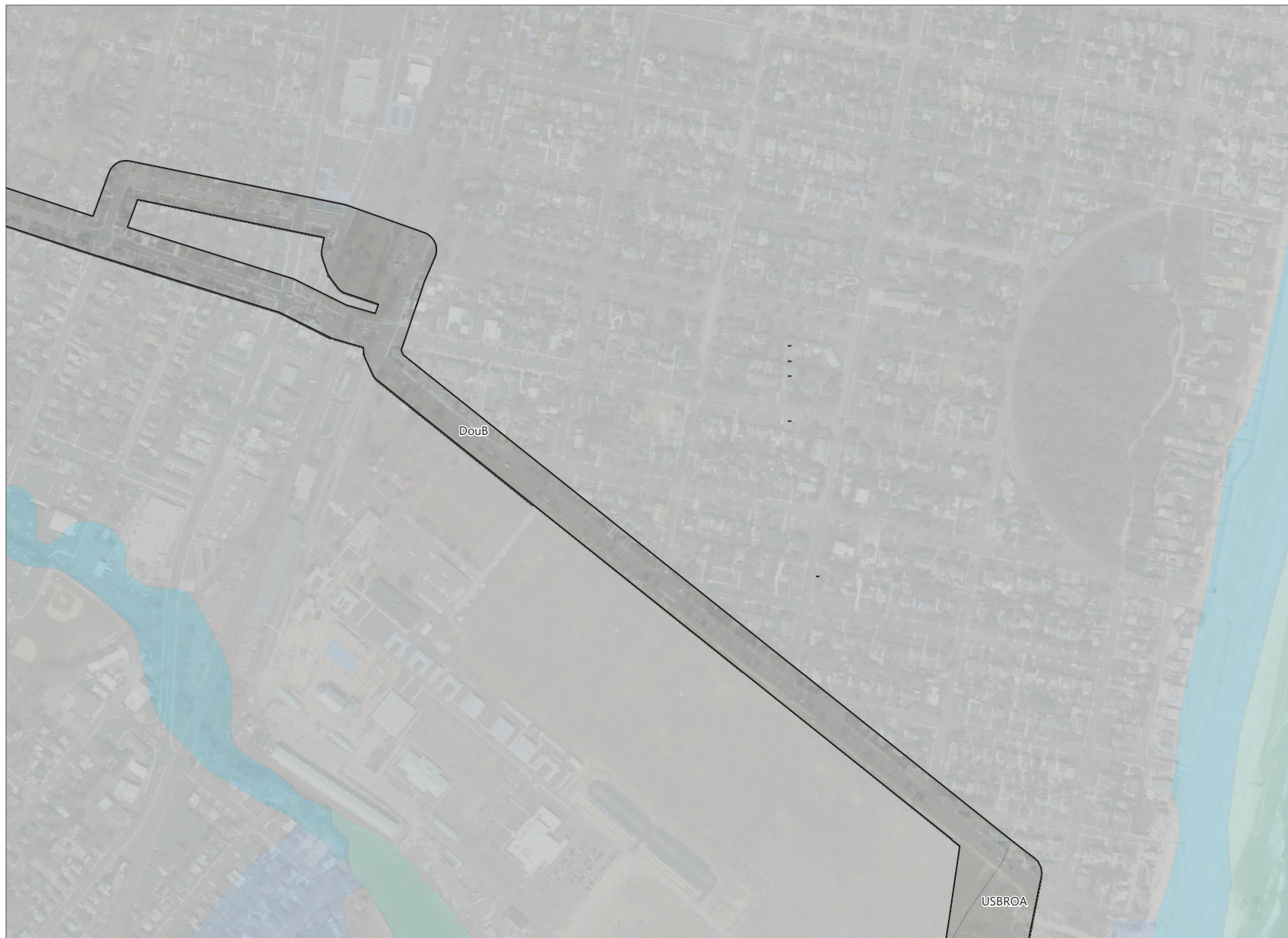


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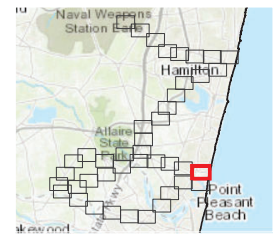


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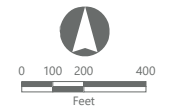
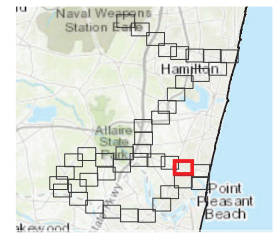


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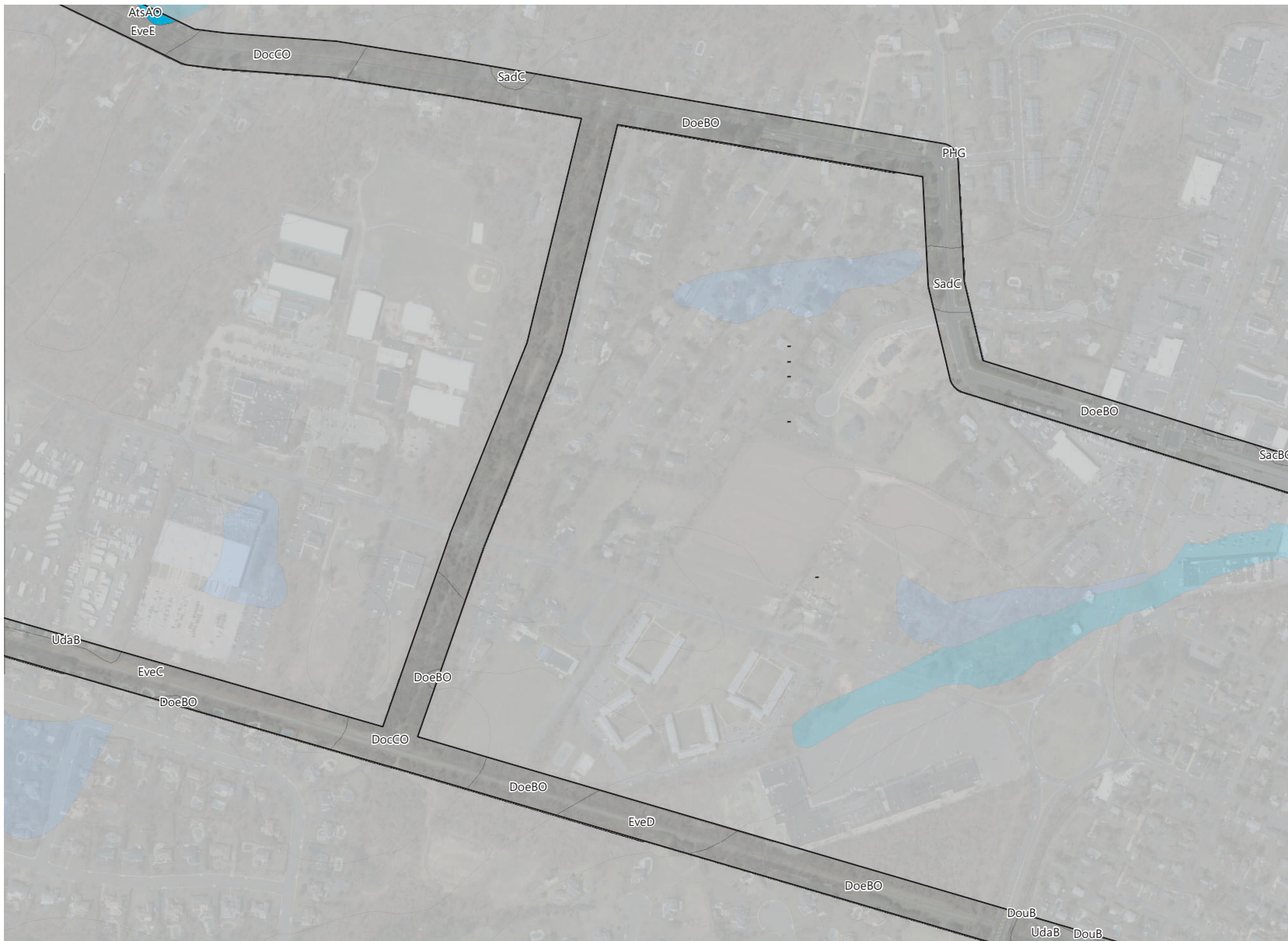


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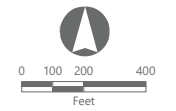
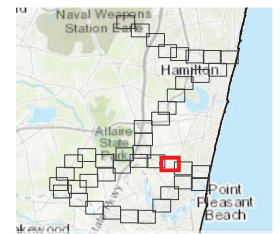


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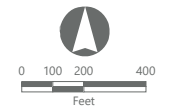
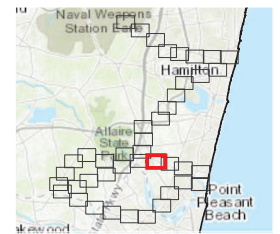


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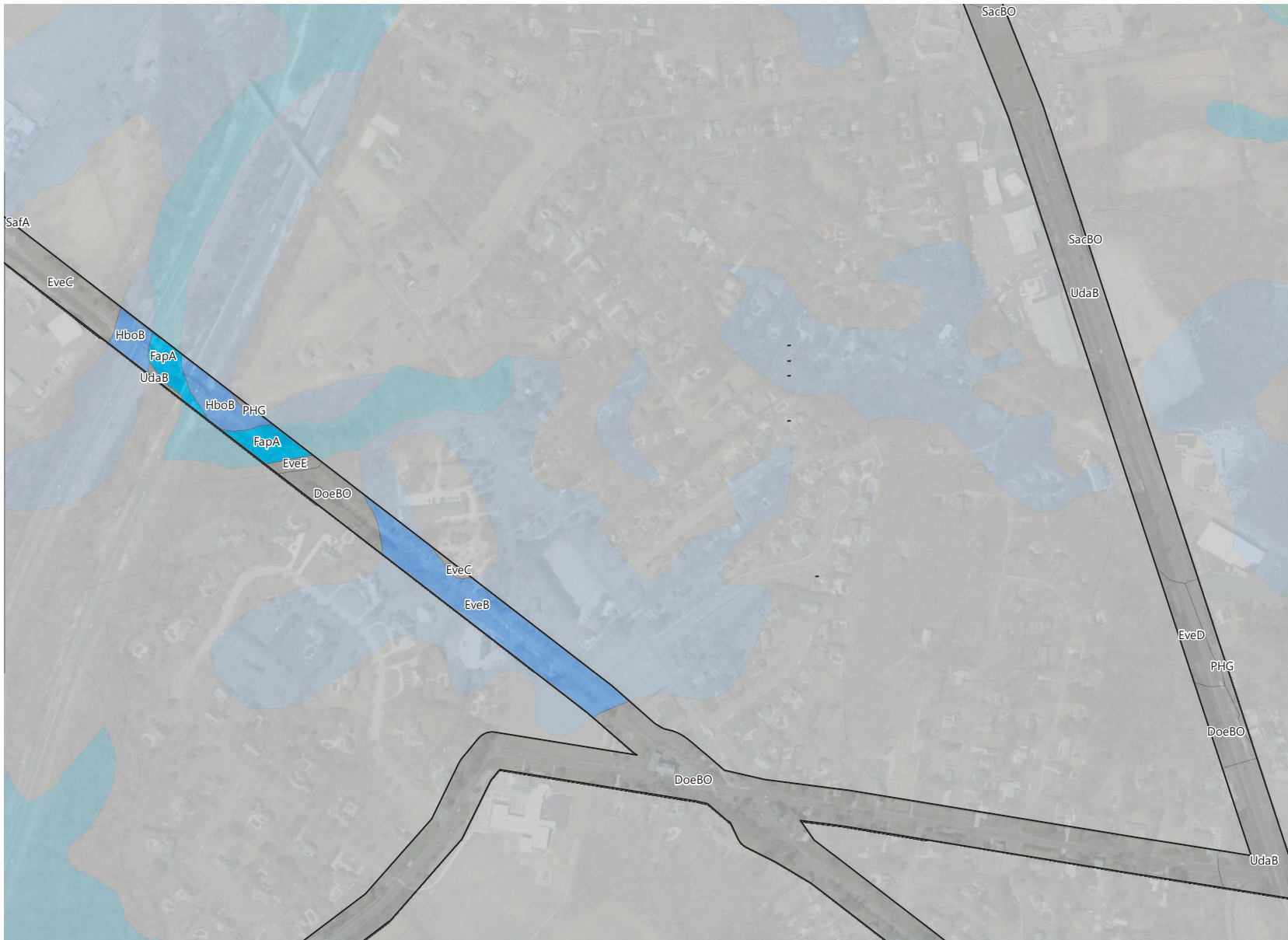


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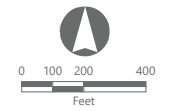
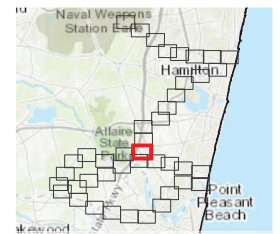


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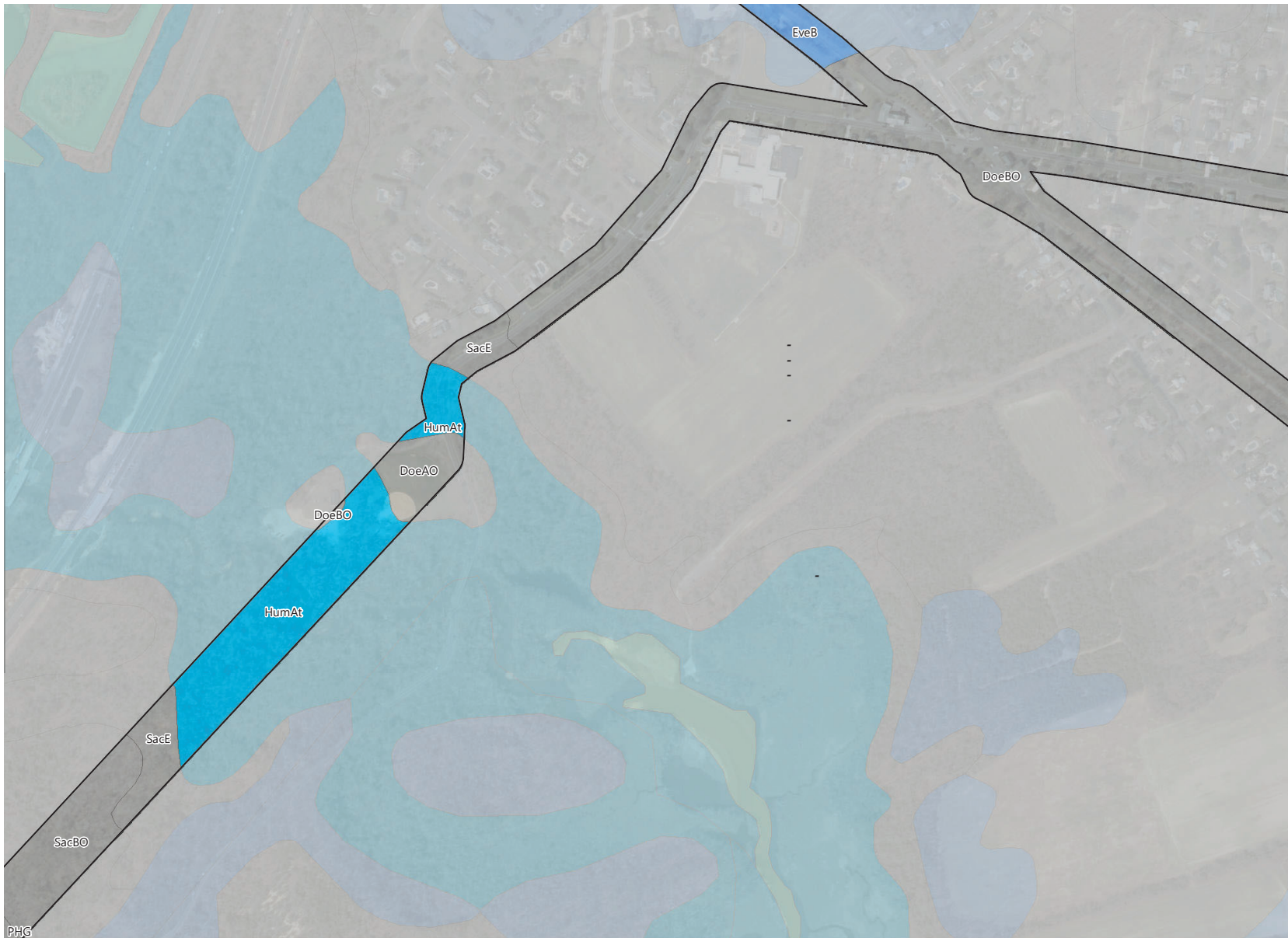
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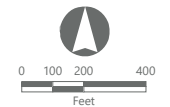
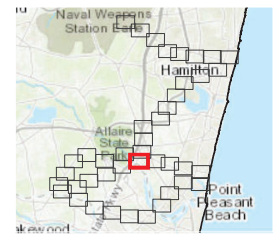


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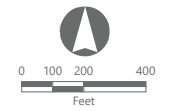
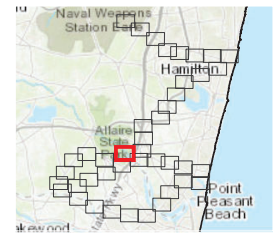


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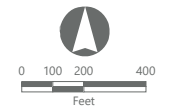
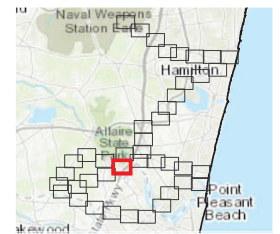


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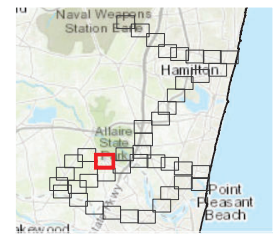


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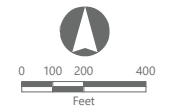
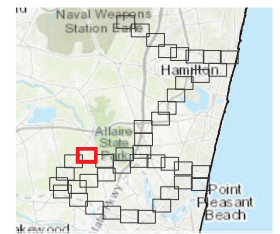


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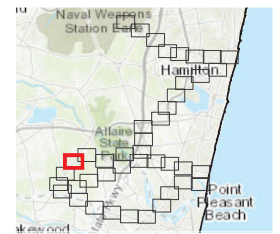


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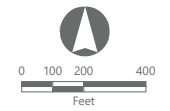
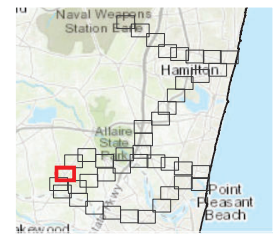


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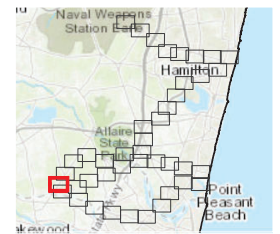


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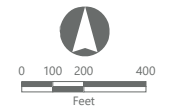
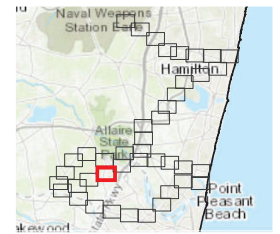


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#### Wetland Delineation Report

-  Study Area
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-  Hydric
-  Partially Hydric\*
-  Water
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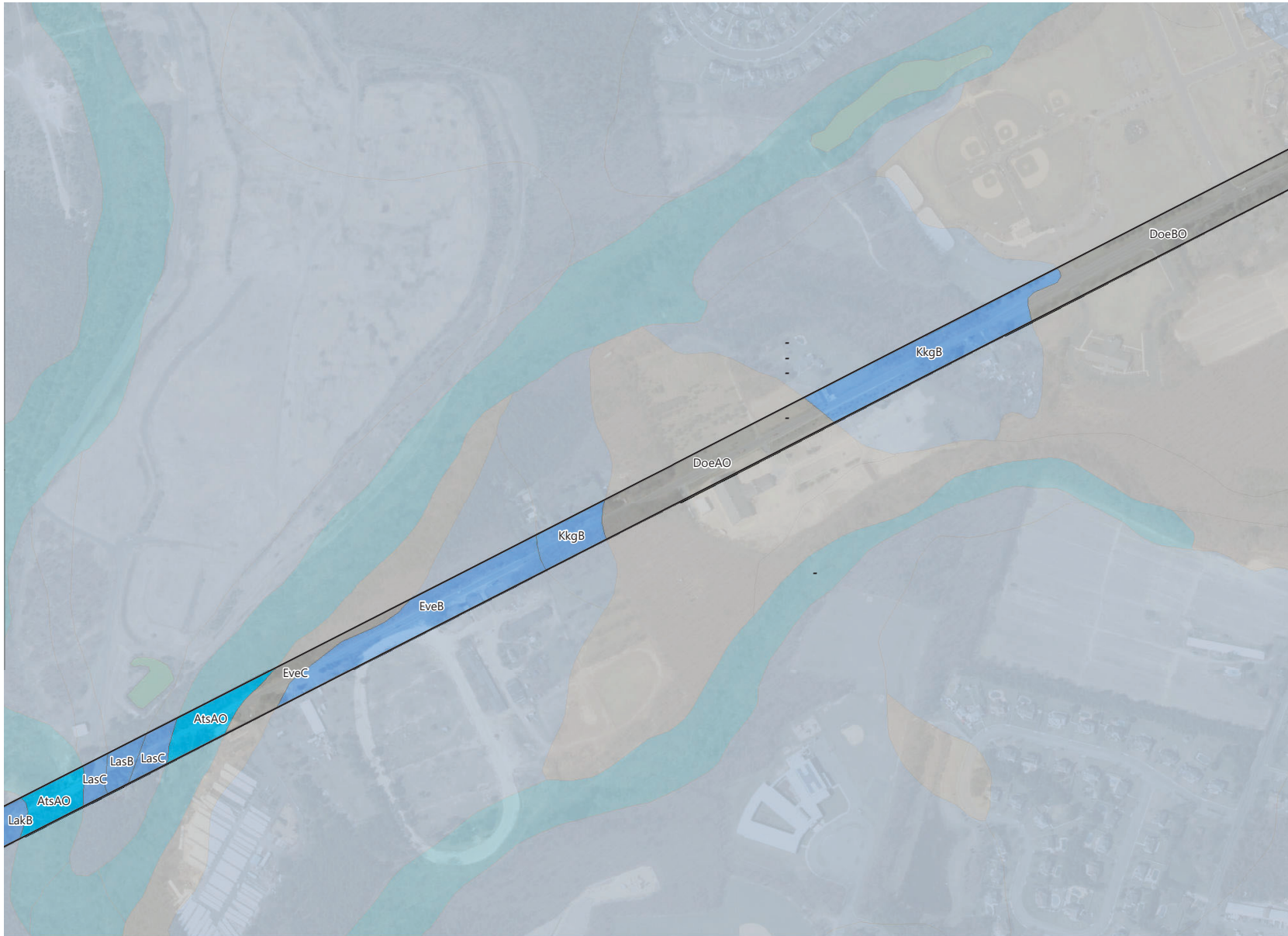


Prepared January 5, 2023  
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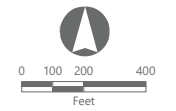
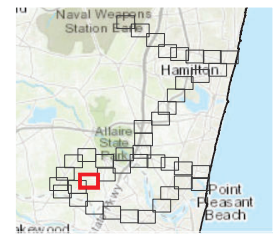


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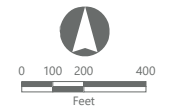
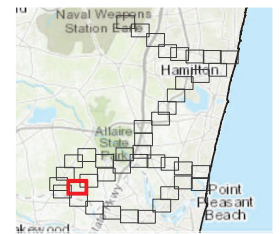


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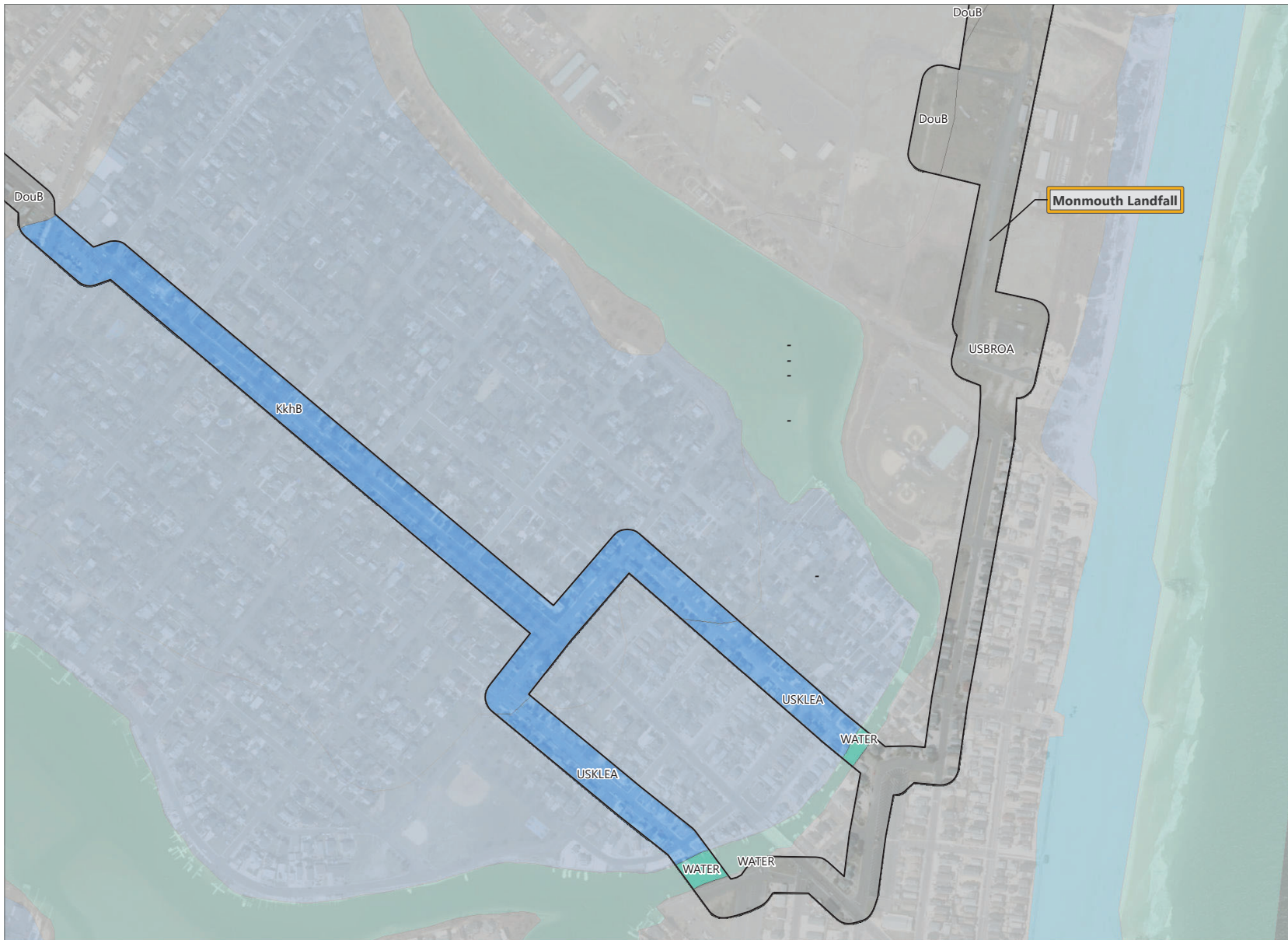


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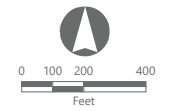
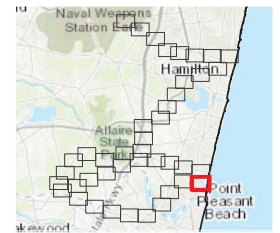


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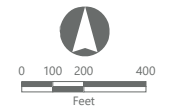
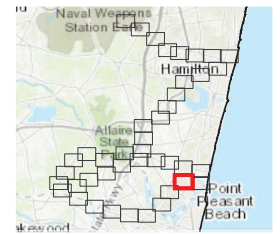


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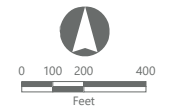
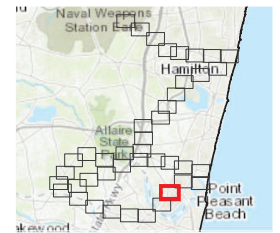


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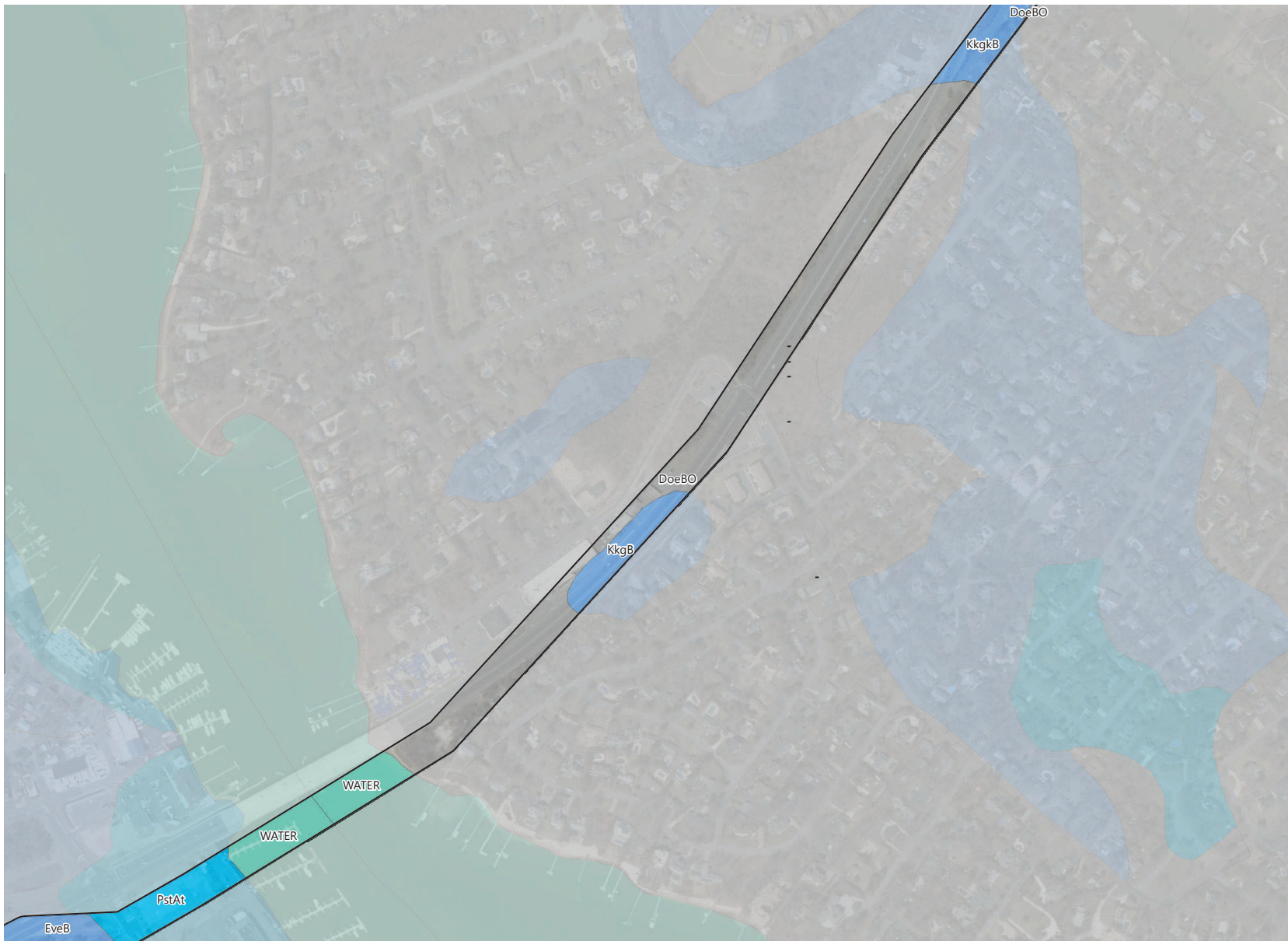


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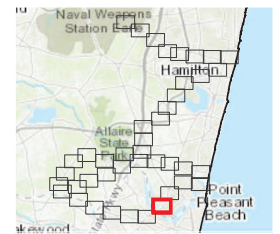


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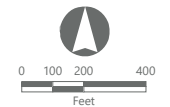
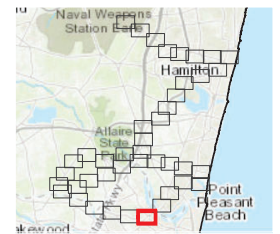


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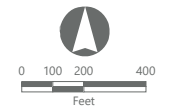
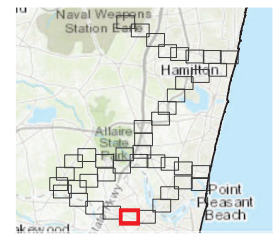


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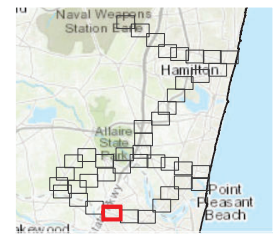


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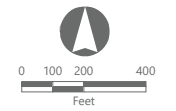
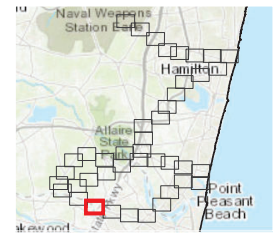


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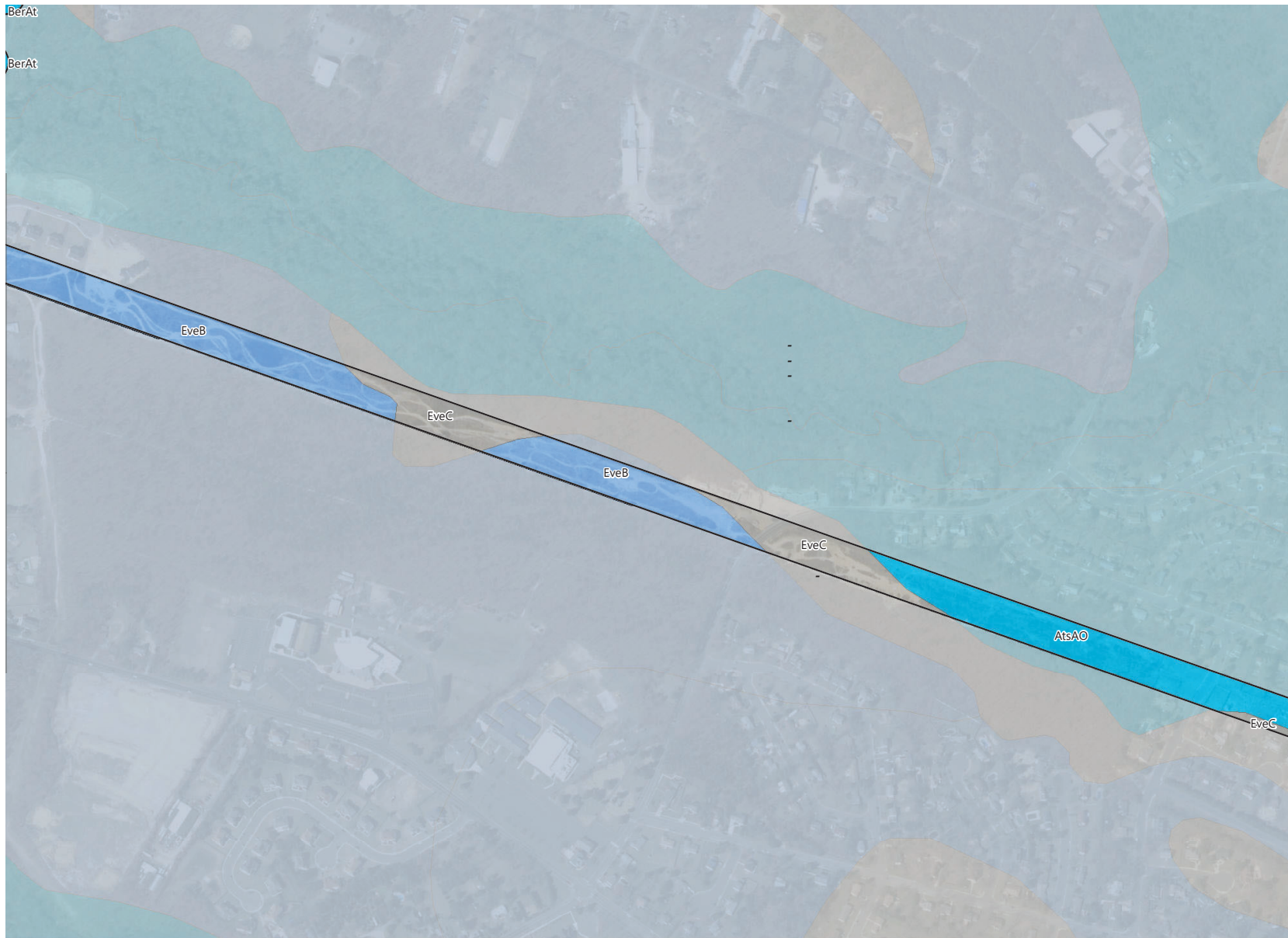
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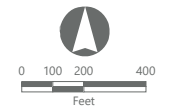
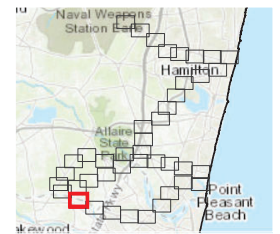


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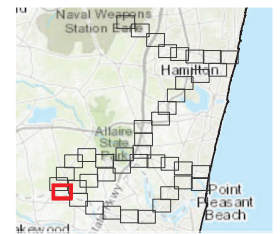


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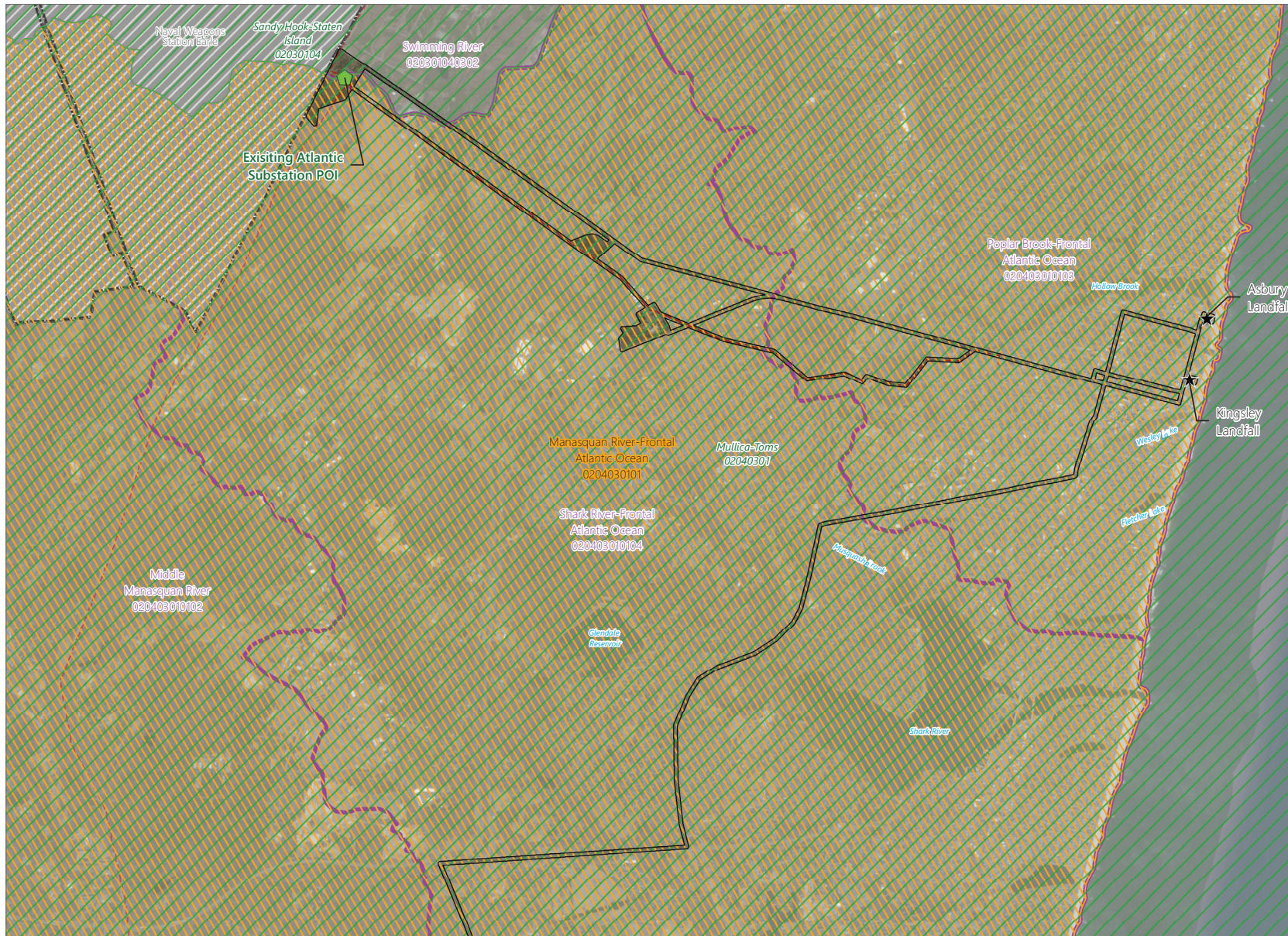
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**Figure 3**  
Watershed Management Areas and Hydrologic Units



Figure 3. Watershed Management Areas and Hydrological Units

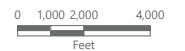
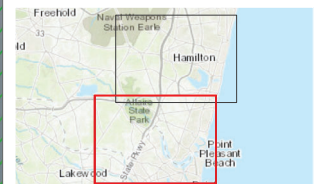


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#### Wetland Delineation Report

- Watershed Management Area
- 12-Digit Watershed
- 10-Digit Watershed
- 8-Digit Watershed
- Landfill Location
- Point of Interconnection
- Existing Transmission Line
- Military Installations Ranges and Training Areas
- Study Area

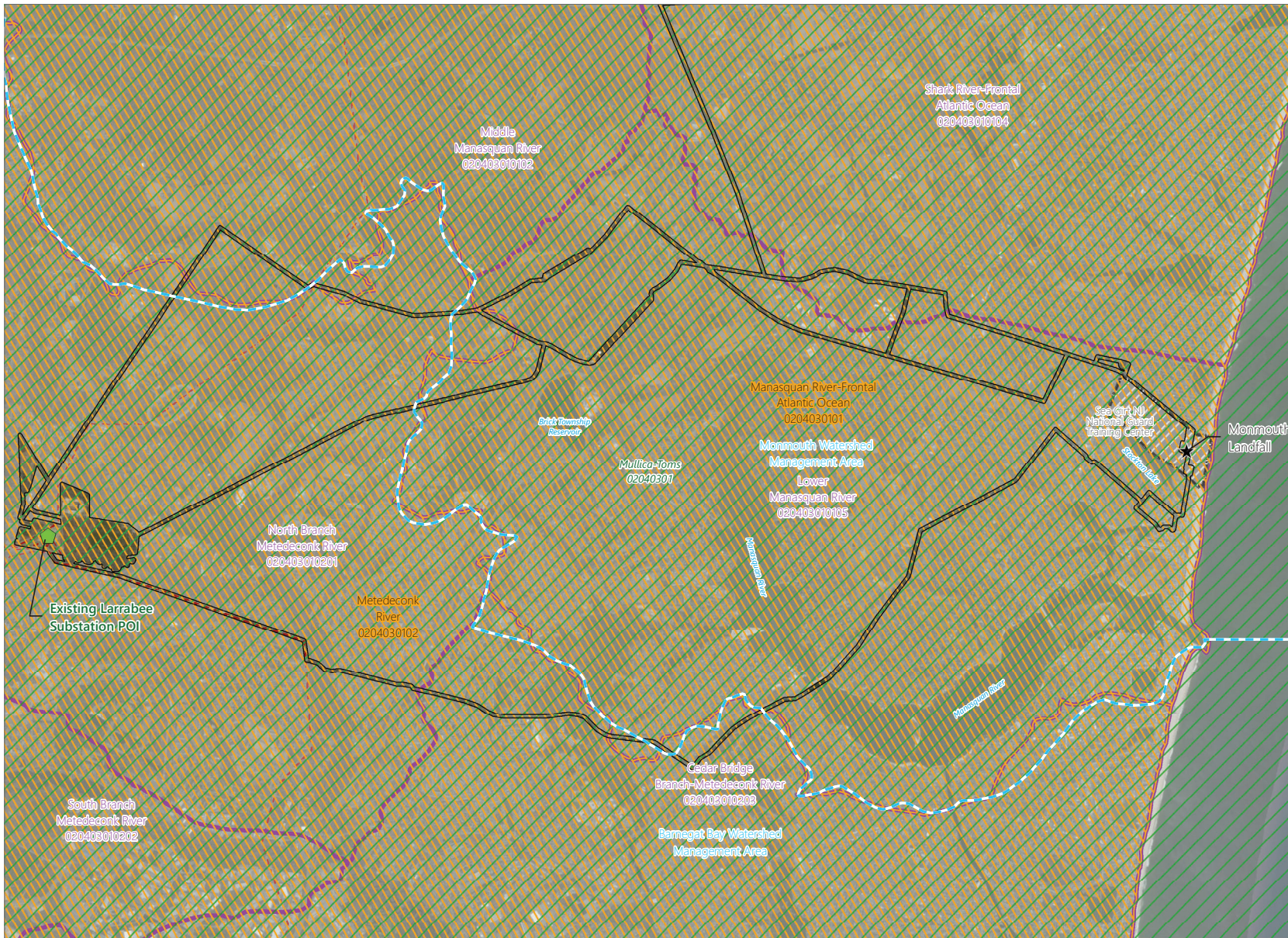


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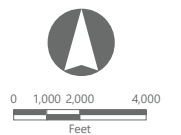


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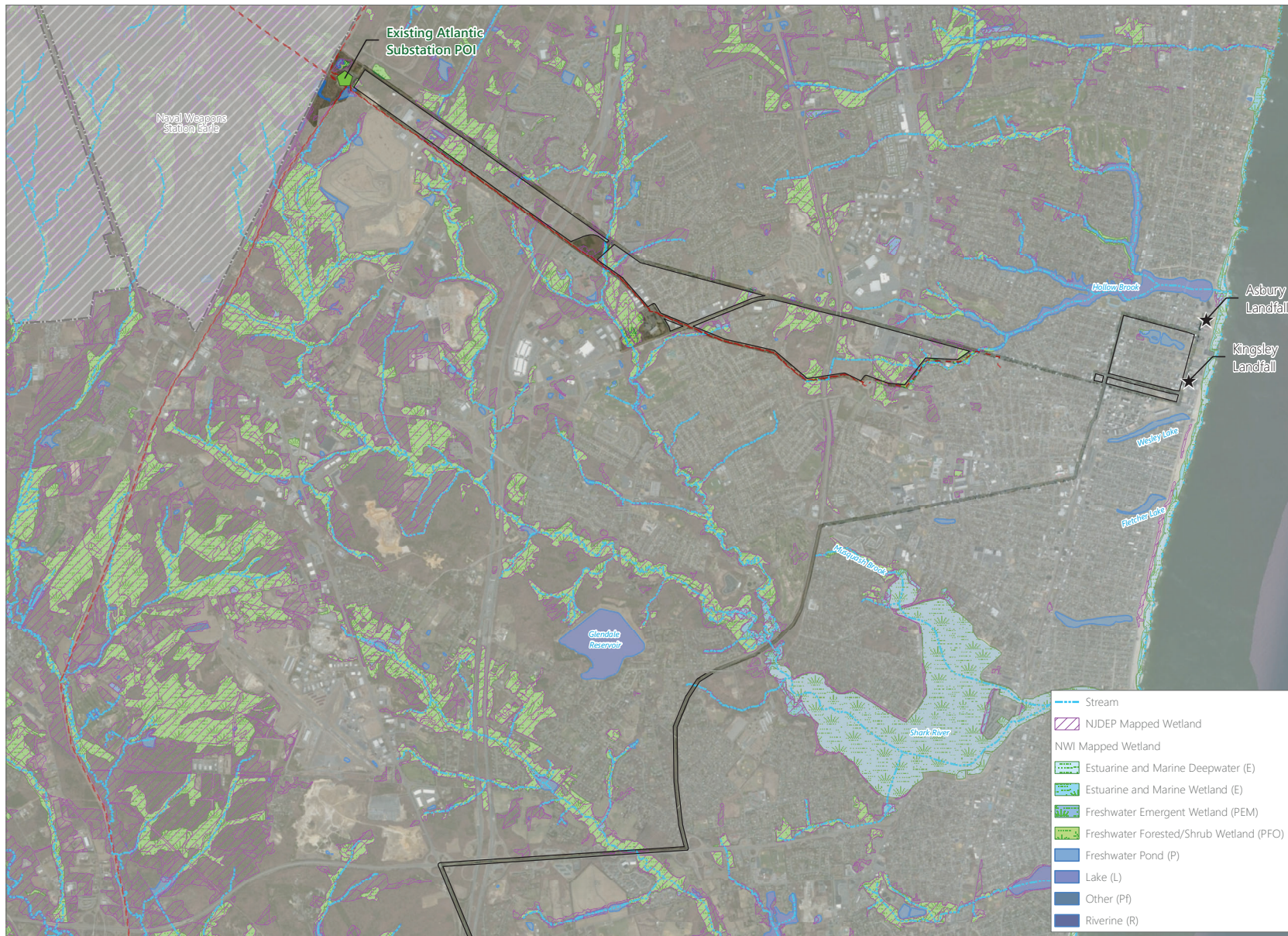
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**Figure 4**  
NJDEP/NWI-Mapped Wetlands and Streams



Figure 4. NJDEP/NWI Mapped Wetlands and Streams



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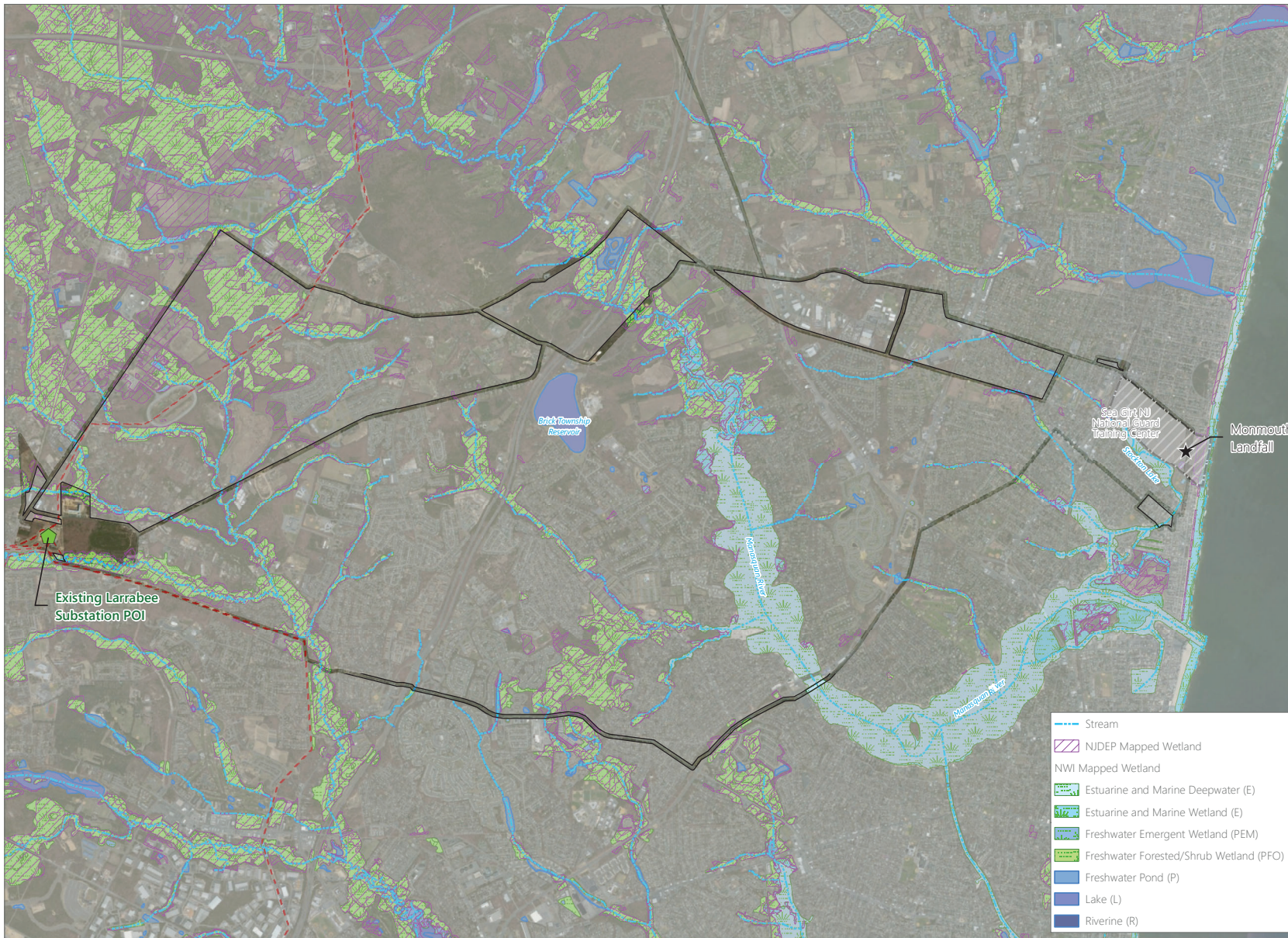
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Figure 4. NJDEP/NWI Mapped Wetlands and Streams

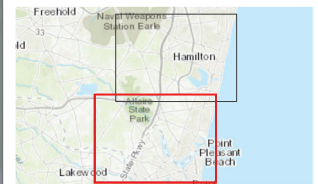


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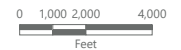
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- Stream
- NJDEP Mapped Wetland
- NWI Mapped Wetland
- Estuarine and Marine Deepwater (E)
- Estuarine and Marine Wetland (E)
- Freshwater Emergent Wetland (PEM)
- Freshwater Forested/Shrub Wetland (PFO)
- Freshwater Pond (P)
- Lake (L)
- Riverine (R)



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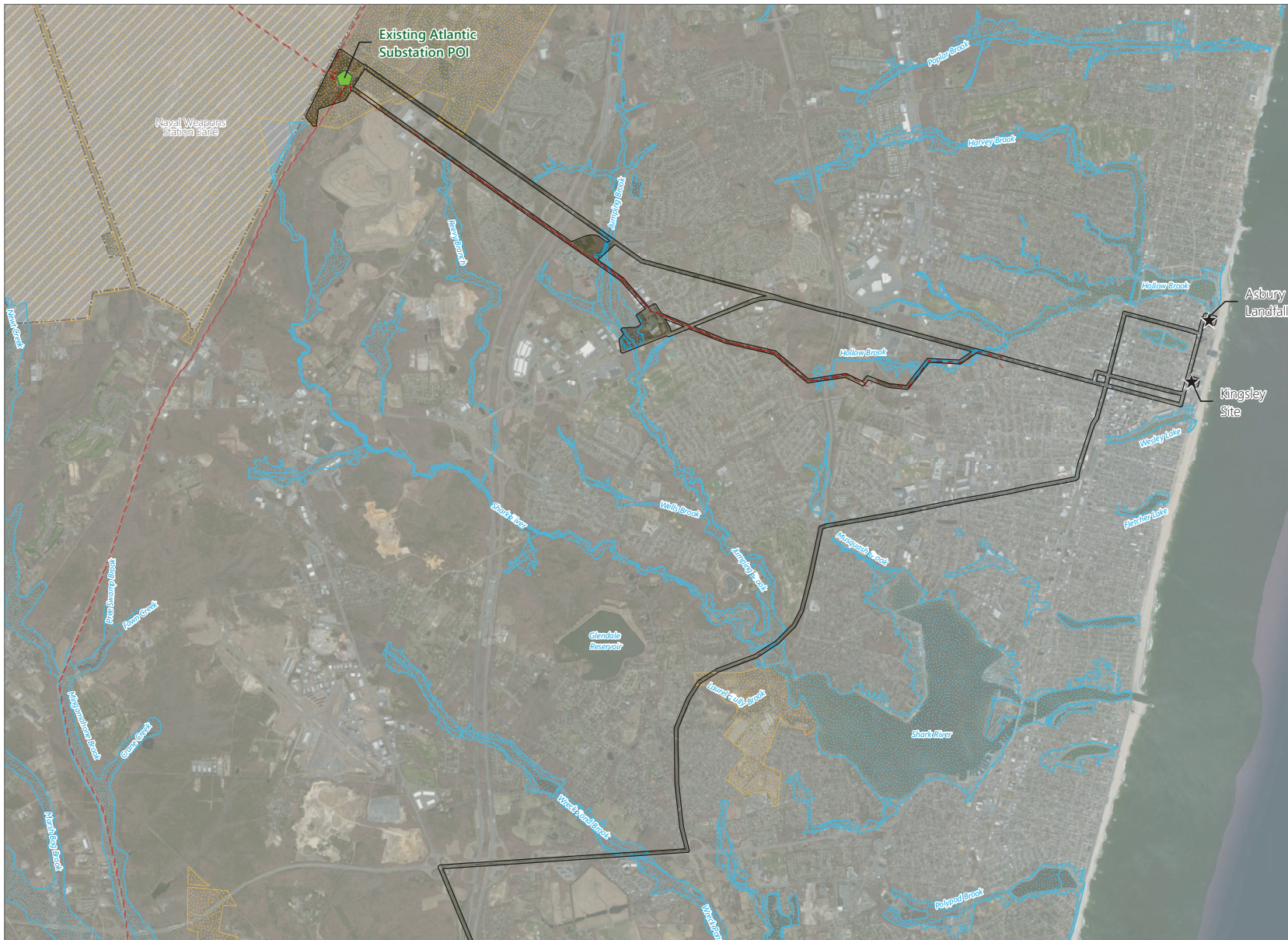
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**Figure 5**

FEMA 1% Chance Annual Floodplain










Figure 5. Federal Emergency Management Agency 1% Chance Annual Floodplain



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-  FEMA Flood Hazard Area (1% Annual Chance of Flood)
-  Floodzone D - Undetermined Flood Hazard Risk
-  Landfall Location
-  Point of Interconnection
-  Existing Transmission Line
-  Military Installations Ranges and Training Areas
-  Study Area



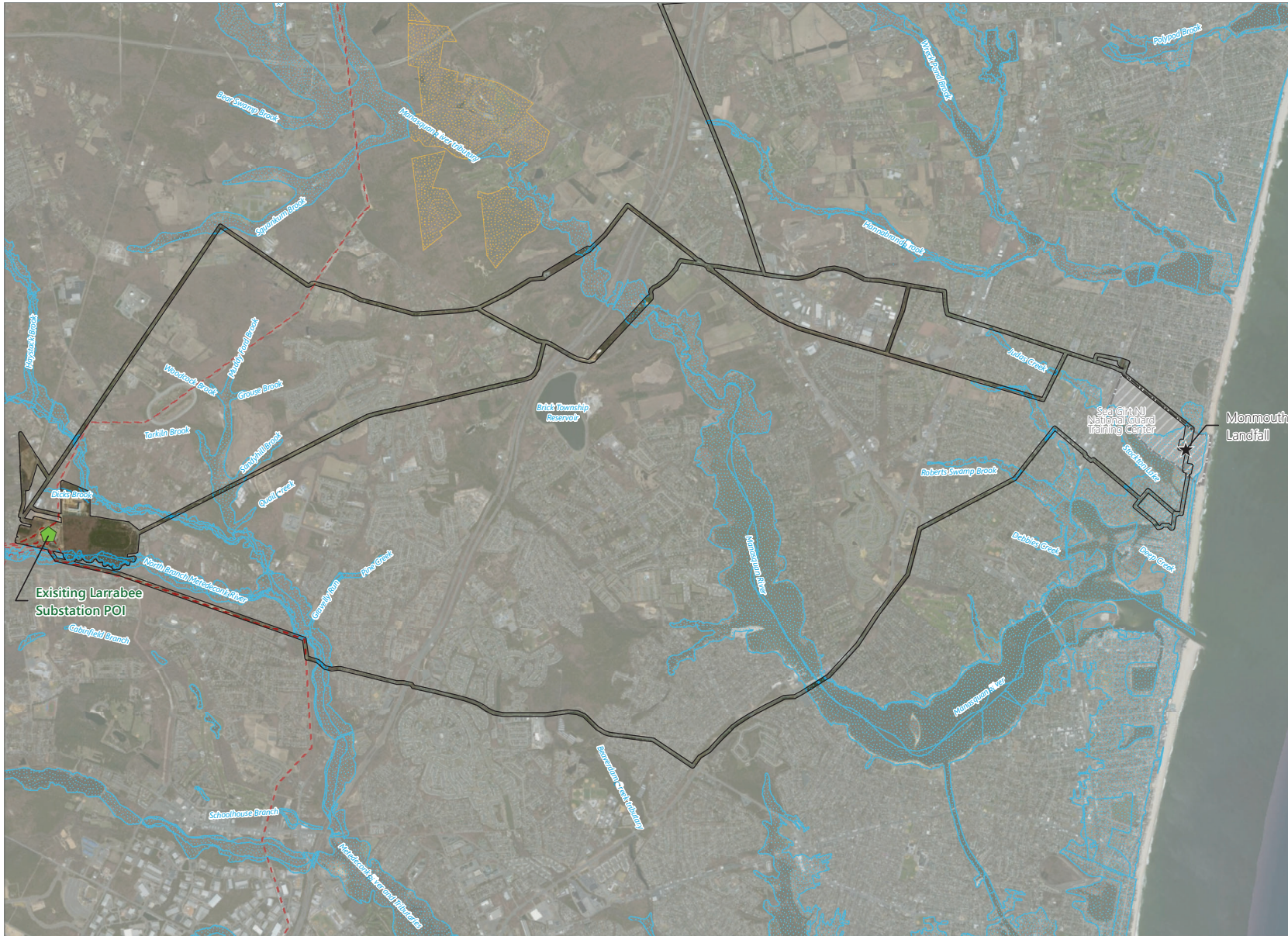
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Figure 5. Federal Emergency Management Agency 1% Chance Annual Floodplain

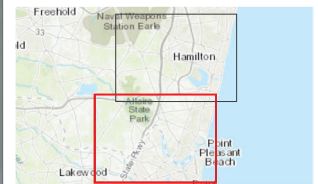


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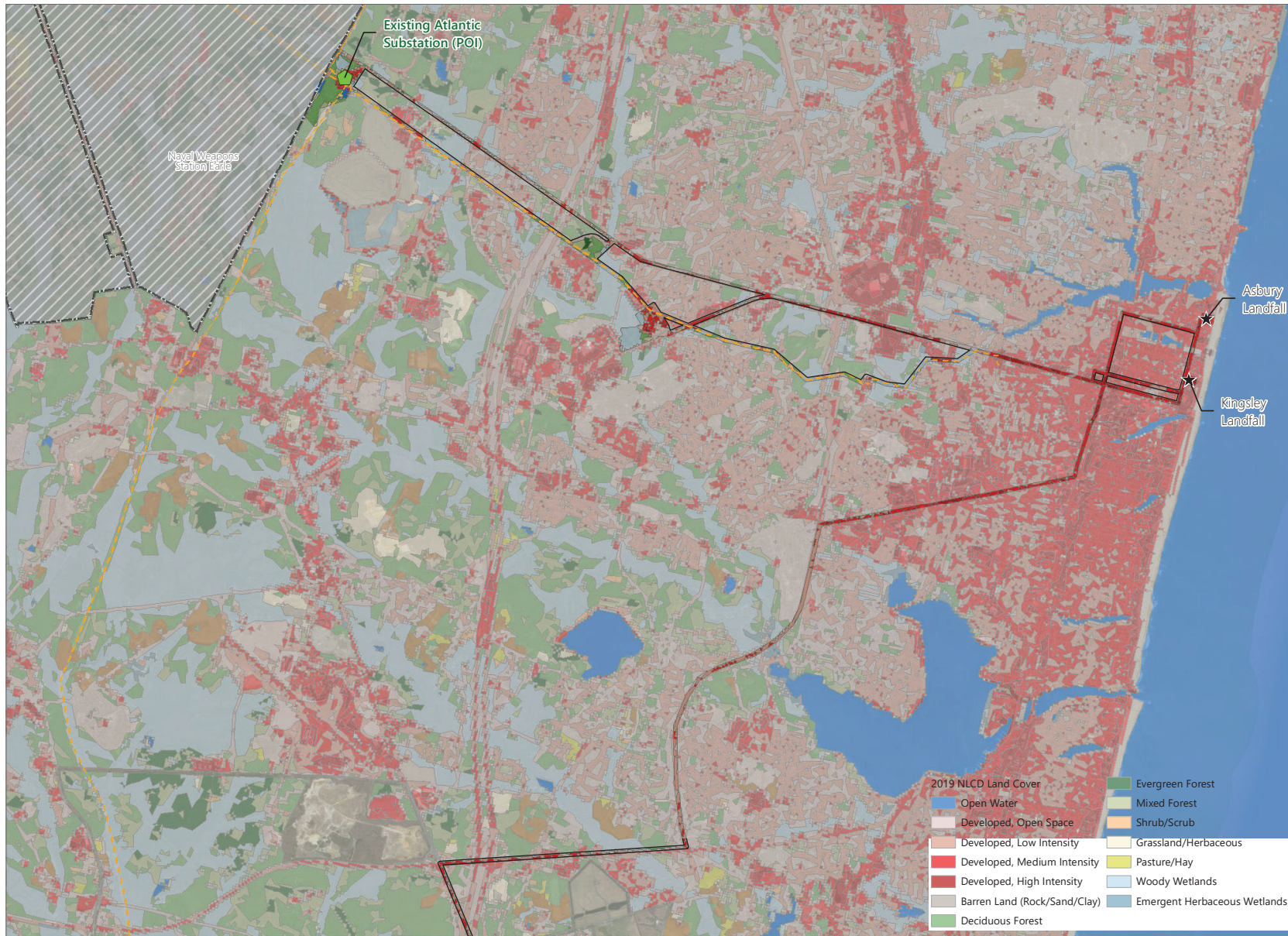


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**Figure 6**  
Land Use/Land Cover



Figure 6. Land Use/Land Cover



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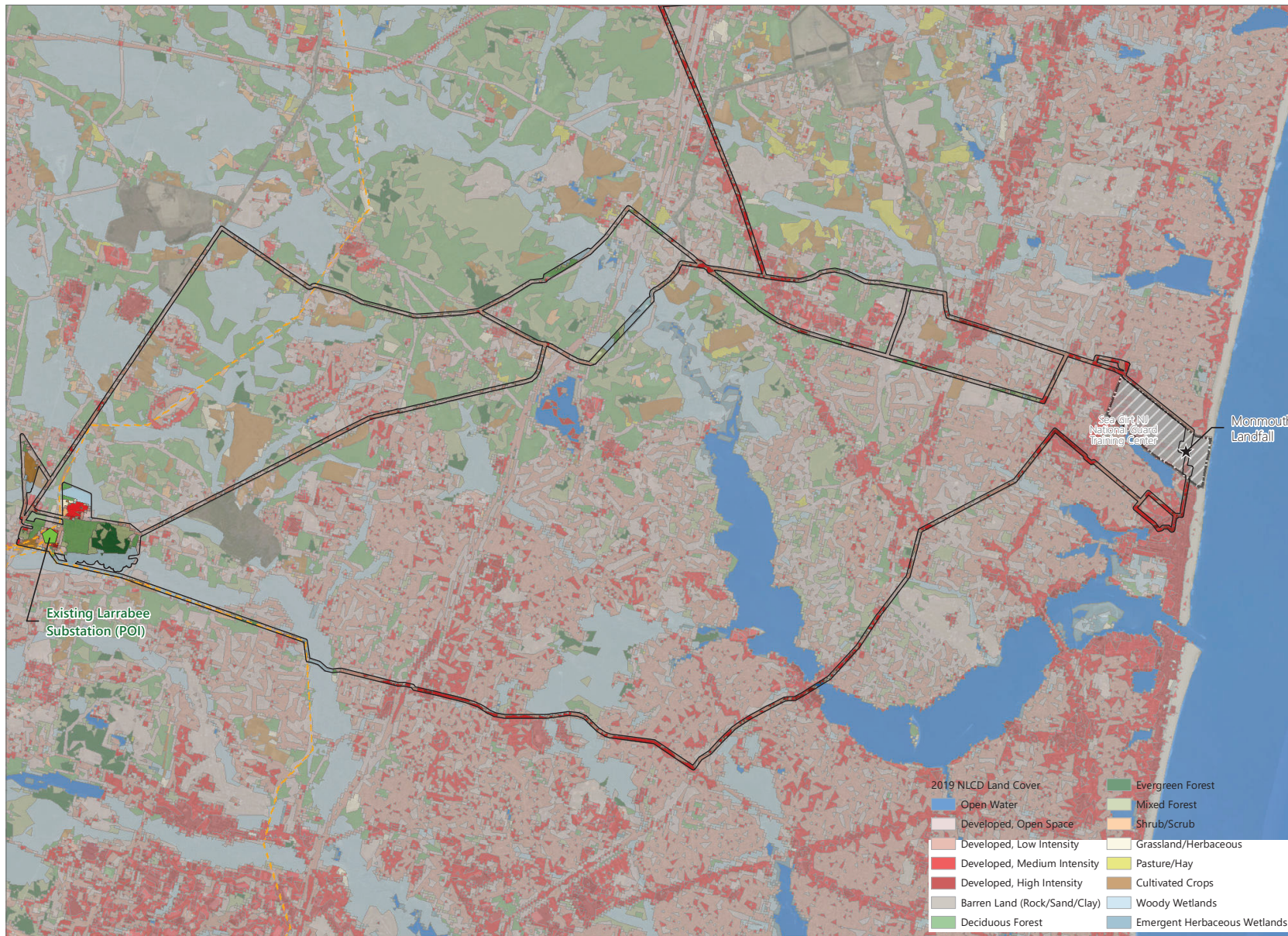
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**ATLANTIC SHORES**  
 offshore wind

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Figure 6. Land Use/Land Cover



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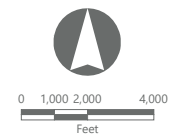
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- |                              |                              |
|------------------------------|------------------------------|
| 2019 NLCD Land Cover         | Evergreen Forest             |
| Open Water                   | Mixed Forest                 |
| Developed, Open Space        | Shrub/Scrub                  |
| Developed, Low Intensity     | Grassland/Herbaceous         |
| Developed, Medium Intensity  | Pasture/Hay                  |
| Developed, High Intensity    | Cultivated Crops             |
| Barren Land (Rock/Sand/Clay) | Woody Wetlands               |
| Deciduous Forest             | Emergent Herbaceous Wetlands |



Prepared January 4, 2023  
Basemap: NJ Office of GIS 2015 Natural Color Imagery

**ATLANTIC SHORES**  
offshore wind

EDR

## **APPENDIX B**

Routine Wetland Determination Data Sheets and Stream Inventory Forms



## 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
<b>General Characteristics</b>	
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)



Wetland Plants in Streambed

- FACW (0.75)
- OBL (1.5)
- Other (0)

Stream Type Determination

Total Score

30.25

Stream Determination

- Ephemeral (<19)
- Intermittent ( $\geq 19$ )
- Perennial ( $\geq 30$ )

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
<b>General Characteristics</b>	
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
<b>General Characteristics</b>	
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 ( $\geq 19$ )
- Perennial ( $\geq 30$ )

### 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
<b>General Characteristics</b>	
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 ( $\geq 19$ )

Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream



Notes

## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258365
Survey Date	06/22/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB AL
Stream Delineation ID	37-S005
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	None
<b>General Characteristics</b>	
NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	80
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel)
Range of Bankfull width for stream reach	80
<b>Geomorphology</b>	
Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Strong (3)
In Channel Structures	Strong (3)
Particle Size of Stream Substrate	Moderate (2)
Active/Relic Floodplain	Strong (3)
Depositional Bars or Benches	Strong (3)
Recent Alluvial Deposits	Moderate (2)
Are Headcuts present	Absent (0)
Grade Control	Absent (0)
Natural Valley	Absent (0)
Second or Greater Order Channel	Yes (3)
<b>Hydrology</b>	
Presence of Baseflow	Strong (3)
Iron Oxidizing Bacteria	Absent (0)

Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Moderate (1)
Organic Debris Lines or Piles	Moderate (1)
Soil-based evidence of high water table	Yes (3)

### Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Strong (3)
Aquatic Mollusks	Strong (3)
Fish	Strong (1.5)
Crayfish	Absent (0)
Amphibians	Absent (0)
Algae	Absent (0)
Wetland Plants in Streambed	OBL (1.5)

### Stream Type Determination

Total Score	43.5
Stream Determination	Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream	None
Notes	



## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258366
Survey Date	06/22/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB AL
Stream Delineation ID	37-S006
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	None

### General Characteristics

NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	80
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel)
Range of Bankfull width for stream reach	80

### Geomorphology

Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Strong (3)
In Channel Structures	Strong (3)
Particle Size of Stream Substrate	Moderate (2)
Active/Relic Floodplain	Strong (3)
Depositional Bars or Benches	Strong (3)
Recent Alluvial Deposits	Moderate (2)
Are Headcuts present	Absent (0)
Grade Control	Absent (0)
Natural Valley	Absent (0)
Second or Greater Order Channel	Yes (3)

### Hydrology

Presence of Baseflow	Strong (3)
Iron Oxidizing Bacteria	Absent (0)

Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Moderate (1)
Organic Debris Lines or Piles	Moderate (1)
Soil-based evidence of high water table	Yes (3)

### Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Strong (3)
Aquatic Mollusks	Strong (3)
Fish	Strong (1.5)
Crayfish	Absent (0)
Amphibians	Absent (0)
Algae	Absent (0)
Wetland Plants in Streambed	OBL (1.5)

### Stream Type Determination

Total Score	43.5
Stream Determination	Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream



Notes

## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258363
Survey Date	06/22/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB AL
Stream Delineation ID	37-S007
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	None
<b>General Characteristics</b>	
NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	24
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel), Silt/Clay (No grit)
Range of Bankfull width for stream reach	13
<b>Geomorphology</b>	
Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Moderate (2)
In Channel Structures	Strong (3)
Particle Size of Stream Substrate	Moderate (2)
Active/Relic Floodplain	Moderate (2)
Depositional Bars or Benches	Moderate (2)
Recent Alluvial Deposits	Absent (0)
Are Headcuts present	Absent (0)
Grade Control	Moderate (1)
Natural Valley	Moderate (1)
Second or Greater Order Channel	Yes (3)



## Hydrology

Presence of Baseflow	Strong (3)
Iron Oxidizing Bacteria	Weak (1)
Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Weak (0.5)
Organic Debris Lines or Piles	Moderate (1)
Soil-based evidence of high water table	Yes (3)

## Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Strong (3)
Aquatic Mollusks	Moderate (2)
Fish	Weak (0.5)
Crayfish	Absent (0)
Amphibians	Moderate (1)
Algae	Absent (0)
Wetland Plants in Streambed	FACW (0.75)

## Stream Type Determination

Total Score	42.25
Stream Determination	Perennial ( $\geq 30$ )

## Photos and Notes

Photo up and downstream	None
Notes	

## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258370
Survey Date	06/22/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB AL
Stream Delineation ID	37-S008

### Latitude, Longitude

Latitude

Longitude

Accuracy m

Current Precipitation None

Precipitation in Past 48 Hours None

### General Characteristics

NYSDEC Mapped Stream

Drainage Ditch No

Surface Water Depth at Thalweg (Inches) 36

Stream Gradient Gentle (0-5%)

Substrate Sand (Gritty feel)

Range of Bankfull width for stream reach 100

### Geomorphology

Continuity of channel bed and bank Strong (3)

Sinuosity of channel along thalweg Moderate (2)

In Channel Structures Strong (3)

Particle Size of Stream Substrate Moderate (2)

Active/Relic Floodplain Moderate (2)

Depositional Bars or Benches Moderate (2)

Recent Alluvial Deposits Absent (0)

Are Headcuts present Absent (0)

Grade Control Absent (0)

Natural Valley Absent (0)

Second or Greater Order Channel Yes (3)

### Hydrology

Presence of Baseflow Strong (3)

Iron Oxidizing Bacteria Absent (0)

Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Moderate (1)
Organic Debris Lines or Piles	Moderate (1)
Soil-based evidence of high water table	Yes (3)

### Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Strong (3)
Aquatic Mollusks	Strong (3)
Fish	Strong (1.5)
Crayfish	Strong (1.5)
Amphibians	Absent (0)
Algae	Moderate (1)
Wetland Plants in Streambed	OBL (1.5)

### Stream Type Determination

Total Score	39.5
Stream Determination	Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream	None
Notes	



## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258703
Survey Date	06/22/2022
User	Heather Berry
Town/County/State	Monmouth/New Jersey
Investigator(s)	HB AL
Stream Delineation ID	37-S009A
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	Rain
Precipitation in Past 48 Hours	None
<b>General Characteristics</b>	
NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	100
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel), Silt/Clay (No grit)
Range of Bankfull width for stream reach	900
<b>Geomorphology</b>	
Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Strong (3)
In Channel Structures	Strong (3)
Particle Size of Stream Substrate	Strong (3)
Active/Relic Floodplain	Strong (3)
Depositional Bars or Benches	Strong (3)
Recent Alluvial Deposits	Moderate (2)
Are Headcuts present	Absent (0)
Grade Control	Absent (0)
Natural Valley	Absent (0)
Second or Greater Order Channel	Yes (3)
<b>Hydrology</b>	
Presence of Baseflow	Strong (3)
Iron Oxidizing Bacteria	Weak (1)

Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Strong (1.5)
Organic Debris Lines or Piles	Strong (1.5)
Soil-based evidence of high water table	No (0)

**Biology**

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Strong (3)
Aquatic Mollusks	Strong (3)
Fish	Strong (1.5)
Crayfish	Absent (0)
Amphibians	Weak (0.5)
Algae	Weak (0.5)
Wetland Plants in Streambed	OBL (1.5)

**Stream Type Determination**

Total Score	50
Stream Determination	Perennial (≥30)

**Photos and Notes**

Photo up and downstream



Notes

## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258707
Survey Date	06/22/2022
User	Heather Berry
Town/County/State	Monmouth/New Jersey
Investigator(s)	HB AL
Stream Delineation ID	37-S009B
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	Rain
<b>General Characteristics</b>	
NYSDEC Mapped Stream	Yes
NYSDEC mapped Classification	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	60
Stream Gradient	Gentle (0-5%)
Substrate	Gravel, Sand (Gritty feel), Silt/Clay (No grit)
Range of Bankfull width for stream reach	50
<b>Geomorphology</b>	
Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Strong (3)
In Channel Structures	Strong (3)
Particle Size of Stream Substrate	Strong (3)
Active/Relic Floodplain	Strong (3)
Depositional Bars or Benches	Strong (3)
Recent Alluvial Deposits	Absent (0)
Are Headcuts present	Absent (0)
Grade Control	Absent (0)
Natural Valley	Moderate (1)
Second or Greater Order Channel	Yes (3)
<b>Hydrology</b>	





## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258372
Survey Date	07/12/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB MD
Stream Delineation ID	37-S009
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	None
<b>General Characteristics</b>	
NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	0
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel), Silt/Clay (No grit)
Range of Bankfull width for stream reach	15
<b>Geomorphology</b>	
Continuity of channel bed and bank	Moderate (2)
Sinuosity of channel along thalweg	Strong (3)
In Channel Structures	Absent (0)
Particle Size of Stream Substrate	Strong (3)
Active/Relic Floodplain	Moderate (2)
Depositional Bars or Benches	Moderate (2)
Recent Alluvial Deposits	Moderate (2)
Are Headcuts present	Absent (0)
Grade Control	Absent (0)
Natural Valley	Absent (0)
Second or Greater Order Channel	No (0)
<b>Hydrology</b>	
Presence of Baseflow	Absent (0)
Iron Oxidizing Bacteria	Absent (0)

Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Moderate (1)
Organic Debris Lines or Piles	Moderate (1)
Soil-based evidence of high water table	No (0)

### Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Absent (0)
Aquatic Mollusks	Absent (0)
Fish	Absent (0)
Crayfish	Absent (0)
Amphibians	Moderate (1)
Algae	Absent (0)
Wetland Plants in Streambed	Other (0)

### Stream Type Determination

Total Score	24.5
Stream Determination	Intermittent ( $\geq 19$ )

### Photos and Notes

Photo up and downstream	None
Notes	



## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258378
Survey Date	07/12/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB MD
Stream Delineation ID	37-S010
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	None
<b>General Characteristics</b>	
NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	12
Stream Gradient	Gentle (0-5%)
Substrate	Gravel, Sand (Gritty feel), Silt/Clay (No grit)
Range of Bankfull width for stream reach	6
<b>Geomorphology</b>	
Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Moderate (2)
In Channel Structures	Strong (3)
Particle Size of Stream Substrate	Moderate (2)
Active/Relic Floodplain	Weak (1)
Depositional Bars or Benches	Moderate (2)
Recent Alluvial Deposits	Weak (1)
Are Headcuts present	Absent (0)
Grade Control	Weak (0.5)
Natural Valley	Absent (0)
Second or Greater Order Channel	No (0)
<b>Hydrology</b>	
Presence of Baseflow	Strong (3)
Iron Oxidizing Bacteria	Absent (0)

Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Moderate (1)
Organic Debris Lines or Piles	Moderate (1)
Soil-based evidence of high water table	Yes (3)

### Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Moderate (2)
Aquatic Mollusks	Moderate (2)
Fish	Moderate (1)
Crayfish	Absent (0)
Amphibians	Weak (0.5)
Algae	Absent (0)
Wetland Plants in Streambed	FACW (0.75)

### Stream Type Determination

Total Score	36.25
Stream Determination	Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream	None
Notes	

## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258384
Survey Date	07/12/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB MD
Stream Delineation ID	37-S011
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	None
<b>General Characteristics</b>	
NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	4
Stream Gradient	Gentle (0-5%)
Substrate	Cobble, Gravel, Sand (Gritty feel), Silt/Clay (No grit)
Range of Bankfull width for stream reach	4
<b>Geomorphology</b>	
Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Moderate (2)
In Channel Structures	Moderate (2)
Particle Size of Stream Substrate	Strong (3)
Active/Relic Floodplain	Moderate (2)
Depositional Bars or Benches	Moderate (2)
Recent Alluvial Deposits	Weak (1)
Are Headcuts present	Absent (0)
Grade Control	Weak (0.5)
Natural Valley	Absent (0)
Second or Greater Order Channel	Yes (3)
<b>Hydrology</b>	
Presence of Baseflow	Strong (3)
Iron Oxidizing Bacteria	Absent (0)



Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Weak (0.5)
Organic Debris Lines or Piles	Moderate (1)
Soil-based evidence of high water table	Yes (3)

### Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Weak (1)
Aquatic Mollusks	Weak (1)
Fish	Weak (0.5)
Crayfish	Absent (0)
Amphibians	Weak (0.5)
Algae	Absent (0)
Wetland Plants in Streambed	FACW (0.75)

### Stream Type Determination

Total Score	43.25
Stream Determination	Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream	None
Notes	

## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258394
Survey Date	07/12/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB MD
Stream Delineation ID	37-S012
Latitude, Longitude	
Latitude	
Longitude	
Accuracy	m
Current Precipitation	None
Precipitation in Past 48 Hours	None
<b>General Characteristics</b>	
NYSDEC Mapped Stream	
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	24
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel), Silt/Clay (No grit)
Range of Bankfull width for stream reach	4
<b>Geomorphology</b>	
Continuity of channel bed and bank	Strong (3)
Sinuosity of channel along thalweg	Moderate (2)
In Channel Structures	Moderate (2)
Particle Size of Stream Substrate	Moderate (2)
Active/Relic Floodplain	Moderate (2)
Depositional Bars or Benches	Weak (1)
Recent Alluvial Deposits	Absent (0)
Are Headcuts present	Absent (0)
Grade Control	Absent (0)
Natural Valley	Absent (0)
Second or Greater Order Channel	No (0)
<b>Hydrology</b>	
Presence of Baseflow	Weak (1)
Iron Oxidizing Bacteria	Absent (0)

Leaf Litter	Absent (1.5)
Sediment on Plants or Debris	Weak (0.5)
Organic Debris Lines or Piles	Weak (0.5)
Soil-based evidence of high water table	No (0)

### Biology

Fibrous Roots in Streambed	Absent (3)
Rooted Upland Plants in Streambed	Absent (3)
Aquatic Macroinvertebrates	Moderate (2)
Aquatic Mollusks	Absent (0)
Fish	Absent (0)
Crayfish	Absent (0)
Amphibians	Absent (0)
Algae	Strong (1.5)
Wetland Plants in Streambed	FACW (0.75)

### Stream Type Determination

Total Score	33
Stream Determination	Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream	None
Notes	

## 20043 Atlantic Shores Stream Scoring Data Form 1

Project	20043 - Atlantic Shores
ID	258398
Survey Date	07/12/2022
User	Heather Berry
Town/County/State	Sea Girt/Monmouth/New Jersey
Investigator(s)	HB MD
Stream Delineation ID	37-S013

Latitude, Longitude

Latitude

Longitude

Accuracy m

Current Precipitation None

Precipitation in Past 48 Hours None

### General Characteristics

NYSDEC Mapped Stream

Drainage Ditch No

Surface Water Depth at Thalweg (Inches) 24

Stream Gradient Gentle (0-5%)

Substrate Sand (Gritty feel), Silt/Clay (No grit)

Range of Bankfull width for stream reach 4

### Geomorphology

Continuity of channel bed and bank

Sinuosity of channel along thalweg

In Channel Structures

Particle Size of Stream Substrate

Active/Relic Floodplain

Depositional Bars or Benches

Recent Alluvial Deposits

Are Headcuts present

Grade Control

Natural Valley

Second or Greater Order Channel

### Hydrology

Presence of Baseflow

Iron Oxidizing Bacteria



Leaf Litter

Sediment on Plants or  
Debris

Organic Debris Lines or Piles

Soil-based evidence of high  
water table

### Biology

Fibrous Roots in Streambed

Rooted Upland Plants in  
Streambed

Aquatic Macroinvertebrates

Aquatic Mollusks

Fish

Crayfish

Amphibians

Algae

Wetland Plants in  
Streambed

### Stream Type Determination

Total Score

Stream Determination      Perennial ( $\geq 30$ )

### Photos and Notes

Photo up and downstream      None

Notes      Stream not accessible therefore not surveyed.

## COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
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	Absecon, Atlantic 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
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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

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

Total Score	30.5
Stream Determination	Perennial (≥30)

Notes

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
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	Absecon, Atlantic 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

Total Score	30.5
Stream Determination	Perennial (≥30)

Notes

## COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
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	Absecon, Atlantic 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

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

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

Total Score	30.5
Stream Determination	Perennial ( $\geq 30$ )

Notes

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
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 Absecon, Atlantic 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
<b>Fibrous Roots in Streambed</b>	
Fibrous Roots in Streambed	1-Moderate
<b>Rooted Upland Plants in Streambed</b>	
Rooted Upland Plants in Streambed	1-Moderate
<b>Aquatic Macroinvertebrates</b>	
Aquatic Macroinvertebrates	0-Absent
<b>Aquatic Mollusks</b>	
Aquatic Mollusks	0-Absent
<b>Fish</b>	
Fish	0-Absent
<b>Crayfish</b>	
Crayfish	0-Absent
<b>Amphibians</b>	
Amphibians	0-Absent
<b>Algae</b>	
Algae	0.5-Weak
<b>Wetland Plants in Streambed</b>	
Wetland Plants in Streambed	0-Other
Subtotal =	2.5
<b>Total Score</b>	
Total Score	6.5
<b>Stream Determination</b>	
Stream Determination	Ephemeral (<19)

Notes

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	317262
Survey Date	02/16/2023
User	Andrew Leonardi
Stream ID:	26-ST08

#### 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	Absecon, Atlantic 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)
OHWM width for stream reach (feet)	2-6
<b>Geomorphology</b>	
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
<b>Hydrology</b>	
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
<b>Biology</b>	
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

Total Score	19
Stream Determination	Intermittent ( $\geq 19$ )
Notes	

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
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	Absecon, Atlantic 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

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

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

Total Score	30.25
Stream Determination	Perennial (≥30)

Notes

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	317265
Survey Date	02/21/2023
User	Andrew Leonardi
Stream ID:	26-ST09

<b>Administrative 1</b>	
Investigator(s)	TCAL
Latitude, Longitude	

Latitude	40.12772433
Longitude	-74.05554183
Current Precipitation	None
Precipitation in Past 48 Hours	Rain
Town/County/State	Absecon, Atlantic 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

Total Score	4.5
Stream Determination	Ephemeral (<19)

Notes

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
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	Absecon, Atlantic 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 ( $\geq 30$ )

### Notes

## COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	320764
Survey Date	03/08/2023
User	Andrew Leonardi
Stream ID:	26-ST011
<b>Administrative 1</b>	
Investigator(s)	TCAL
Latitude, Longitude	
Latitude	40.17119083
Longitude	-74.08315483
Current Precipitation	None
Precipitation in Past 48 Hours	Snow
Town/County/State	Wall Township, Monmouth County, NJ
<b>General Characteristics 1</b>	
NYSDEC Mapped Stream	No
Drainage Ditch	Yes
Surface Water Depth at Thalweg (Inches)	0
Stream Gradient	Moderate (6-11%)
Substrate	Gravel, Sand (Gritty feel), Silt/Clay (No grit)
OHWM width for stream reach (feet)	2-4
<b>Geomorphology</b>	
Continuity of channel bed and bank	1-Weak
Sinuosity of channel along thalweg	1-Weak
In Channel Structures	0-Absent
Particle Size of Stream Substrate	1-Weak
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	0-No

Channel	
Subtotal =	11.5

Hydrology	
Presence of Baseflow	0-Absent
Iron Oxidizing Bacteria	1-Weak
Leaf Litter	0-Strong
Sediment on Plants or Debris	0-Absent
Organic Debris Lines or Piles	1.5-Strong
Soil-based evidence of high water table	0-No
Subtotal =	2.5

Biology	
Fibrous Roots in Streambed	3-Absent
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 =	5

Stream Type Determination	
Total Score	19
Stream Determination	Intermittent ( $\geq 19$ )

Notes	
Notes	

## COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	320796
Survey Date	03/08/2023
User	Andrew Leonardi
Stream ID:	26-ST012

Administrative 1	
Investigator(s)	ALTC
Latitude, Longitude	
Latitude	40.171269
Longitude	-74.08238667



Current Precipitation	None
Precipitation in Past 48 Hours	Snow
Town/County/State	Wall Township, Monmouth County, NJ

### General Characteristics 1

NYSDEC Mapped Stream	No
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	1
Stream Gradient	Gentle (0-5%)
Substrate	Gravel, Sand (Gritty feel), Silt/Clay (No grit)
OHWM width for stream reach (feet)	1-6

### Geomorphology

Continuity of channel bed and bank	3-Strong
Sinuosity of channel along thalweg	0-Absent
In Channel Structures	2-Moderate
Particle Size of Stream Substrate	3-Strong
Active/Relic Floodplain	3-Strong
Depositional Bars or Benches	1-Weak
Recent Alluvial Deposits	1-Weak
Are Headcuts present	0-Absent
Grade Control	0-Absent
Natural Valley	0-Absent
Second or Greater Order Channel	0-No
Subtotal =	13

### Hydrology

Presence of Baseflow	2-Moderate
Iron Oxidizing Bacteria	2-Moderate
Leaf Litter	0.5-Moderate
Sediment on Plants or Debris	0-Absent
Organic Debris Lines or Piles	1-Moderate
Soil-based evidence of high water table	0-No
Subtotal =	5.5

### 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

Total Score	25
Stream Determination	Intermittent (≥19)

Notes

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	320889
Survey Date	03/08/2023
User	Andrew Leonardi
Stream ID:	26-ST015

#### Administrative 1

Investigator(s)	TCAL
Latitude, Longitude	
Latitude	40.18899983
Longitude	-74.07074383
Current Precipitation	None
Precipitation in Past 48 Hours	Snow
Town/County/State	Wall Township, Monmouth County, NJ

#### General Characteristics 1

NYSDEC Mapped Stream	No
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	5
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel), Silt/Clay (No grit)
OHWM width for stream reach (feet)	4-10

#### Geomorphology

Continuity of channel bed and bank	3-Strong
Sinuosity of channel along	0-Absent

thalgweg

In Channel Structures 0-Absent

Particle Size of Stream Substrate 1-Weak

Active/Relic Floodplain 3-Strong

Depositional Bars or Benches 0-Absent

Recent Alluvial Deposits 2-Moderate

Are Headcuts present

Grade Control 0.5-Weak

Natural Valley 0.5-Weak

Second or Greater Order Channel 0-No

Subtotal = 10

### Hydrology

Presence of Baseflow 3-Strong

Iron Oxidizing Bacteria 2-Moderate

Leaf Litter 1.5-Absent

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 = 10

### 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 26

Stream Determination Intermittent ( $\geq 19$ )

### Notes

Notes

## COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	320718
Survey Date	03/08/2023
User	Andrew Leonardi
Stream ID:	26-ST016

### Administrative 1

Investigator(s)	TCAL
Latitude, Longitude	
Latitude	40.15724133
Longitude	-74.099373
Current Precipitation	None
Precipitation in Past 48 Hours	Snow
Town/County/State	Allenwood, Monmouth County, NJ

### General Characteristics 1

NYSDEC Mapped Stream	No
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	4
Stream Gradient	Gentle (0-5%)
Substrate	Gravel, Sand (Gritty feel), Silt/Clay (No grit)
OHWM width for stream reach (feet)	4-8

### 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	2-Moderate
Active/Relic Floodplain	0-Absent
Depositional Bars or Benches	3-Strong
Recent Alluvial Deposits	3-Strong
Are Headcuts present	0-Absent
Grade Control	0-Absent
Natural Valley	1.5-Strong
Second or Greater Order Channel	0-No
Subtotal =	13.5

### Hydrology

Presence of Baseflow	3-Strong
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Iron Oxidizing Bacteria	1-Weak
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	0-No
Subtotal =	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-Absent
Wetland Plants in Streambed	0-Other
Subtotal =	6

### Stream Type Determination

Total Score	24.5
Stream Determination	Intermittent ( $\geq 19$ )

### Notes

Notes

## COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	320720
Survey Date	03/08/2023
User	Andrew Leonardi
Stream ID:	26-ST017

### Administrative 1

Investigator(s)	TCAL
Latitude, Longitude	
Latitude	40.15536917
Longitude	-74.098421
Current Precipitation	None
Precipitation in Past 48 Hours	Snow
Town/County/State	Wall Township, Monmouth County, NJ

### General Characteristics 1

NYSDEC Mapped Stream	No
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	4
Stream Gradient	Gentle (0-5%)
Substrate	Silt/Clay (No grit)
OHWM width for stream reach (feet)	2

### Geomorphology

Continuity of channel bed and bank	2-Moderate
Sinuosity of channel along thalweg	3-Strong
In Channel Structures	1-Weak
Particle Size of Stream Substrate	1-Weak
Active/Relic Floodplain	3-Strong
Depositional Bars or Benches	2-Moderate
Recent Alluvial Deposits	2-Moderate
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	0-Absent
Leaf Litter	0.5-Moderate
Sediment on Plants or Debris	1-Moderate
Organic Debris Lines or Piles	0-Absent
Soil-based evidence of high water table	3-Yes
Subtotal =	7.5

### 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	1.5-Strong
Wetland Plants in Streambed	0-Other
Subtotal =	7.5

Total Score	29.5
Stream Determination	Intermittent (≥19)

Notes

### COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	320809
Survey Date	03/08/2023
User	Andrew Leonardi
Stream ID:	26-ST019

#### Administrative 1

Investigator(s)	TCAL
Latitude, Longitude	
Latitude	40.17132233
Longitude	-74.08093867
Current Precipitation	None
Precipitation in Past 48 Hours	Snow
Town/County/State	Wall township, Monmouth County, NJ

#### General Characteristics 1

NYSDEC Mapped Stream	No
Drainage Ditch	No
Surface Water Depth at Thalweg (Inches)	1
Stream Gradient	Gentle (0-5%)
Substrate	Gravel, Sand (Gritty feel), Silt/Clay (No grit)
OHWM width for stream reach (feet)	1-10

#### Geomorphology

Continuity of channel bed and bank	3-Strong
Sinuosity of channel along thalweg	1-Weak
In Channel Structures	0-Absent
Particle Size of Stream Substrate	1-Weak
Active/Relic Floodplain	0-Absent

Depositional Bars or Benches	1-Weak
Recent Alluvial Deposits	1-Weak
Are Headcuts present	0-Absent
Grade Control	0-Absent
Natural Valley	1.5-Strong
Second or Greater Order Channel	0-No
Subtotal =	8.5

### 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	1.5-Strong
Soil-based evidence of high water table	0-No
Subtotal =	1.5

### Biology

Fibrous Roots in Streambed	2-Weak
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 =	5

### Stream Type Determination

Total Score	15
Stream Determination	Ephemeral (<19)

### Notes

Notes

## COP South Wetland Delineation Form v5.1

Project	20043 Atlantic Shores COP South
ID	322188
Survey Date	03/08/2023
User	Andrew Leonardi



## COP South Stream Scoring Form 1

Project	20043 Atlantic Shores COP South
ID	320846
Survey Date	03/08/2023
User	Andrew Leonardi
Stream ID:	26-ST018
<b>Administrative 1</b>	
Investigator(s)	TCAL
Latitude, Longitude	
Latitude	40.17135417
Longitude	-74.08030417
Current Precipitation	None
Precipitation in Past 48 Hours	Snow
Town/County/State	Wall Township, Monmouth County, NJ
<b>General Characteristics 1</b>	
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)	20+
<b>Geomorphology</b>	
Continuity of channel bed and bank	3-Strong
Sinuosity of channel along thalweg	0-Absent
In Channel Structures	2-Moderate
Particle Size of Stream Substrate	3-Strong
Active/Relic Floodplain	0-Absent
Depositional Bars or Benches	3-Strong
Recent Alluvial Deposits	3-Strong
Are Headcuts present	0-Absent
Grade Control	0.5-Weak
Natural Valley	0.5-Weak
Second or Greater Order	0-No

Channel	
Subtotal =	15

### Hydrology

Presence of Baseflow	3-Strong
Iron Oxidizing Bacteria	1-Weak
Leaf Litter	1-Weak
Sediment on Plants or Debris	1-Moderate
Organic Debris Lines or Piles	1.5-Strong
Soil-based evidence of high water table	0-No
Subtotal =	7.5

### 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	1.5-Strong
Wetland Plants in Streambed	0-Other
Subtotal =	7.5

### Stream Type Determination

Total Score	30
Stream Determination	Perennial ( $\geq 30$ )

### Notes

Notes

**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>	30%	FACU	Tree
2.	<u>Tree of Heaven (Ailanthus altissima)</u>	70%	FACU	Tree
3.	<u>Black Locust (Robinia pseudoacacia)</u>	20%	UPL	Tree
4.	<u>Bamboo (Bambusoideae sp.)</u>	30%	NA	Sapling/Shrub
5.	<u>Grape Vine (Vitis sp.)</u>	20%	NA	Woody Vine
6.	<u>Pokeweed (Phytolacca americana)</u>	15%	FACU	Herbaceous
7.	<u>Multiflora Rose (Rosa multiflora)</u>	5%	FACU	Herbaceous
8.	<u>Green Briar (Smilax rotundifolia)</u>	60%	FAC	Woody Vine

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:

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### 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:

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**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.

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**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:

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**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>	50%	FACU	<u>Tree</u>
2.	<u>Mowed Grass</u>	90%	NA	<u>Herbaceous</u>
3.	<u>Mugwort (Artemisia vulgaris)</u>	50%	UPL	<u>Herbaceous</u>
4.	<u>White Clover (Trifolium repens)</u>	30%	FACU	<u>Herbaceous</u>
5.	<u>Narroleaf Plantain (Plantago lanceolate)</u>	15%	FACU	<u>Herbaceous</u>
6.	<u>Common Plantain (Plantago major)</u>	10%	FAC	<u>Herbaceous</u>
7.	<u>Common Reed (Phragmites australis)</u>	1%	FACW	<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:

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#### 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:

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**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)

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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)

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**VEGETATION**

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

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

Is the hydrophytic vegetation criterion met? Yes  No

Rationale:

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**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:

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#### 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:

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**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>	5%	FACW	Herbaceous
2.	<u>Yellow Pond Lilly (Nuphar lutea)</u>	60%	OBL	Herbaceous
3.	<u>Soft Rush (Juncus effuses)</u>	20%	OBL	Herbaceous
4.	<u>Lurid Sedge (Carex lurida)</u>	20%	OBL	Herbaceous
5.	<u>White Clover (Trifolium repens)</u>	1%	FACU	Herbaceous
6.	<u>Virginia Creeper (Parthenocissus quinquefolia)</u>	1%	FACU	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: 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

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#### 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:

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**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

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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)

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**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:

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**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:

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**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:

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**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

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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)

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**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:

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#### 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:

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**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.

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**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. <i>Common Reed (Phragmites australis)</i>	40	FACW	Herbaceous
2. <i>Marsh Fern (Thelypteris palustris)</i>	25	FACW	Herbaceous
3. <i>Skunk Cabbage (Symplocarpus foetidus)</i>	20	OBL	Herbaceous
4. <i>Allegheny Blackberry (Rubus allegheniensis)</i>	5	FACU	Herbaceous
5. <i>White Goldenrod (Solidago bicolor)</i>	5	FAC	Herbaceous
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, 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 epipedon 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.

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## 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 epipedon 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.

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**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:

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**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:

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**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>	95%	OBL	Herbaceous
2.	<u>Water Chestnut (Trapa natans)</u>	10%	OBL	Herbaceous
3.	<u>Mowed Juncus (Juncus sp.)</u>	90%	NA	Herbaceous

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

Is the hydrophytic vegetation criterion met? Yes  No

Rationale:

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**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:

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**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:

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**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:

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**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>	5%	FACW	Sapling/Shrub
2. <u>Soft Rush (Juncus effuses)</u>	40%	OBL	Herbaceous
3. <u>Tearthumb (Polygonum sagittatum)</u>	5%	OBL	Herbaceous
4. <u>Japanese Stiltgrass (Microstegium vimineum)</u>	10%	FAC	Herbaceous
5. <u>Blunt Spikerush (Eleocharis obtuse)</u>	90%	OBL	Herbaceous
6. <u>White Meadowsweet (Spirea alba)</u>	10%	FACW	Herbaceous
7. <u>Broom Sedge (Carex scoparia)</u>	20%	FACW	Herbaceous
8. <u>Swamp Loostrife (Decodon verticillatus)</u>	30%	OBL	Herbaceous
9. <u>Rice Cutgrass (Leersia oryzoides)</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: 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" 10yr 5/8 (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:

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### 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:

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**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

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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:

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**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>	45%	FACW	Sapling/Shrub
2. <u>Pitch Pine (Pinus rigida)</u>	10%	FACU	Sapling/Shrub
3. <u>Sphagnum moss (Sphagnum sp.)</u>	90%	NA	Herbaceous
4. <u>Skunk Cabbage (Symplocarpus foetidus)</u>	15%	OBL	Herbaceous
5. <u>Common Reed (Phragmites australis)</u>	20%	FACW	Herbaceous

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>	5%	NA	Sapling/Shrub
2. <u>Grass sp.</u>	100%	NA	Herbaceous
3. <u>Deptford Pink (Dianthus armeria)</u>	1%	UPL	Herbaceous
4. <u>Deer Tongue (Dichanthelium clandestinum)</u>	5%	FACW	Herbaceous

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:

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**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:

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**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)

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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)

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**VEGETATION**

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

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

Is the hydrophytic vegetation criterion met? Yes  No

Rationale:

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**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:

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#### 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:

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**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:

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**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

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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:

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**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:

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**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:

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**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

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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)

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**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:

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**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.

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#### 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:

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**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>	15%	FACW	Sapling/Shrub
2. <u>Lowbush Blueberry (Vaccinium angustifolium)</u>	25%	FACU	Sapling/Shrub
3. <u>Grass sp.</u>	85%	NA	Herbaceous
<u>Common cinquefoil (Potentilla simplex)</u>	15%	FACU	Herbaceous
4. <u>Goldenrod (Solidago rugosa)</u>	10%	FAC	Herbaceous

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:

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**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:

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**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:

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#### 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:

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**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>	1%	FACU	Sapling/Shrub
2.	<u>Spicebush (Lindera benzoin)</u>	20%	FACW	Sapling/Shrub
3.	<u>Lowbush Blueberry (Vaccinium angustifolium)</u>	15%	FACU	Sapling/Shrub
4.	<u>Raspberry (Rubus occidentalis)</u>	20%	NA	Sapling/Shrub
5.	<u>Grass sp.</u>	95%	NA	Herbaceous
6.	<u>Common cinquefoil (Potentilla simplex)</u>	20%	FACU	Herbaceous
7.	<u>Bracken Fern (Pteridium aquilinum)</u>	5%	NA	Herbaceous
8.	<u>Goldenrod (Solidago rugosa)</u>	15%	FAC	Herbaceous

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: 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: 0-7" 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:

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#### 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:

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**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>	5%	FAC	Tree
2. <u>Pepperbush (Clethra alnifolia)</u>	20%	FACW	Sapling/Shrub
3. <u>Arrow arum (Peltandra virginica)</u>	35%	OBL	Herbaceous
4. <u>Narrowleaf Cattail (Typha angustifolia)</u>	85%	OBL	Herbaceous
5. <u>Skunk Cabbage (Symplocarpus foetidus)</u>	5%	OBL	Herbaceous
6. <u>Sedge sp.</u>	40%	NA	Herbaceous
7. <u>Sensitive Fern (Onoclea sensibilis)</u>	5%	FACW	Herbaceous
8. <u>Intermediate Fern (Dryopteris intermedia)</u>	20%	FACU	Herbaceous
9. <u>Virginia Creeper (Parthenocissus quinquefolia)</u>	5%	FACU	Woody Vine

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:

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### 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:

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**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>	45%	FACW	Sapling/Shrub
2.	<u>Black Willow (Salix nigra)</u>	5%	OBL	Sapling/Shrub
3.	<u>Common Reed (Phragmites australis)</u>	98%	FACW	Herbaceous
4.	<u>Skunk Cabbage (Symplocarpus foetidus)</u>	5%	OBL	Herbaceous

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

Is the hydrophytic vegetation criterion met? Yes  No

Rationale:

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**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: N/A

Is the hydric soil criterion met?    Yes             No

Rationale:

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**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:

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**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.

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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.

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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.](#)

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**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 epiedon 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.

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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.

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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.

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**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.

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## 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-W014-1U

Note: if a more detailed site description is necessary, provide detail here: Area consists of upland forest adjacent to a roadway.

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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) Soils were previously excavated and piled to create this upland berm

---

#### VEGETATION

	Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1.	<u>Pitch Pine (Pinus rigida)</u>	60	FACU	Tree
2.	<u>Burr Oak (Quercus macrocarpa)</u>	20	FACU	Tree
3.	<u>Lowbush Blueberry (Vaccinium angustifolium)</u>	10	FACU	Sapling/Shrub

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: Subgroup:

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: 0-2" 5Y 3/4 (100%); 2-6" 7.5YR 3/1 (100%); 6-8" 7.5YR 6/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met?    Yes             No

Rationale:  a  a a e  a  o  o a  o o  a o  e f  a a   
 e

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### 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-W014-1W

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

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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>Green Ash (<i>Fraxinus pennsylvanica</i>)</u>	50	FACW	Tree
2. <u>Sweet Gum (<i>Liquidambar styraciflua</i>)</u>	30	FAC	Tree
3. <u>Sweet Pepperbush (<i>Clethra alnifolia</i>)</u>	50	FACW	Sapling/Shrub
4. <u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u>	40	FACW	Sapling/Shrub

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:

Subgroup:

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:  e  o  a  f  a  e  e  o  e

---

### 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-W015-1U

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.

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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) Soils were previously excavated and piled to create this upland berm

---

**VEGETATION**

Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1. <u>Red fescue (Festuca rubra)</u>	90	FACU	Herb
2. <u>White Clover (Trifolium repens)</u>	15	FACU	Herb

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:

Subgroup:

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: 0-2" 10YR 2/1 (100%); 2-6" 10YR 4/2 (100%); 6-8" 7.5YR 4/4 (100%)      Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes       No

Rationale:     a   a  a  e      a   o     o   a   o         a

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### 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-W015-1W

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

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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>Green Ash (<i>Fraxinus pennsylvanica</i>)</u>	50	FACW	Tree
2. <u>Sweet Gum (<i>Liquidambar styraciflua</i>)</u>	30	FAC	Tree
3. <u>Sweet Pepperbush (<i>Clethra alnifolia</i>)</u>	50	FACW	Sapling/Shrub
4. <u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u>	40	FACW	Sapling/Shrub

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.

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**SOILS**

Series/Phase:

Subgroup:

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:  e  o  a  f  a  e  e  o  e

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### 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.

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**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-W016-1U

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.

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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) Soils were previously excavated and piled to create this upland berm

---

**VEGETATION**

Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1. <u>Red fescue (Festuca rubra)</u>	90	FACU	Herb
2. <u>White Clover (Trifolium repens)</u>	15	FACU	Herb

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:

Subgroup:

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: 0-2" 10YR 2/1 (100%); 2-6" 10YR 4/2 (100%); 6-8" 7.5YR 4/4 (100%)      Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes       No

Rationale:     a  a  a  e      a   o     o   a   o         a

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### 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.

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**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-W016-1W

Note: if a more detailed site description is necessary, provide detail here: PFO wetland appears to be a previous stormwater feature with rip rap.

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>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

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:

Subgroup:

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: eoafae eoe

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### HYDROLOGY

Is the ground surface inundated?    Yes             No             Surface water depth: 24"+

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: Geomorphic position and drainage patterns.

Is the wetland hydrology criterion met?    Yes             No

Rationale: Primary and secondary indicators present.

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**Data Form**

**Routine Onsite Determination Form**

Field Investigators: HB, AL      Date: 07/11/2022

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

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W020-1U

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.

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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) Soils were previously excavated and piled to create this upland berm

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**VEGETATION**

	Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1.	<u>Red fescue (Festuca rubra)</u>	90	FACU	Herb
2.	<u>White Clover (Trifolium repens)</u>	15	FACU	Herb

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:

Subgroup:

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" 5YR 3/4 (100%)      Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes       No



Rationale:     a   a  a  e      a   o     o   a   o         a

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### 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.

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**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-W020-1W

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)

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 Pepperbush (Clethra alnifolia)</u>	10	FACW	Sapling/Shrub
2. <u>Narrowleaf Cattail (Typha angustifolia)</u>	30	OBL	Herb
3. <u>Soft Rush (Juncus effusus)</u>	30	OBL	Herb
4. <u>Common Reed (Phragmites australis)</u>	50	FACW	Herb
5. <u>Wrinkle-Leaf Goldenrod (Solidago rugosa)</u>	30	FAC	Herb

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:

Subgroup:

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 4/1 98% Mottle Colors: 7.5YR 4/6 2%

Other hydric soil indicators: Depleted Matrix

Is the hydric soil criterion met?    Yes             No

Rationale: e e e a e o e

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### 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.

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**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-W021-1U

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)

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

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:

Subgroup:

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 3/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes  No

Rationale:     a  a  a  e     a   o    o  a   o   o      a  o   e  f  a  a  4   
  e

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### 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.

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**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-W021-1W

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

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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)

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**VEGETATION**

Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1. <u>Green Ash (<i>Fraxinus pennsylvanica</i>)</u>	50	FACW	Tree
2. <u>Sweet Gum (<i>Liquidambar styraciflua</i>)</u>	30	FAC	Tree
3. <u>Sweet Pepperbush (<i>Clethra alnifolia</i>)</u>	50	FACW	Sapling/Shrub
4. <u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u> 40		FACW	Sapling/Shrub

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.

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**SOILS**

Series/Phase:

Subgroup:

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:  e  o  a  f  a  e  e  o  e

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### 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.

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**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-W022-1U

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)

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

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:

Subgroup:

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 3/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes  No

Rationale:     a  a  a  e     a   o     a   o        a    e   a  a  4   
  e

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### 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.

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**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-W022-1W

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

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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)

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**VEGETATION**

Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1. <u>Green Ash (<i>Fraxinus pennsylvanica</i>)</u>	50	FACW	Tree
2. <u>Sweet Gum (<i>Liquidambar styraciflua</i>)</u>	30	FAC	Tree
3. <u>Sweet Pepperbush (<i>Clethra alnifolia</i>)</u>	50	FACW	Sapling/Shrub
4. <u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u>	40	FACW	Sapling/Shrub

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.

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**SOILS**

Series/Phase: Subgroup:

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:  e  o  a  f  a  e  e  o  e

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### 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.

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**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-W023-1U

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)

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

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: Subgroup:

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 3/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes  No



Rationale:     a  a  a  e     a   o    o  a   o       a  o   e  a  a  4   
 e

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### 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.

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**Data Form**

**Routine Onsite Determination Form**

Field Investigators: HB, MD

Date: 07/12/2022

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W023-1W

Note: if a more detailed site description is necessary, provide detail here: PFO wetland associated with a perennial stream adjacent to Asbury Ave.

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.	Green Ash ( <i>Fraxinus pennsylvanica</i> )	50	FACW	Tree
2.	Sweet Gum ( <i>Liquidambar styraciflua</i> )	30	FAC	Tree
3.	Sweet Pepperbush ( <i>Clethra alnifolia</i> )	50	FACW	Sapling/Shrub
4.	Highbush Blueberry ( <i>Vaccinium corymbosum</i> )	40	FACW	Sapling/Shrub

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:

Subgroup:

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: eoafae eoe

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### 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.

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**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-W024-1U

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)

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

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:

Subgroup:

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 3/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes  No

Rationale:     a  a  a  e     a   o     a   o        a    e   a  a  4   
  e

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### 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.

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**Data Form**

**Routine Onsite Determination Form**

Field Investigators: HB, MD

Date: 07/12/2022

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W024-1W

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

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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)

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**VEGETATION**

Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1. <u>Green Ash (<i>Fraxinus pennsylvanica</i>)</u>	50	FACW	Tree
2. <u>Sweet Gum (<i>Liquidambar styraciflua</i>)</u>	30	FAC	Tree
3. <u>Sweet Pepperbush (<i>Clethra alnifolia</i>)</u>	50	FACW	Sapling/Shrub
4. <u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u> 40		FACW	Sapling/Shrub
5. <u>Common Reed (<i>Phragmites australis</i>)</u>	40	FACW	Herb

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.

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**SOILS**

Series/Phase:

Subgroup:

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: e o a f a e e o e

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### 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.

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**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-W025-1U

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)

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

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:

Subgroup:

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 3/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes  No

Rationale:     a  a  a  e     a   o     a   o        a    e   a  a  4   
  e

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### 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.

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**Data Form**

**Routine Onsite Determination Form**

Field Investigators: HB, MD

Date: 07/12/2022

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W025-1W

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

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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)

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**VEGETATION**

Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1. <u>Green Ash (<i>Fraxinus pennsylvanica</i>)</u>	50	FACW	Tree
2. <u>Sweet Gum (<i>Liquidambar styraciflua</i>)</u>	30	FAC	Tree
3. <u>Sweet Pepperbush (<i>Clethra alnifolia</i>)</u>	50	FACW	Sapling/Shrub
4. <u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u> 40		FACW	Sapling/Shrub

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:

Subgroup:

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:  e  o  a  f  a  e  e  o  e

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### 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.

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**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-W026-1U

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)

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

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:

Subgroup:

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 3/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes  No



Rationale:     a  a  a  e     a   o    o  a   o        a  o    e  f  a  a  4   
  e

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### 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.

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**Data Form**

**Routine Onsite Determination Form**

Field Investigators: HB, MD

Date: 07/12/2022

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W026-1W

Note: if a more detailed site description is necessary, provide detail here: POW 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>Pondweed (Potamogeton sp.)</u>	5	OBL	Herb

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

Is the hydrophytic vegetation criterion met? Yes  No

Rationale: Only species is OBL.

**SOILS**

Series/Phase:

Subgroup:

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:

Mottle Colors:

Other hydric soil indicators:

Is the hydric soil criterion met? Yes  No

Rationale:  o  a  e  o  e  a

### HYDROLOGY

Is the ground surface inundated? Yes  No  Surface water depth: 48"+

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: Geomorphic position and drainage patterns.

Is the wetland hydrology criterion met? Yes  No

Rationale: Multiple primary and secondary indicators present.

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**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-W027-1U

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)

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

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:

Subgroup:

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 3/1 (100%) Mottle Colors: N/A

Other hydric soil indicators: None

Is the hydric soil criterion met? Yes  No

Rationale:     a  a  a  e     a   o    o  a   o   o       a  o   e  f  a  a  4   
  e

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### 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.

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**Data Form**

**Routine Onsite Determination Form**

Field Investigators: HB, MD

Date: 07/12/2022

Project/Site: Atlantic Shores

State: NJ

County: Monmouth

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W027-1W

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

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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)

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**VEGETATION**

Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1. <u>Green Ash (<i>Fraxinus pennsylvanica</i>)</u>	50	FACW	Tree
2. <u>Sweet Gum (<i>Liquidambar styraciflua</i>)</u>	30	FAC	Tree
3. <u>Sweet Pepperbush (<i>Clethra alnifolia</i>)</u>	50	FACW	Sapling/Shrub
4. <u>Highbush Blueberry (<i>Vaccinium corymbosum</i>)</u>	40	FACW	Sapling/Shrub

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.

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**SOILS**

Series/Phase:

Subgroup:

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:  e  o  a  f  a  e  e  o  e

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### 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.

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## 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	

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

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
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"/> 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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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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

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )			
1. <u><i>Acer rubrum</i> / Red maple</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2. <u><i>Juniperus virginiana</i> / Eastern red-cedar</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>
3. <u><i>Liquidambar styraciflua</i> / Sweetgum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>70</u>	<u>= Total Cover</u>	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>0</u>	<u>= Total Cover</u>	

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

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Woody Vine Stratum</b> (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: 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 ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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    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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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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	
<b>Tree Stratum</b> (Plot size: 30 Feet )				
1. <i>Acer rubrum</i> / Red maple	80	Yes	FAC	
2.				
3.				
4.				
5.				
6.				
7.				
	80	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15 Feet )				
1. <i>Acer rubrum</i> / Red maple	80	Yes	FAC	
2.				
3.				
4.				
5.				
6.				
7.				
	80	= Total Cover		
<b>Herb Stratum</b> (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		
<b>Woody Vine Stratum</b> (Plot size: 30 Feet )				
1.				
2.				
3.				
4.				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
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)
<b>Prevalence Index worksheet:</b>	
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	
<b>Hydrophytic Vegetation Indicators:</b>	
<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 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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"/> 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 _____ 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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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	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (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		
<b>Woody Vine Stratum</b> (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 ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  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 _____	<b>Is the Sampled Area within a Wetland?</b> 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

<b>Wetland Hydrology Indicators:</b>	
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)	

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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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	
<b>Tree Stratum</b> (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		
<b>Sapling/Shrub Stratum</b> (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		
<b>Herb Stratum</b> (Plot size: 5 Feet )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	0	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 30 Feet )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
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)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 20	x 2 = 40
FAC species 85	x 3 = 255
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 105 (A)	295 (B)
Prevalence Index = B/A = 2.81	
<b>Hydrophytic Vegetation Indicators:</b>	
___ 1 - Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
<input checked="" type="checkbox"/> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> 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-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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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"/> 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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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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	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1. <u><i>Pinus rigida</i> / Pitch pine</u>	20	Yes	FACU	
2. <u><i>Acer rubrum</i> / Red maple</u>	15	Yes	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	35	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1. <u><i>Betula alleghaniensis</i> / Yellow birch</u>	30	Yes	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	30	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1. <u><i>Smilax rotundifolia</i> / Horsebrier</u>	10	Yes	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	10	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>75.0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
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 = <u>3.27</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
<input type="checkbox"/> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> 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-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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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 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)	

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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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	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>10</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>5</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>15</u>	(A) <u>35</u> (B)
Prevalence Index = B/A = <u>2.33</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<u>  </u> 1 - Rapid Test for Hydrophytic Vegetation	
<u>X</u> 2 - Dominance Test is >50%	
<u>X</u> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
<u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>  </u>	

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-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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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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
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )			
1. <u>Quercus velutina / Black oak</u>	<u>50</u>	<u>Yes</u>	<u>NI</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
	<u>50</u>	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )			
1. <u>Berberis thunbergii / Japanese barberry</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
	<u>15</u>	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )			
1. <u>Allium / Onion</u>	<u>5</u>	<u>Yes</u>	<u>NI</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
	<u>5</u>	= Total Cover	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )			
1. <u>Celastrus orbiculatus / Asian bittersweet</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
2. _____			
3. _____			
4. _____			
	<u>20</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>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 ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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    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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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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	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1. <u><i>Acer rubrum</i> / Red maple</u>	<u>20</u>	Yes	FAC	
2. <u><i>Quercus bicolor</i> / Swamp white oak</u>	<u>10</u>	Yes	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>30</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1. <u><i>Clethra alnifolia</i> / Coastal sweet-pepperbush</u>	<u>10</u>	Yes	FAC	
2. <u><i>Acer rubrum</i> / Red maple</u>	<u>5</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>15</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1. <u><i>Osmunda cinnamomea</i> / Cinnamon fern</u>	<u>15</u>	Yes	FACW	
2. <u><i>Microstegium vimineum</i> / Japanese stilt grass</u>	<u>5</u>	Yes	FAC	
3. <u><i>Carex stricta</i> / Uptight sedge</u>	<u>5</u>	Yes	OBL	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>25</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>7</u> (A)
Total Number of Dominant Species Across All Strata:	<u>7</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
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 = <u>2.5</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<u>  </u> 1 - Rapid Test for Hydrophytic Vegetation	
<u>X</u> 2 - Dominance Test is >50%	
<u>X</u> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
<u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>  </u>	

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 <sup>1</sup>	Loc <sup>2</sup>		
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	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: 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 Soils<sup>3</sup>:**

- 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)

<sup>3</sup>Indicators 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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"/> 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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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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

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
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		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
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		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
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		
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>40.0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
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 = <u>3.88</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input type="checkbox"/> 2 - Dominance Test is >50%	
<input type="checkbox"/> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes <input 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-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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)	

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No _____
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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

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

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

20 = Total Cover			
Herb Stratum (Plot size: 5 Feet)			
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.			

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: 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 ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.)			

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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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

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1. <u>Quercus velutina / Black oak</u>	<u>20</u>	Yes	NI	
2. <u>Acer rubrum / Red maple</u>	<u>10</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>30</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1. <u>Aster / Aster</u>	<u>5</u>	Yes	NI	
2. <u>Smilax rotundifolia / Horsebrier</u>	<u>5</u>	Yes	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>10</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50.0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
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 = <u>4.25</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<u>  </u> 1 - Rapid Test for Hydrophytic Vegetation	
<u>  </u> 2 - Dominance Test is >50%	
<u>  </u> 3 - Prevalence Index ≤3.0 <sup>1</sup>	
<u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes <u>  </u> No <u>  X  </u>	

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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)

**HYDROLOGY**

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

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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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	
<b>Tree Stratum</b> (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		
<b>Sapling/Shrub Stratum</b> (Plot size: 15 Feet )				
1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush	40	Yes	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	40	= Total Cover		
<b>Herb Stratum</b> (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		
<b>Woody Vine Stratum</b> (Plot size: 30 Feet )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>
Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)
Total Number of Dominant Species Across All Strata: <u>5</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)
<b>Prevalence Index worksheet:</b>
Total % Cover of: <u>20</u> 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 = <u>2.71</u>
<b>Hydrophytic Vegetation Indicators:</b>
<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 <sup>1</sup>
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Definitions of Vegetation Strata</b>
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.
<b>Hydrophytic Vegetation Present?</b> 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-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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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"/> 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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> 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	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1. <u>Quercus velutina / Black oak</u>	<u>20</u>	Yes	NI	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>20</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1. <u>Clethra alnifolia / Coastal sweet-pepperbush</u>	<u>25</u>	Yes	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>25</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1. <u>Smilax rotundifolia / Horsebrier</u>	<u>5</u>	Yes	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>5</u>	= Total Cover		
<b>Woody Vine Stratum</b> (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: 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 ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.)

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
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"/> 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 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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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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	
<b>Tree Stratum</b> (Plot size: 30 Feet )				
1. <i>Acer rubrum</i> / Red maple	35	Yes	FAC	
2.				
3.				
4.				
5.				
6.				
7.				
	35	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15 Feet )				
1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush	45	Yes	FAC	
2.				
3.				
4.				
5.				
6.				
7.				
	45	= Total Cover		
<b>Herb Stratum</b> (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		
<b>Woody Vine Stratum</b> (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 ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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"/> 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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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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
<b>Tree Stratum</b> (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			
<b>Sapling/Shrub Stratum</b> (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			

<b>Herb Stratum</b> (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			

<b>Woody Vine Stratum</b> (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 ≤ 3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  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: 02/21/2023  
 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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)

- 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): 12+  
 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-W016-1W

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>0</u>	= Total Cover		
<b>Woody Vine Stratum</b> (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: 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 ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  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 City/County: Wall Township, Monmouth County, NJ Sampling Date: 03/08/2023  
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W017-1U  
 Investigator(s): TCAL 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: 40.155326 Long: -74.09847 Datum: WGS 1984  
 Soil Map Unit Name: Fallsington loams, 0 to 2 percent slopes, Northern Coastal Plain 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)	

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants.**

Sampling Point: 26-W017-1U

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1.	10	Yes	FACU	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>10</u>	= Total Cover		
<b>Woody Vine Stratum</b> (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>10</u>	x 4 = <u>40</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>10</u> (A)	<u>40</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 ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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             No   X

Remarks: (Explain alternative procedures here or in a separate report.)  
 Roadside, ground covered with weed blocking tarp.





## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South City/County: Wall Township, Monmouth County, NJ Sampling Date: 03/08/2023  
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W017-1W  
 Investigator(s): TCAL Section, Township, Range: Wall Township, Monmouth County, NJ  
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): concave Slope (%): 0-3  
 Subregion (LRR or MLRA): LRR S Lat: 40.15534833 Long: -74.09837933 Datum: WGS 1984  
 Soil Map Unit Name: Fallsington loams, 0 to 2 percent slopes, Northern Coastal Plain 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 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"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants.**

Sampling Point: 26-W017-1W

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1.	30	Yes	OBL	<i>Typha latifolia</i> / Broadleaf cattail, Broad-leaved cattail
2.	10	Yes	OBL	<i>Juncus effusus</i> / Common bog rush, Soft or lamp rush
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>40</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species <u>40</u>	x 1 = <u>40</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>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>40</u>	(A) <u>40</u> (B)
Prevalence Index = B/A = <u>1.0</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input checked="" 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 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> 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 City/County: Wall Township, Monmouth County, NJ Sampling Date: 03/08/2023  
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W018-1U  
 Investigator(s): TCAL Section, Township, Range: Wall Township, Monmouth County, NJ  
 Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): convex Slope (%): 10-20  
 Subregion (LRR or MLRA): LRR S Lat: 40.171136 Long: -74.0826715 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 _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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"/> 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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION - Use scientific names of plants.**

Sampling Point: 26-W018-1U

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )			
1. <u>Quercus alba / White oak</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Ilex opaca / American holly</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
	<u>45</u>	<u>= Total Cover</u>	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )			
1. <u>Clethra alnifolia / Coastal sweet-pepperbush</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
	<u>30</u>	<u>= Total Cover</u>	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
	<u>0</u>	<u>= Total Cover</u>	

	Absolute % Cover	Dominant Species?	Indicator Status
<b>Woody Vine Stratum</b> (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: 1 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (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>45</u>	x 4 = <u>180</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>75</u> (A)	<u>270</u> (B)

Prevalence Index = B/A = 3.6

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  No

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



## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: COP South City/County: Wall Township, Monmouth County, NJ Sampling Date: 03/08/2023  
 Applicant/Owner: ASOW State: New Jersey Sampling Point: 26-W018-1W  
 Investigator(s): TCAL Section, Township, Range: Wall Township, 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: 40.1712025 Long: -74.08270417 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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



**VEGETATION - Use scientific names of plants.**

Sampling Point: 26-W018-1W

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 30 Feet )				
1. <i>Acer rubrum</i> / Red maple	35	Yes	FAC	
2.				
3.				
4.				
5.				
6.				
7.				
	35	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15 Feet )				
1. <i>Clethra alnifolia</i> / Coastal sweet-pepperbush	65	Yes	FAC	
2.				
3.				
4.				
5.				
6.				
7.				
	65	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5 Feet )				
1. <i>Smilax rotundifolia</i> / Horsebrier	5	Yes	FAC	
2. <i>Symplocarpus foetidus</i> / Skunk-cabbage	5	Yes	OBL	
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	10	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 30 Feet )				
1.				
2.				
3.				
4.				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
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)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species 5	x 1 = 5
FACW species 0	x 2 = 0
FAC species 105	x 3 = 315
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 110	(A) 320 (B)
Prevalence Index = B/A = 2.91	
<b>Hydrophytic Vegetation Indicators:</b>	
<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 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> 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: 02/15/2023  
 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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)	

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> 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	
<b>Tree Stratum</b> (Plot size: <u>30 Feet</u> )				
1. <u>Betula lenta / Sweet birch</u>	<u>40</u>	Yes	FACU	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>40</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5 Feet</u> )				
1. <u>Allium / Onion</u>	<u>5</u>	Yes	NI	
2. <u>Lonicera japonica / Japanese honeysuckle</u>	<u>5</u>	Yes	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>10</u>	= Total Cover		
<b>Woody Vine Stratum</b> (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 ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation<sup>1</sup> (Explain )

<sup>1</sup>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  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 _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b>	
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)	

<b>Field Observations:</b> 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)	<b>Wetland Hydrology Present?</b> 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	
<b>Tree Stratum</b> (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		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	0	= Total Cover		
<b>Herb Stratum</b> (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		
<b>Woody Vine Stratum</b> (Plot size: <u>30 Feet</u> )				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
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 = <u>1.67</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input checked="" 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 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting Problematic Hydrophytic Vegetation <sup>1</sup> (Explain )	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata</b>	
<b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> - All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

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





## **APPENDIX C**

Photo Documentation



**Photograph 1.** Standing on Asbury Avenue looking southwest at W022 (PFO).



**Photograph 2.** Standing on Asbury Avenue on the edge of W024 (PFO) looking west-northwest.





**Photograph 3.** Standing north of Asbury Avenue on the boundary of W025 (PFO).



**Photograph 4.** Standing north of Tiltons Corner Road on the boundary of W018 (PFO) looking north.





**Photograph 5.** Standing in the western right-of-way of Allenwood Lakewood Road looking north-northwest at W017 (PFO).



**Photograph 6.** Standing in W017A (PFO).





**Photograph 7.** Standing along the bank of S008 (Beaverdam Creek).



**Photograph 8.** Standing in W013 (PFO).





**Photograph 9.** Standing in W008 (PEM) on the west side of Highway 70 looking west.



**Photograph 10.** Standing in the east right-of-way of Old Bridge Road looking east at W009 (PFO).





**Photograph 11.** Standing on the bulkhead of S007 (Roberts Swamp Brook) on the west side of Old Bridge Road.

## **APPENDIX D**

Field Delineated Wetlands and Streams Plans



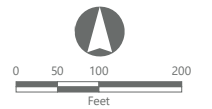
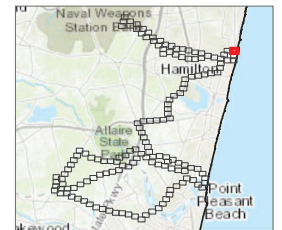


### Atlantic Shores North Offshore Wind – New Jersey Onshore Project Study Area

Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township  
Monmouth and Ocean County, New Jersey

#### Wetland Delineation Report

 Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery





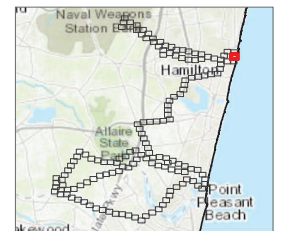


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Monmouth and Ocean County, New Jersey

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 Study Area



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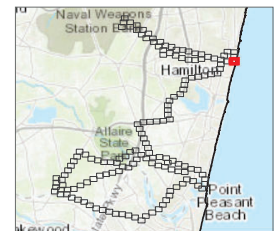


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Monmouth and Ocean County, New Jersey

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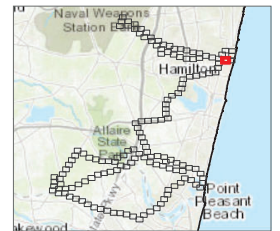


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 Study Area



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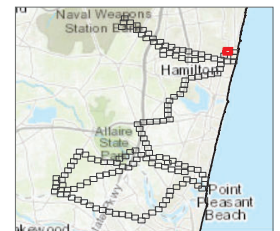


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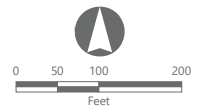
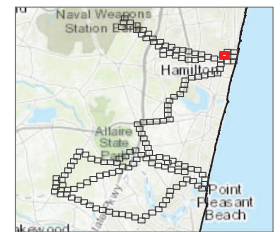


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Monmouth and Ocean County, New Jersey

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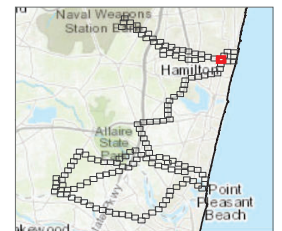


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Monmouth and Ocean County, New Jersey

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 Study Area



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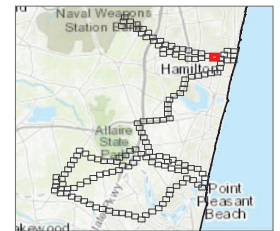


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Monmouth and Ocean County, New Jersey

#### Wetland Delineation Report

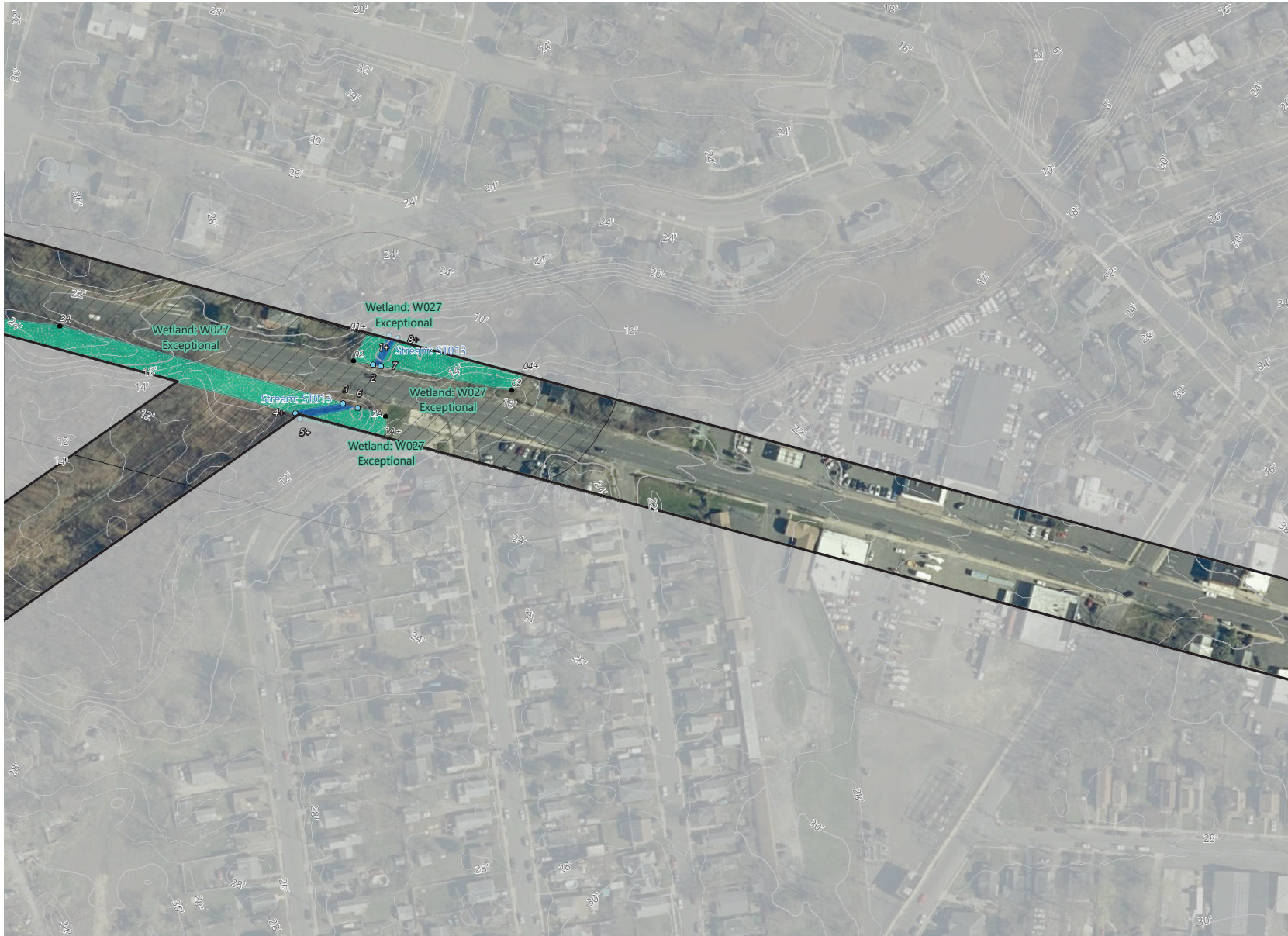
 Study Area



Prepared March 23, 2023  
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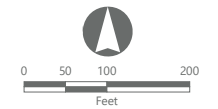
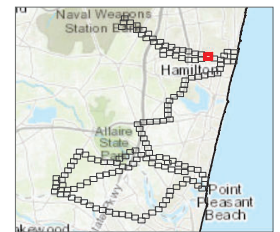


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 Monmouth and Ocean County, New Jersey

#### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- Delineated Stream
- Delineated Wetland
- Wetland Transition Area
- Study Area



Prepared March 23, 2023  
 Basemap: NJ Office of GIS 2020 Natural Color Imagery





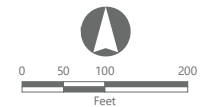
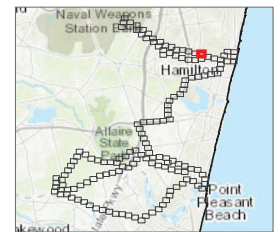


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Monmouth and Ocean County, New Jersey

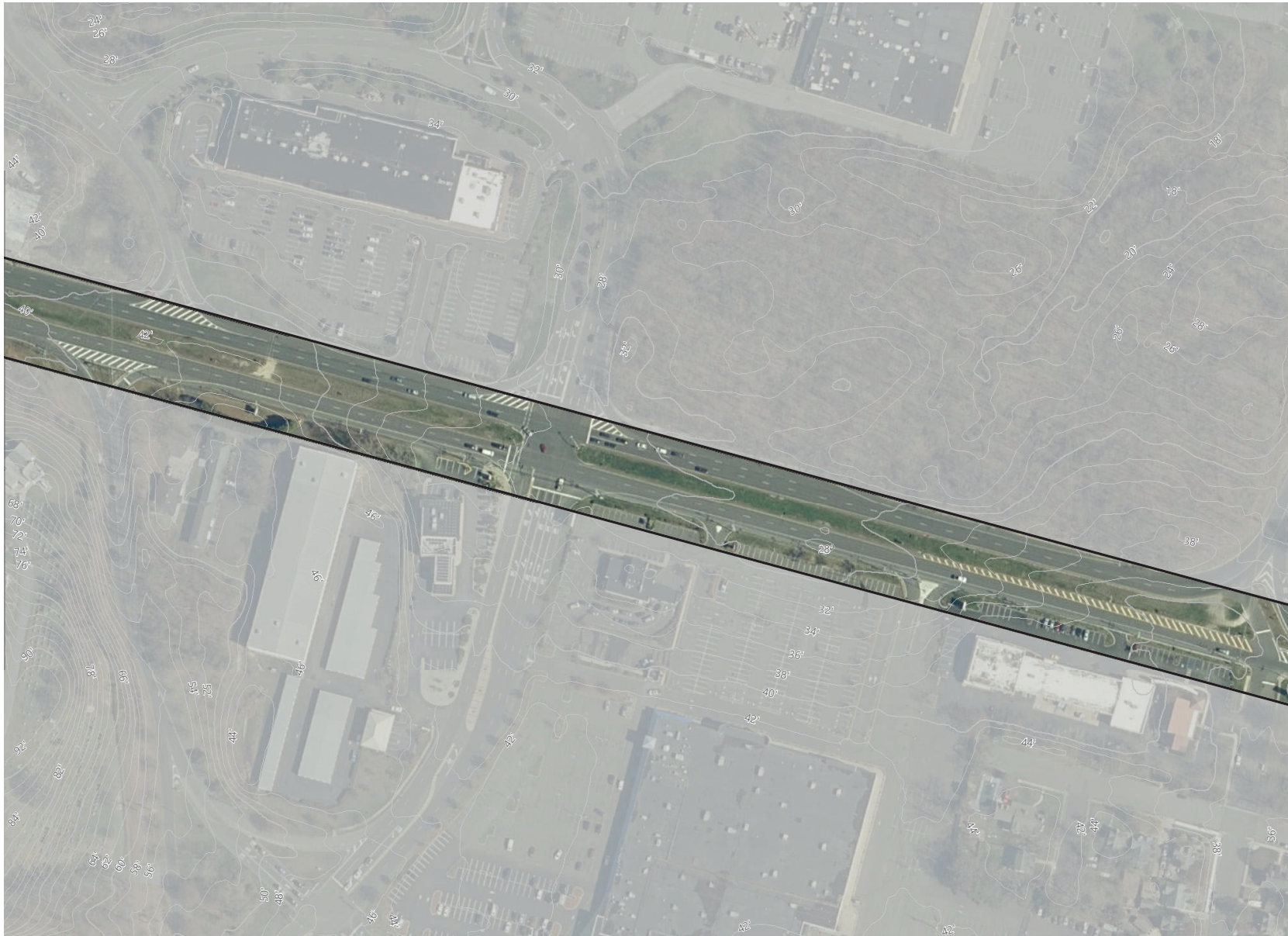
#### Wetland Delineation Report

- Wetland Flag
- ▨ Delineated Wetland
- ▨ Wetland Transition Area
- ▭ Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery



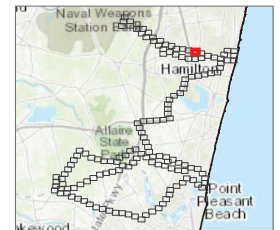


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#### Wetland Delineation Report

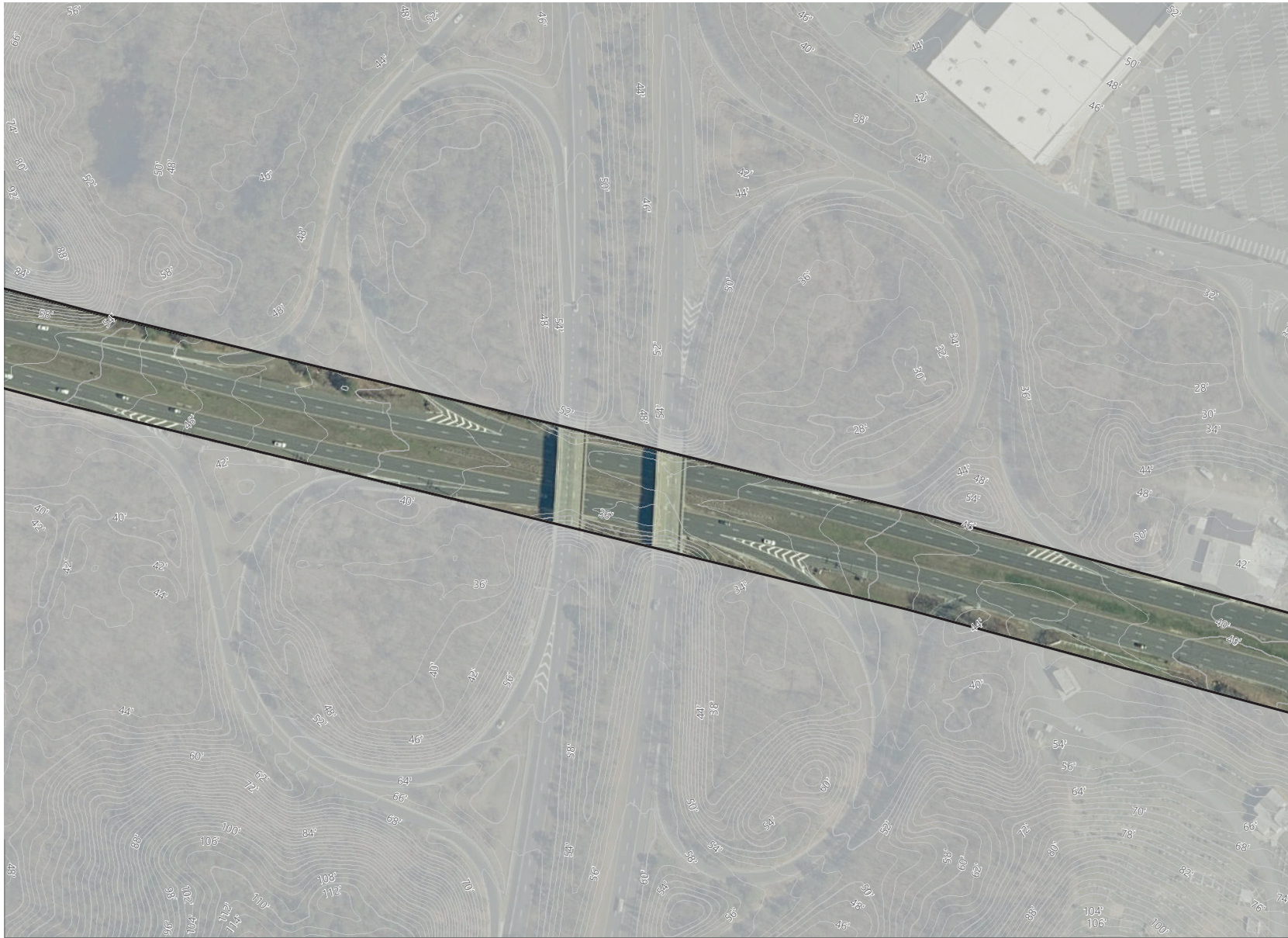
 Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery





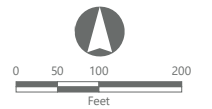
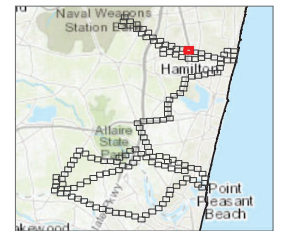


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Monmouth and Ocean County, New Jersey

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 Study Area



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Basemap: NJ Office of GIS 2020 Natural Color Imagery





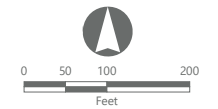
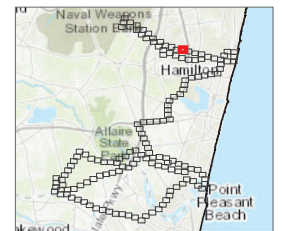


### Atlantic Shores North Offshore Wind – New Jersey Onshore Project Study Area

Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township  
Monmouth and Ocean County, New Jersey

#### Wetland Delineation Report

- Wetland Flag
- Delineated Wetland
- ▨ Wetland Transition Area
- ▭ Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery

ATLANTIC SHORES  
offshore wind

EDR









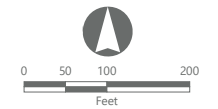
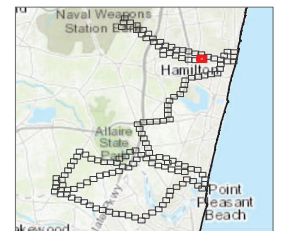


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#### Wetland Delineation Report

-  Wetland Transition Area
-  Study Area



Prepared March 23, 2023  
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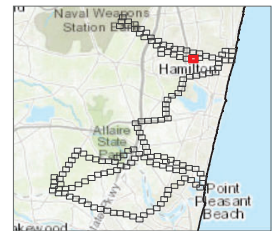


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#### Wetland Delineation Report

 Study Area



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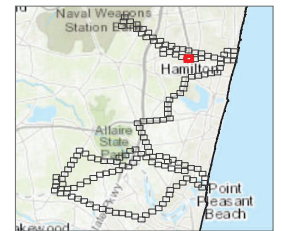


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#### Wetland Delineation Report

 Study Area



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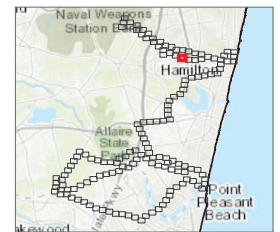


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#### Wetland Delineation Report

 Study Area



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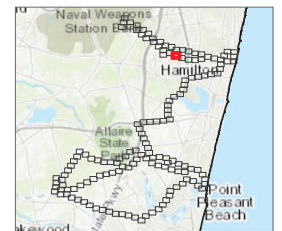


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#### Wetland Delineation Report

 Study Area



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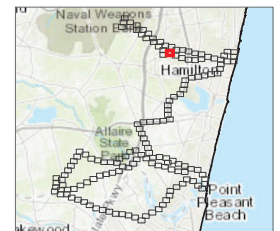


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#### Wetland Delineation Report

-  Desktop Delineated Area
-  Study Area



Prepared March 23, 2023  
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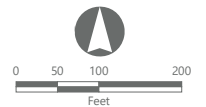
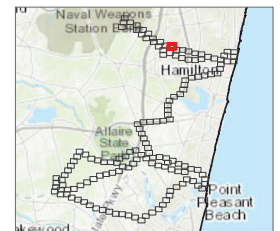


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#### Wetland Delineation Report

 Study Area



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EDR



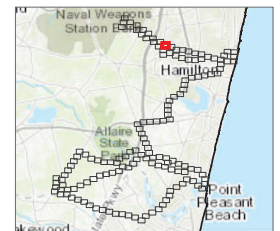


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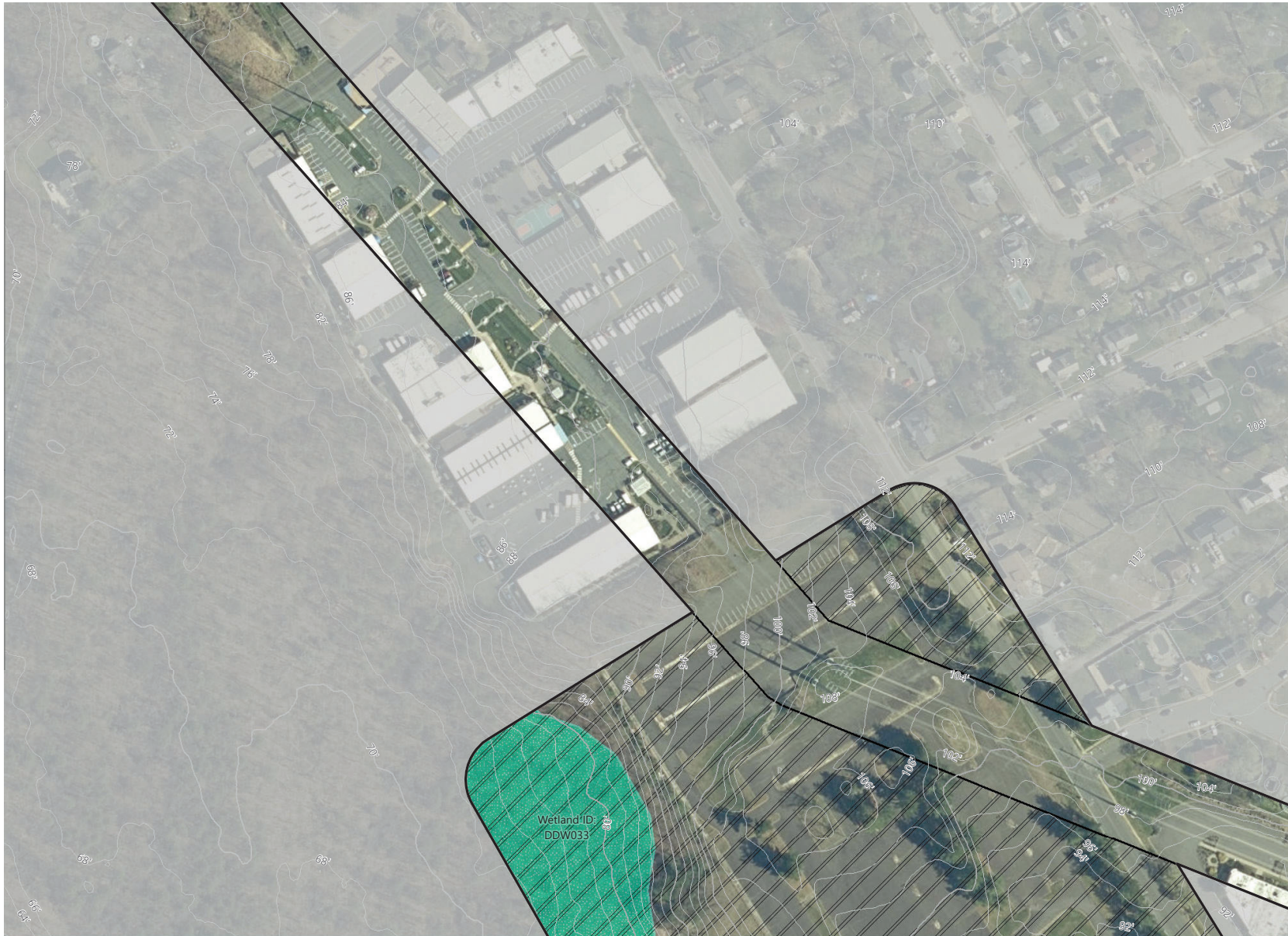
### Wetland Delineation Report

- Wetland Flag
-  Delineated Wetland
-  Wetland Transition Area
-  Study Area



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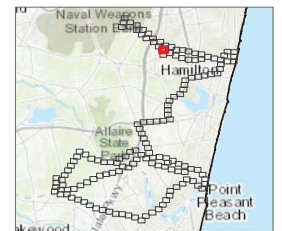


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#### Wetland Delineation Report

-  Desktop Delineated Area
-  Study Area



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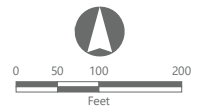
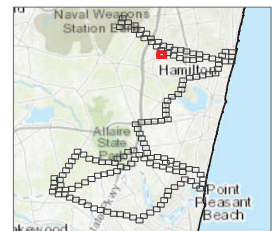


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-  Desktop Delineated Area
-  Study Area



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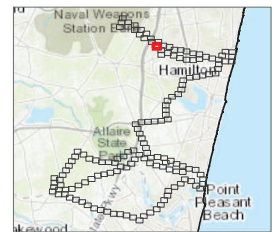


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#### Wetland Delineation Report

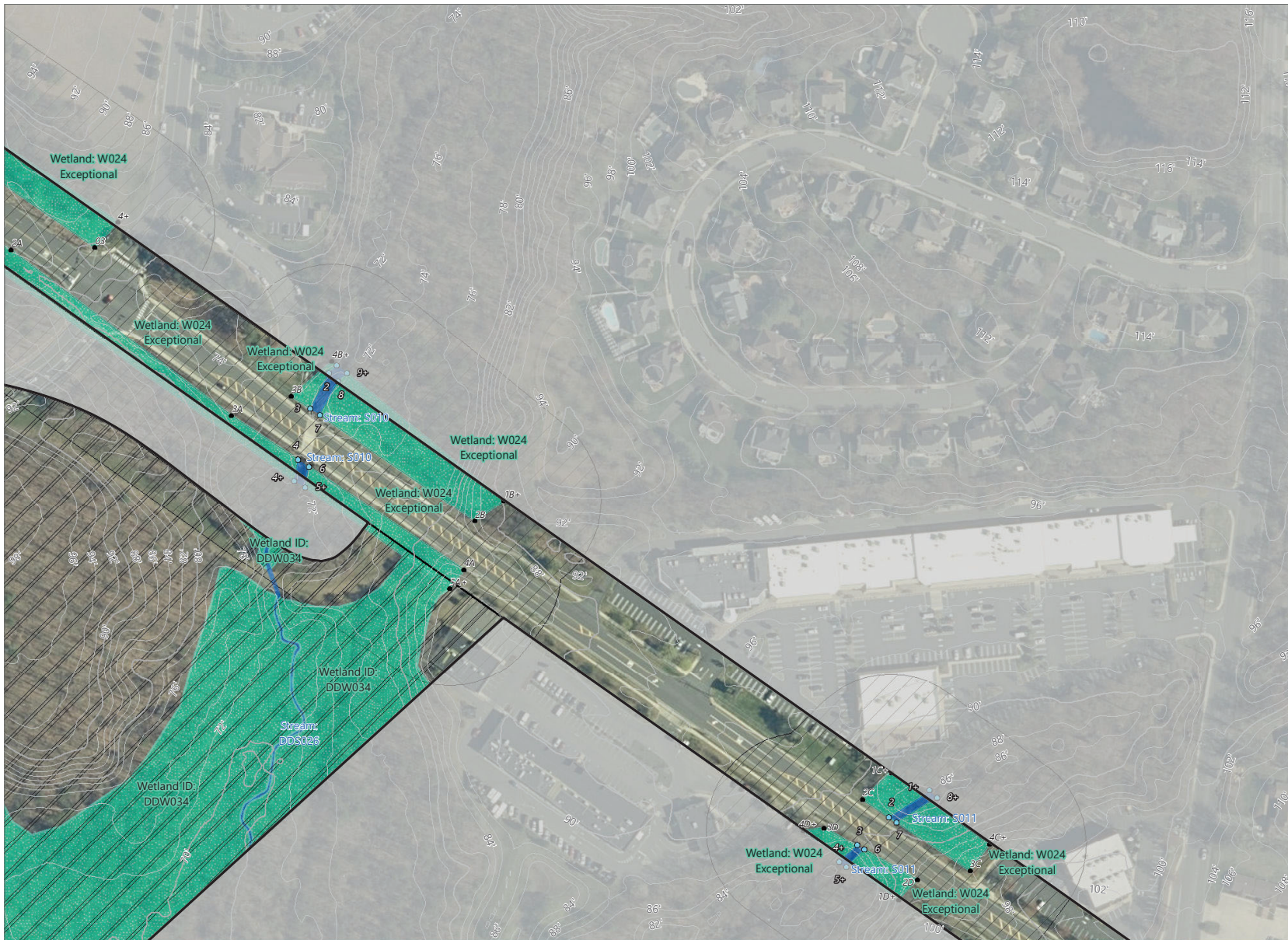
-  Wetland Transition Area
-  Desktop Delineated Area
-  Study Area



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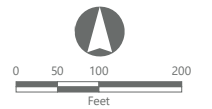
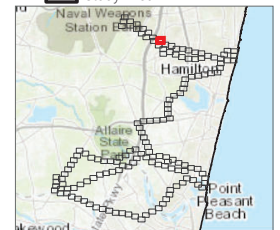


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#### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- ▬ Delineated Stream
- ▨ Delineated Wetland
- ▧ Wetland Transition Area
- ▩ Desktop Delineated Area
- ▭ Study Area



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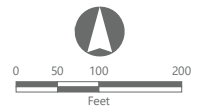
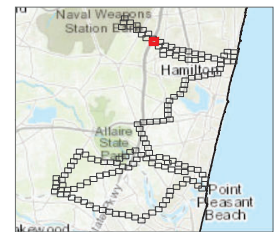


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### Wetland Delineation Report

- Wetland Flag
- Delineated Wetland
- Wetland Transition Area
- Desktop Delineated Area
- Study Area



Prepared March 23, 2023  
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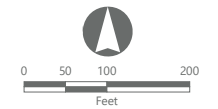
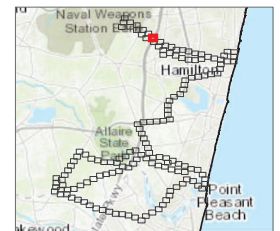


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-  Delineated Wetland
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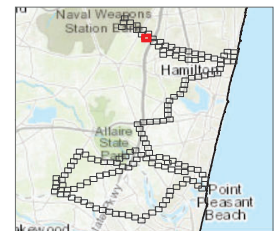


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#### Wetland Delineation Report

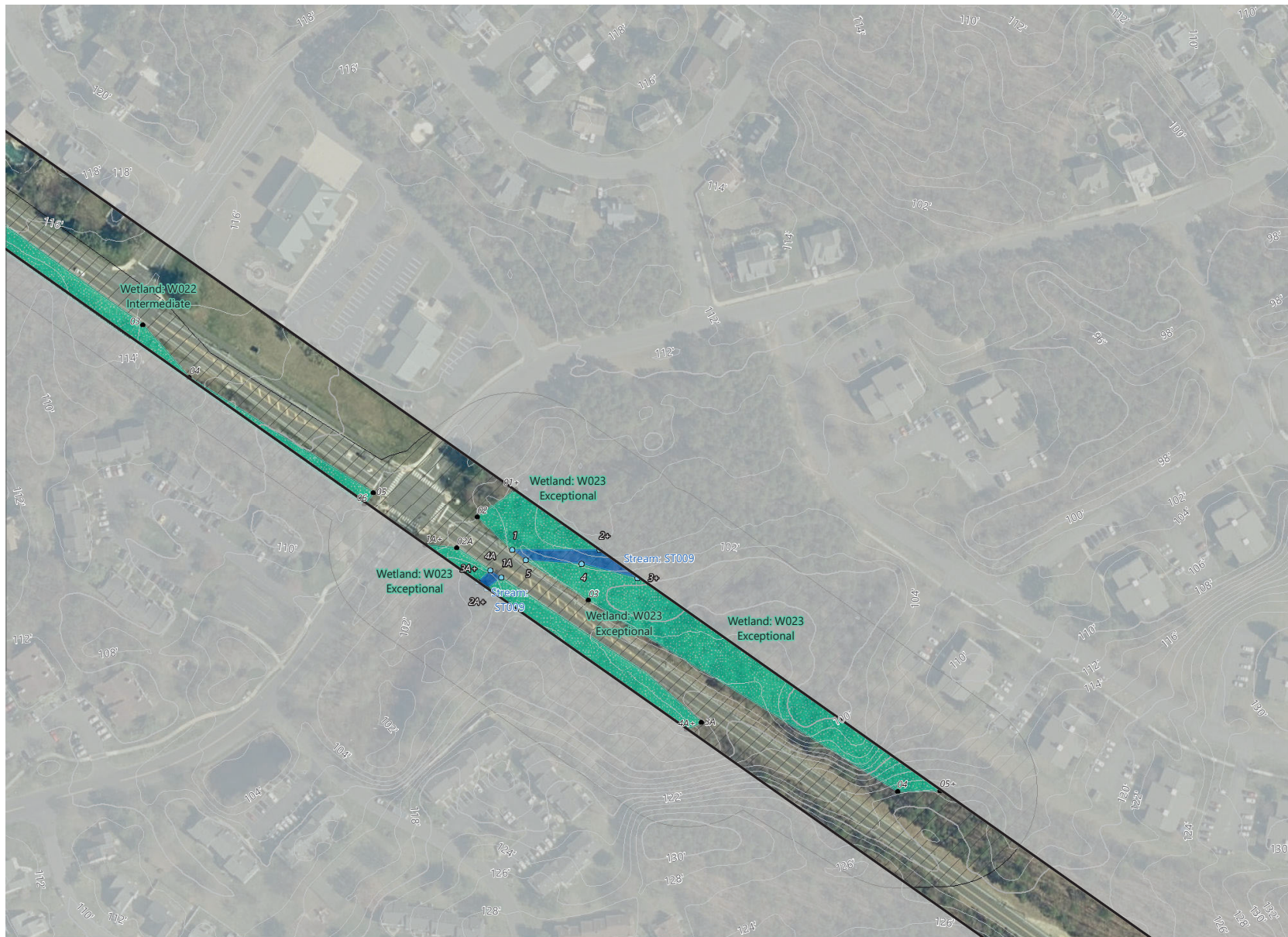
- Wetland Flag
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- ▨ Wetland Transition Area
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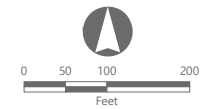
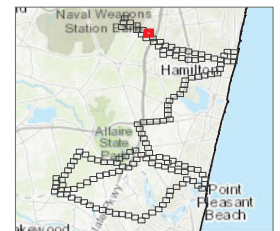


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#### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- Delineated Stream
- Delineated Wetland
- Wetland Transition Area
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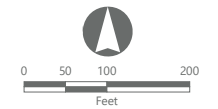
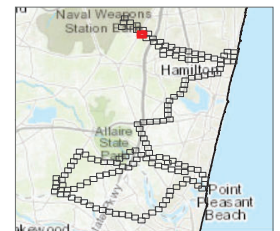


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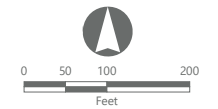
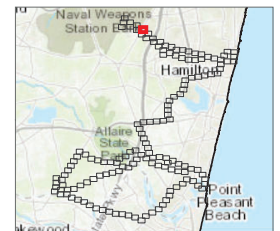


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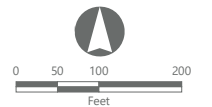
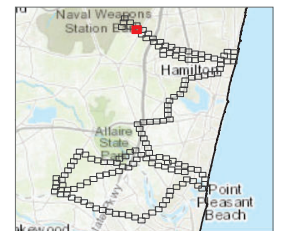


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#### Wetland Delineation Report

 Study Area



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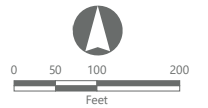
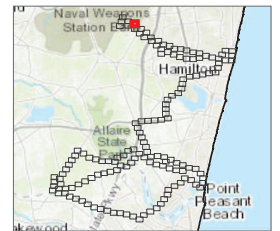


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EDR





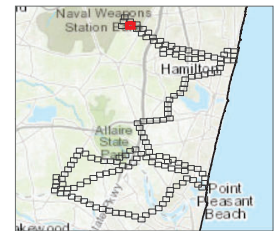


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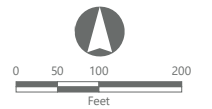
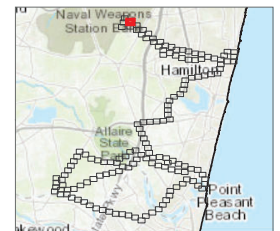


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#### Wetland Delineation Report

-  Desktop Delineated Area
-  Study Area



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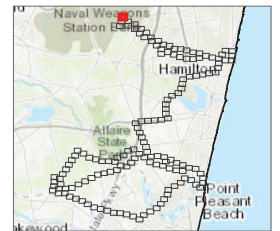


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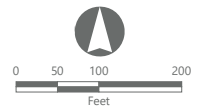
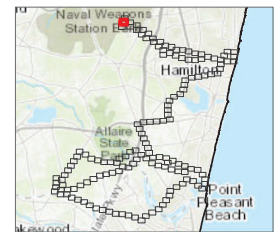


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- Desktop Delineated Area
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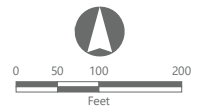
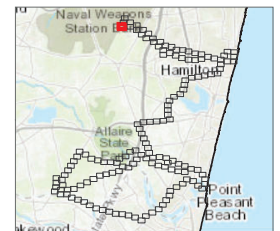


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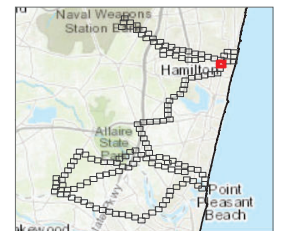


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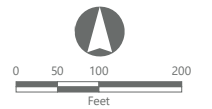
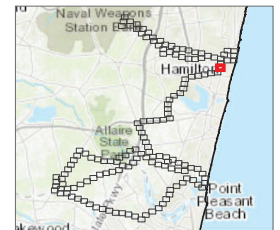


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Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township  
Monmouth and Ocean County, New Jersey

#### Wetland Delineation Report

 Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery





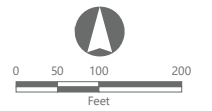
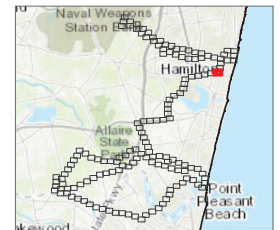


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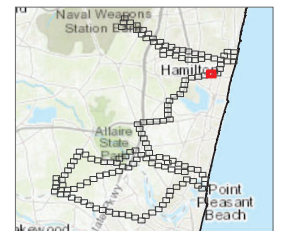


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#### Wetland Delineation Report

 Study Area



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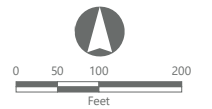
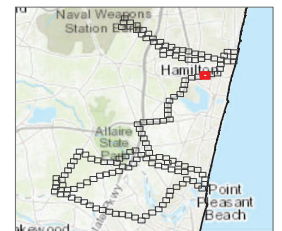


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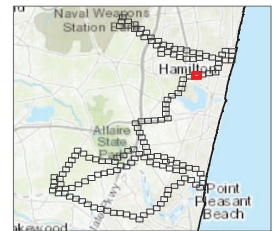


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#### Wetland Delineation Report

 Study Area



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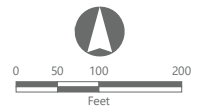
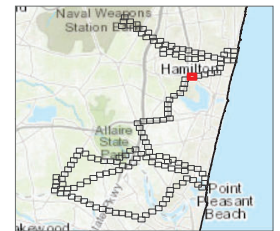


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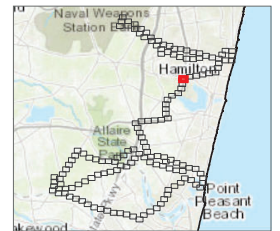


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#### Wetland Delineation Report

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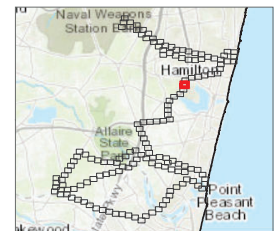


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#### Wetland Delineation Report

 Study Area



Prepared March 23, 2023  
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EDR



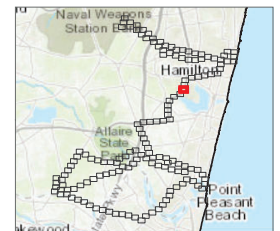


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#### Wetland Delineation Report

 Study Area



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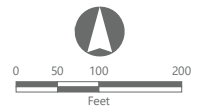
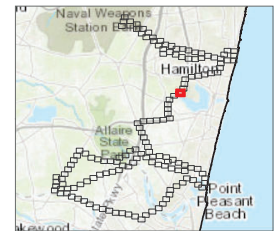


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#### Wetland Delineation Report

-  Delineated Stream
-  Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery





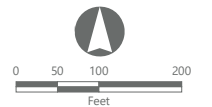
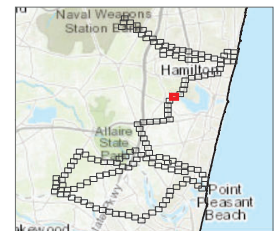


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#### Wetland Delineation Report

 Study Area



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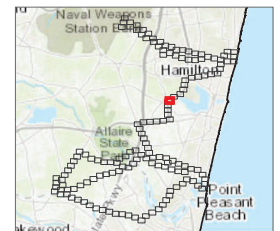


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#### Wetland Delineation Report

- Stream Flag
- Delineated Stream
- Study Area



Prepared March 23, 2023  
 Basemap: NJ Office of GIS 2020 Natural Color Imagery





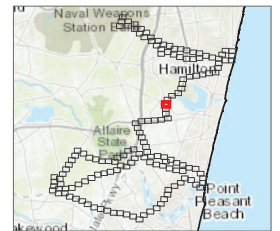


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#### Wetland Delineation Report

 Study Area



Prepared March 23, 2023  
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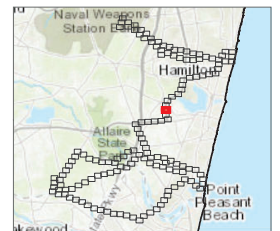


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#### Wetland Delineation Report

 Study Area



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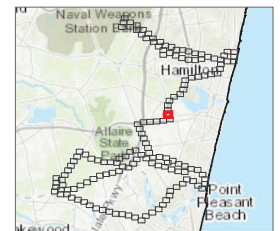


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#### Wetland Delineation Report

 Study Area



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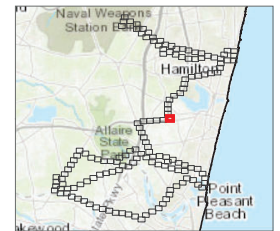


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#### Wetland Delineation Report

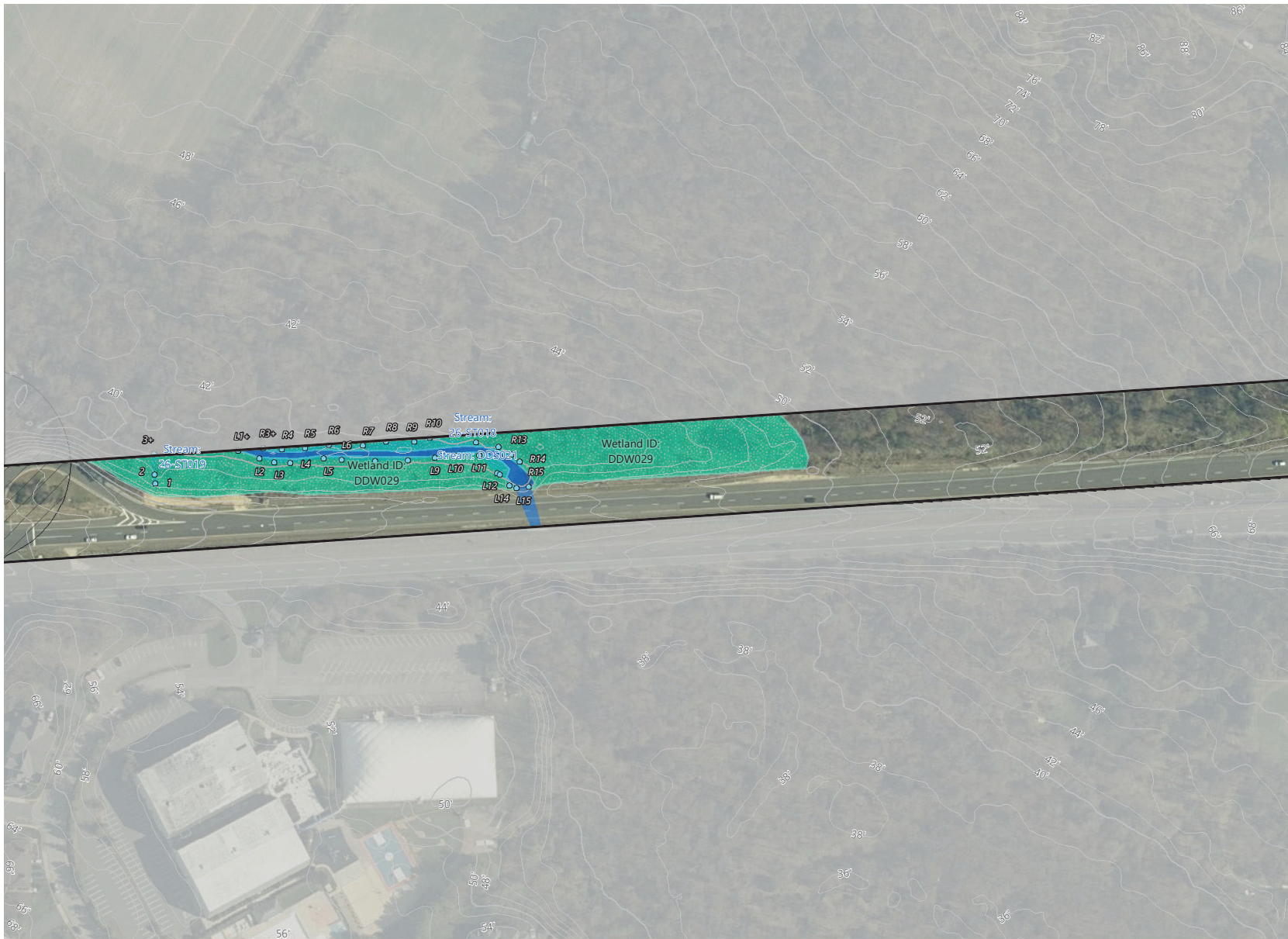
 Study Area



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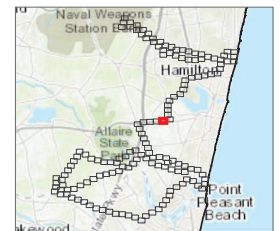


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#### Wetland Delineation Report

- Stream Flag
- Delineated Stream
- Wetland Transition Area
- Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery





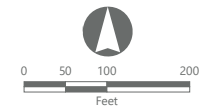
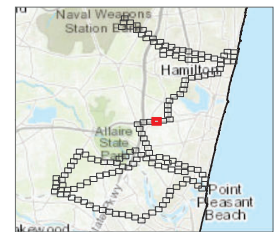


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#### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- Delineated Stream
- Delineated Wetland
- Wetland Transition Area
- Study Area

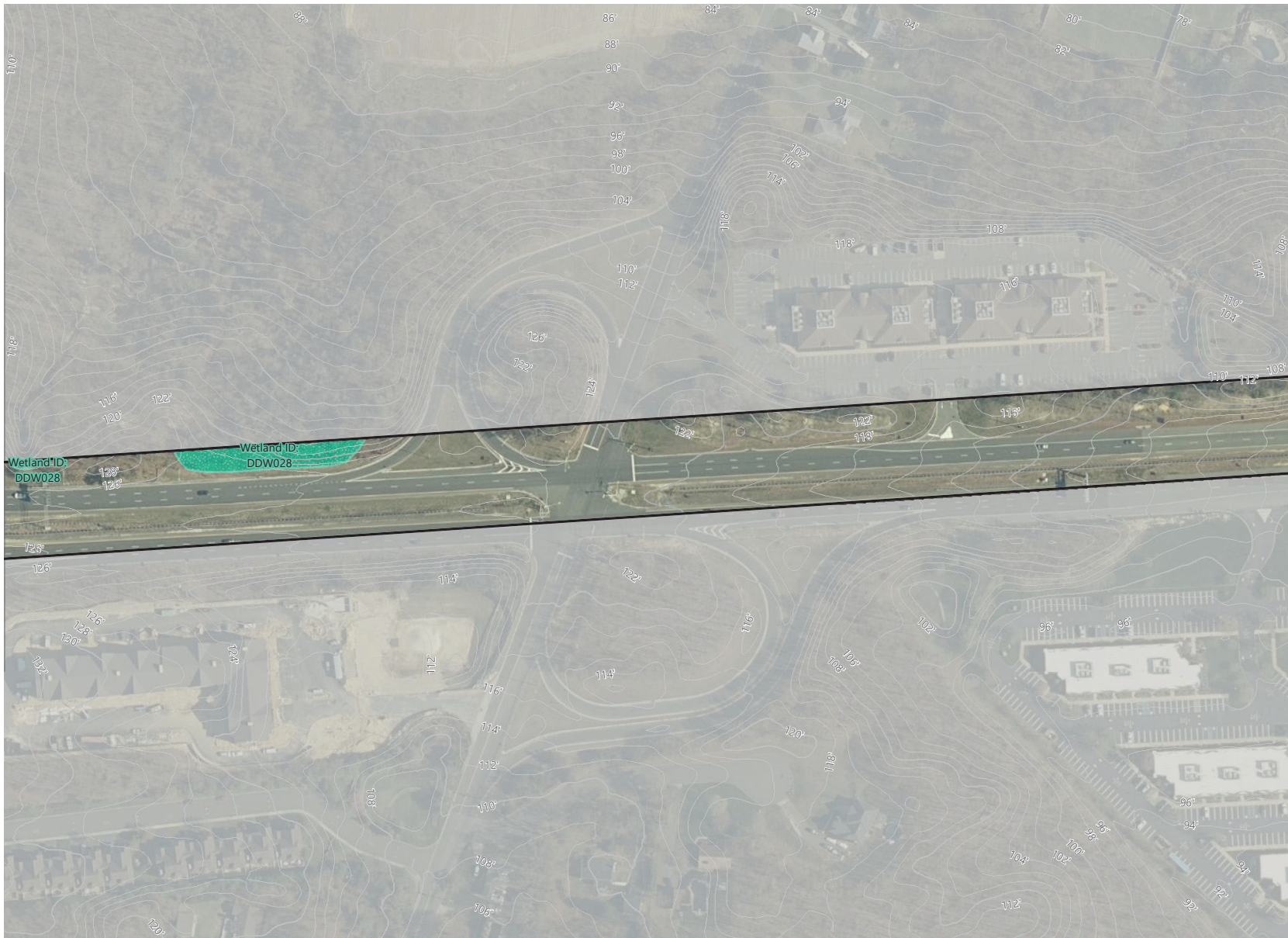


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EDR



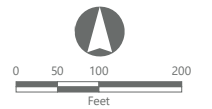
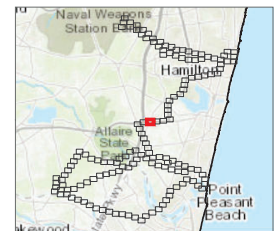


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#### Wetland Delineation Report

 Study Area



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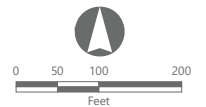
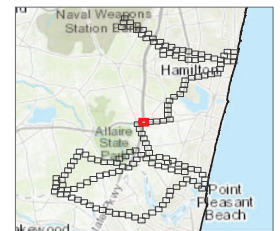


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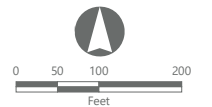
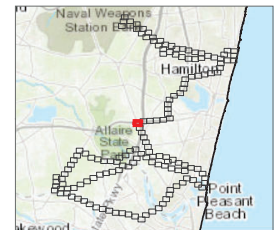


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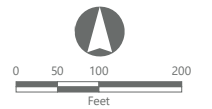
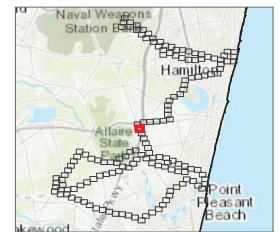


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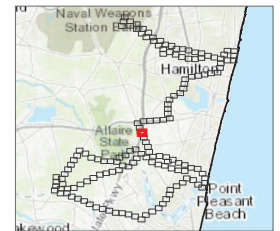


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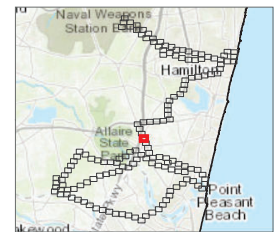


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#### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- Delineated Stream
- Delineated Wetland
- Wetland Transition Area
- Study Area



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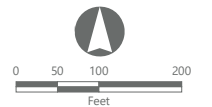
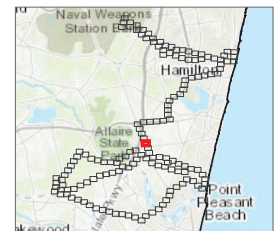


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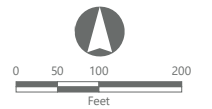
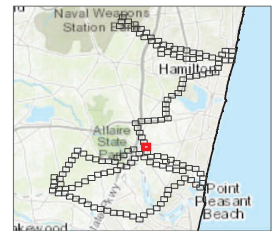


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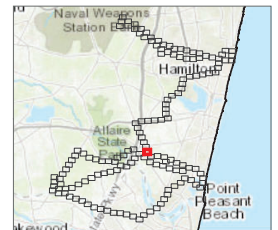


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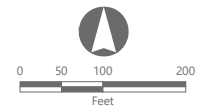
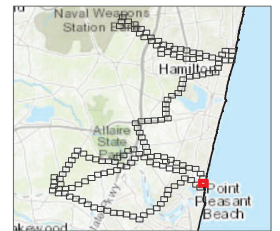


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#### Wetland Delineation Report

- Wetland Flag
-  Delineated Wetland
-  Wetland Transition Area
-  Study Area



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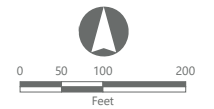
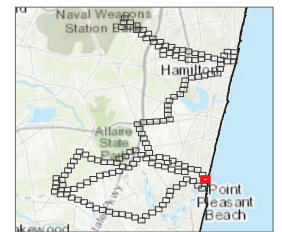


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#### Wetland Delineation Report

- Wetland Flag
- ▨ Delineated Wetland
- ▨ Wetland Transition Area
- ▭ Study Area



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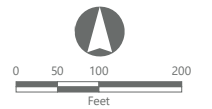
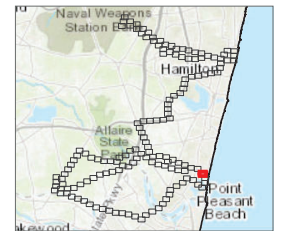


### Atlantic Shores North Offshore Wind – New Jersey Onshore Project Study Area

Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township  
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#### Wetland Delineation Report

 Study Area



Prepared March 23, 2023  
Basemap: NJ Office of GIS 2020 Natural Color Imagery





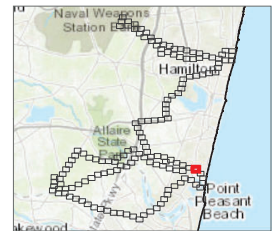


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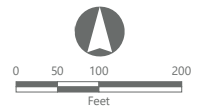
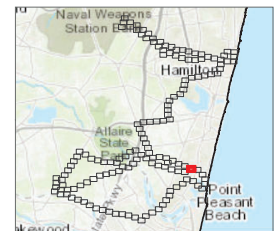


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#### Wetland Delineation Report

- Wetland Flag
- ▨ Delineated Wetland
- ▭ Study Area



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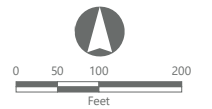
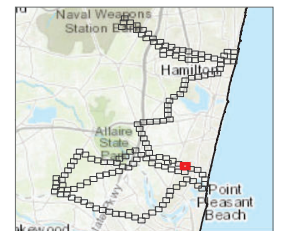


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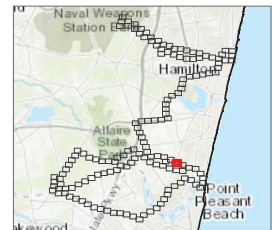


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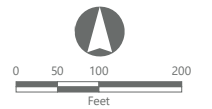
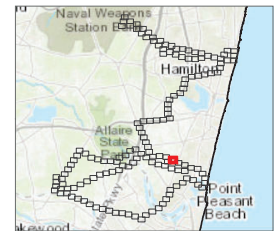


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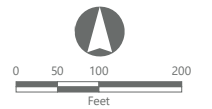
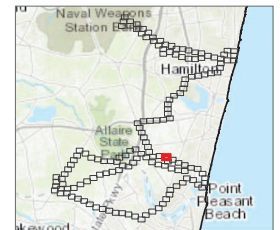


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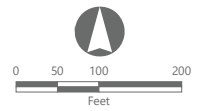
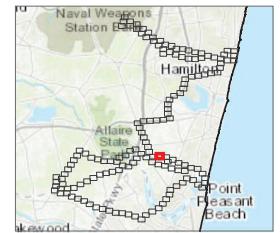


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#### Wetland Delineation Report

- Wetland Flag
- ▨ Delineated Wetland
- ▭ Study Area



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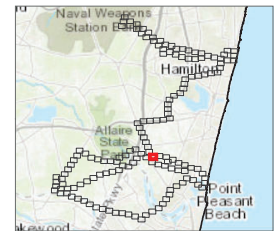


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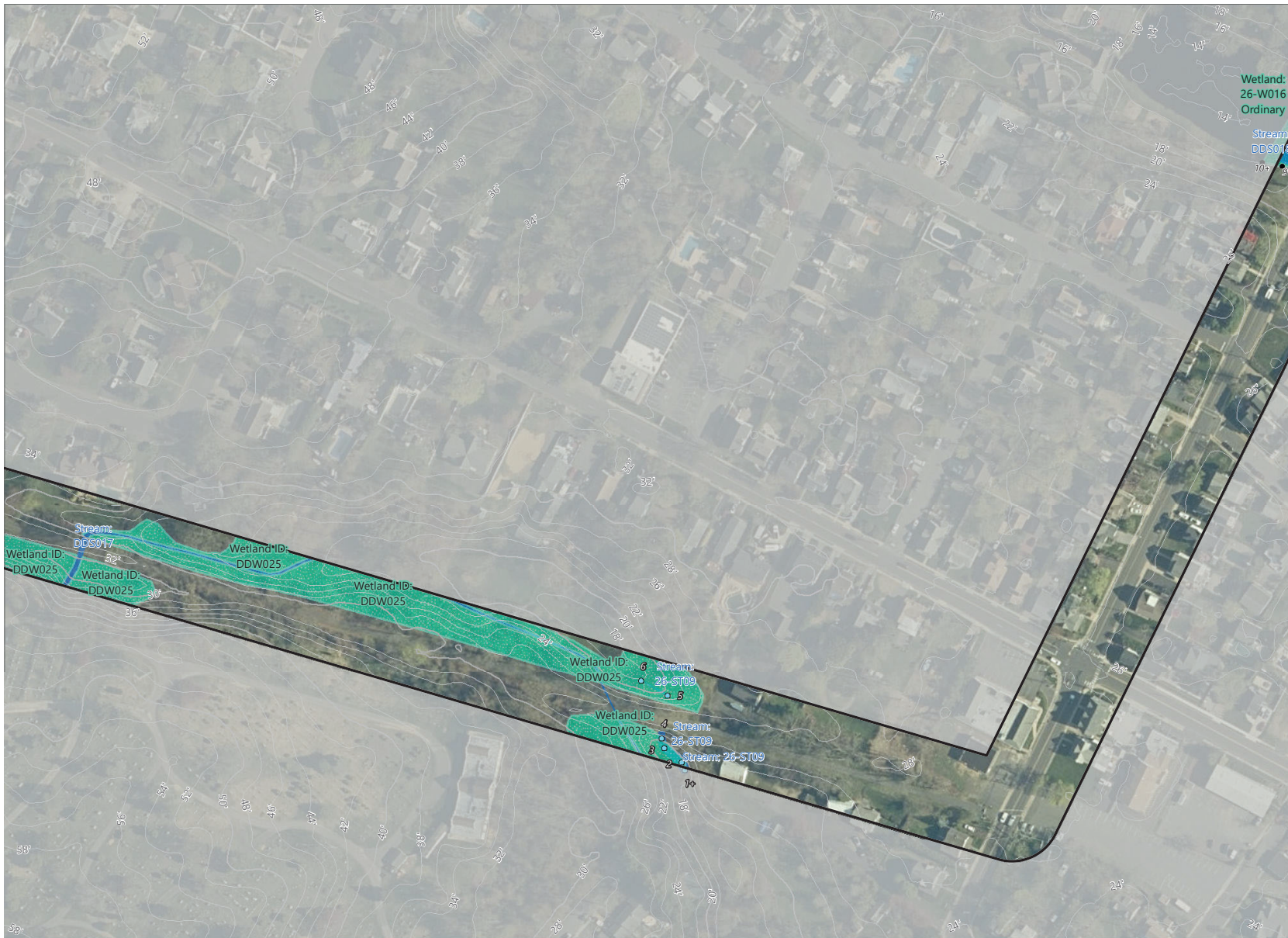
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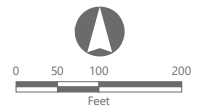
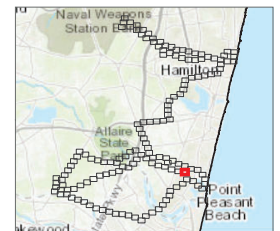


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### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- Delineated Stream
- Delineated Wetland
- Study Area



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**ATLANTIC SHORES**  
offshore wind

EDR



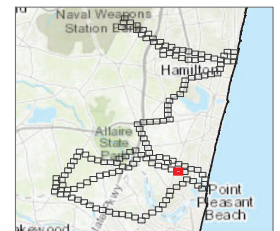


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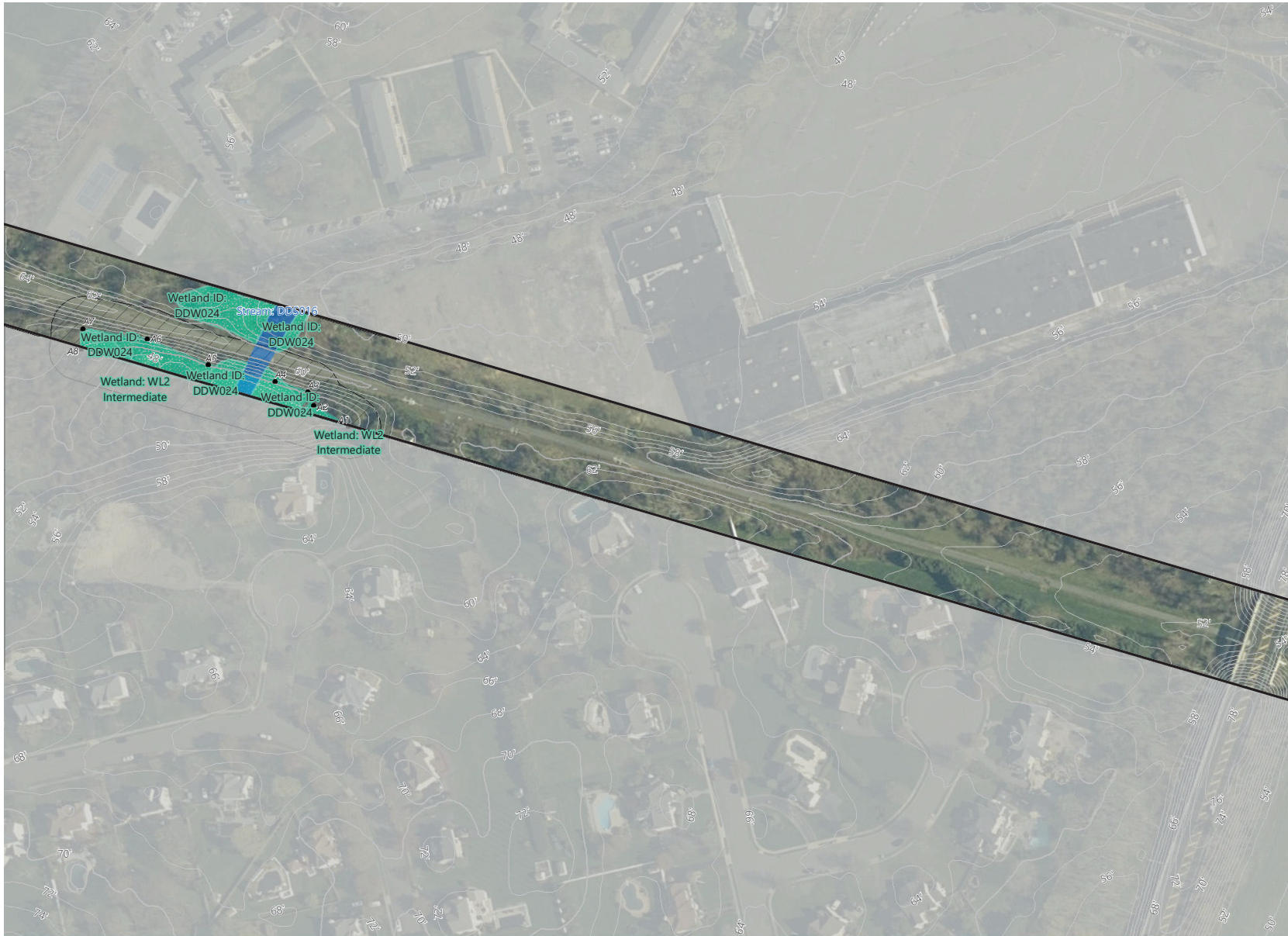
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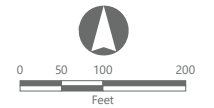
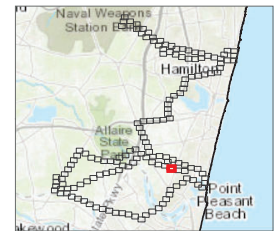


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#### Wetland Delineation Report

- Wetland Flag
- Delineated Wetland
- Wetland Transition Area
- Study Area



Prepared March 23, 2023  
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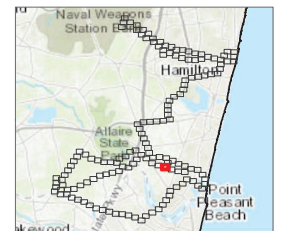


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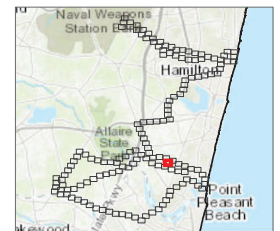


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#### Wetland Delineation Report

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**ATLANTIC SHORES**  
offshore wind

EDR



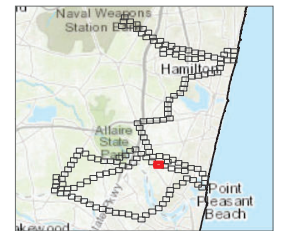


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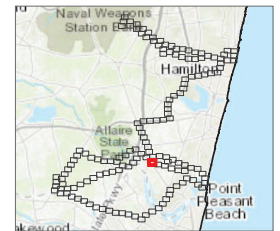


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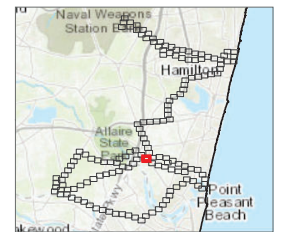


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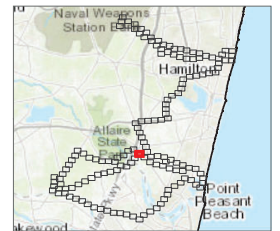


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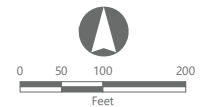
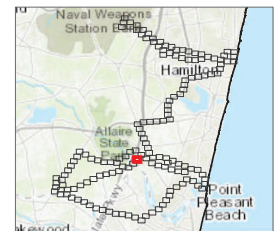


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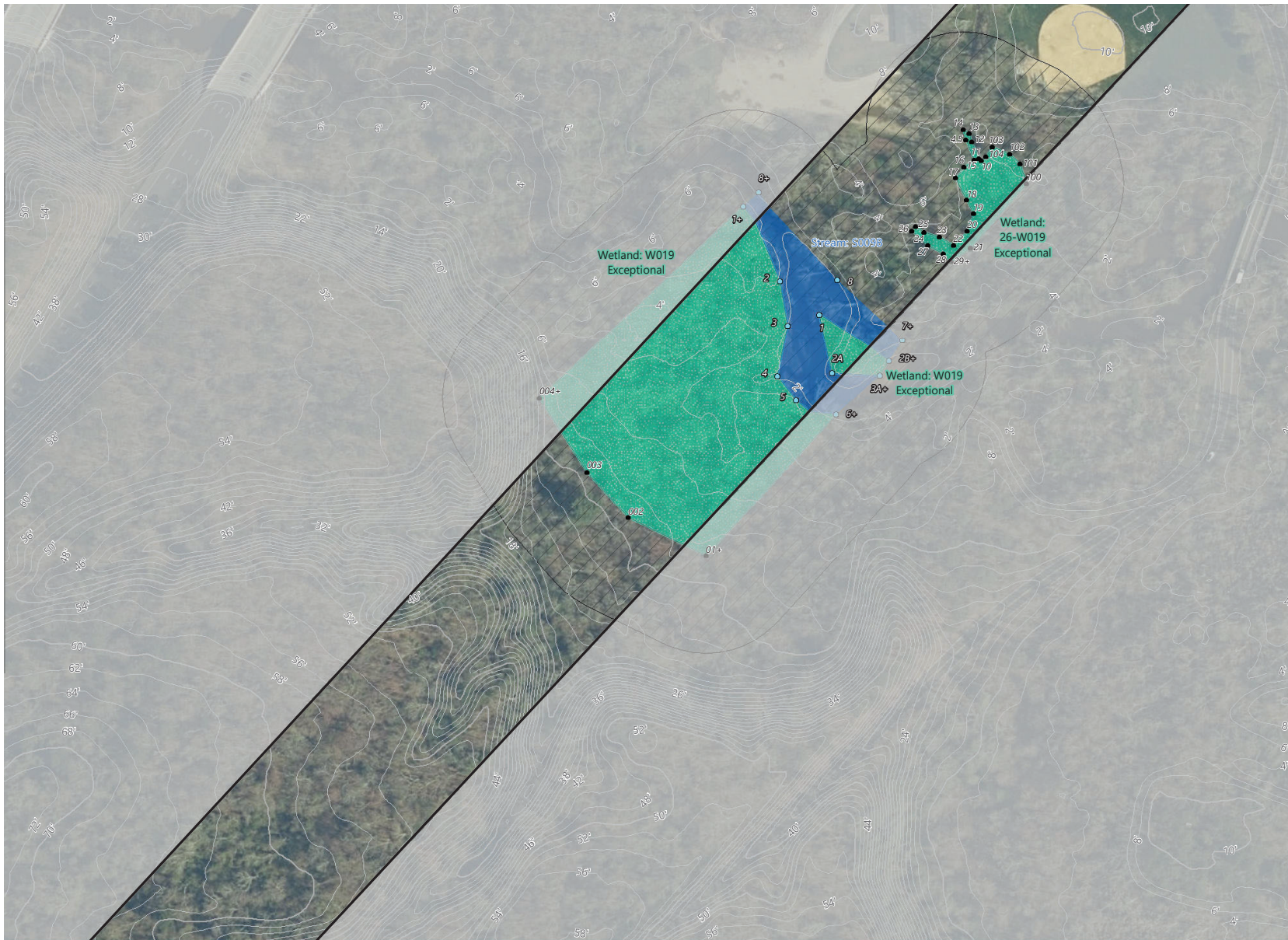
- Wetland Flag
- ▨ Delineated Wetland
- ▨ Wetland Transition Area
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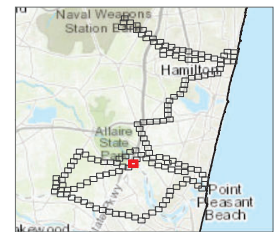


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#### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- Delineated Stream
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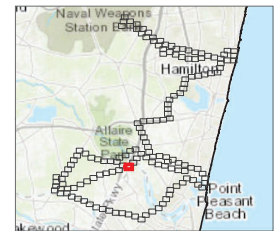


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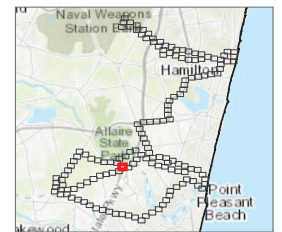


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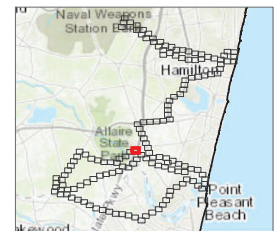


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- Stream Flag
- Wetland Flag
- ▬ Delineated Stream
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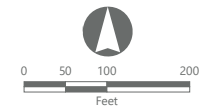
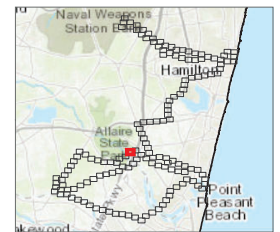


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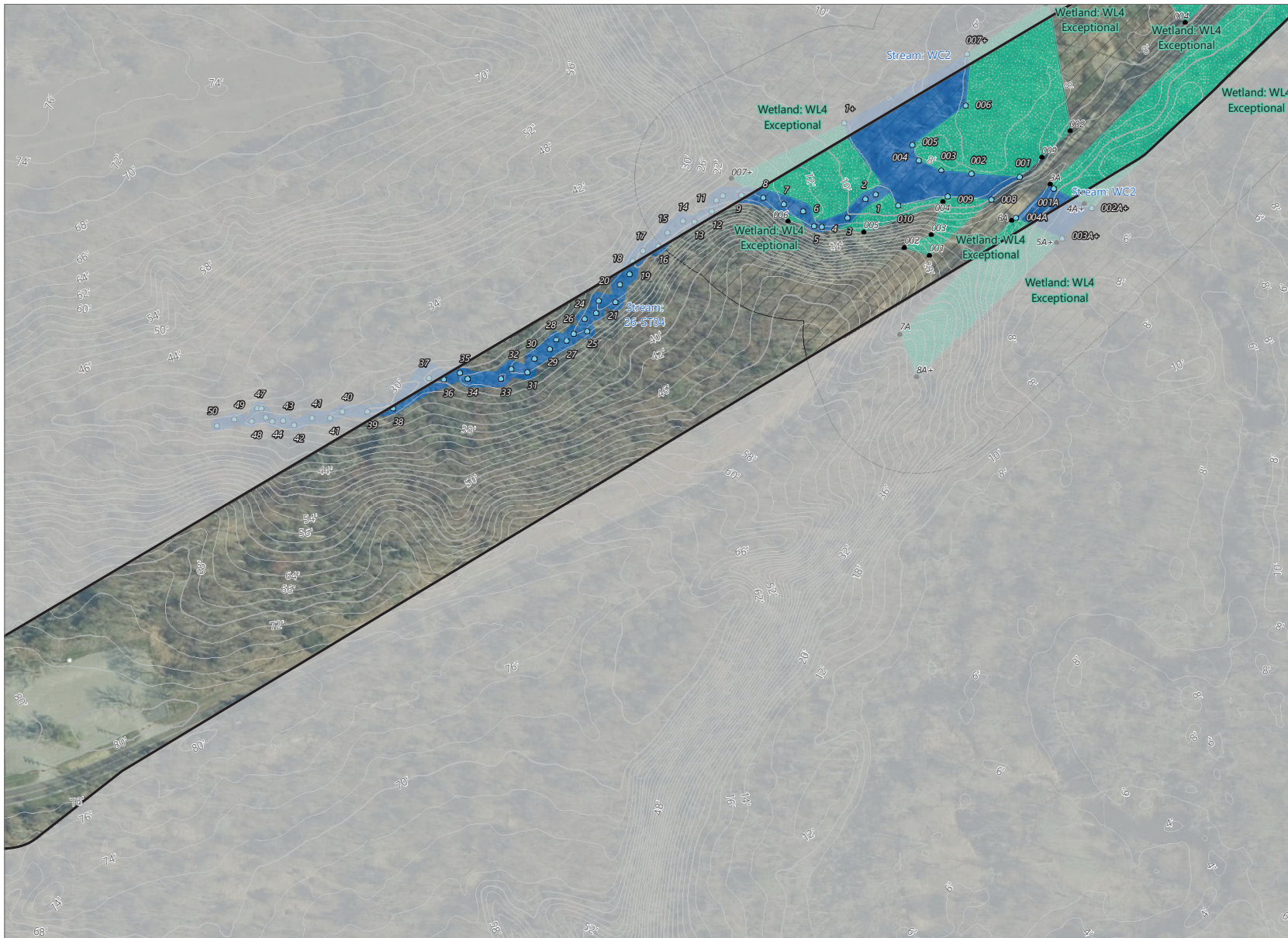
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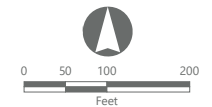
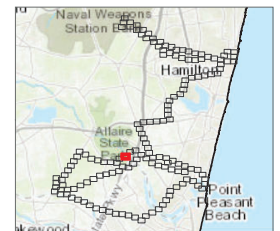


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EDR



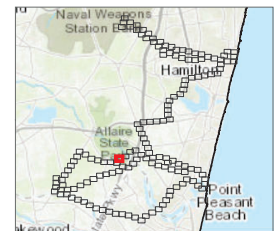


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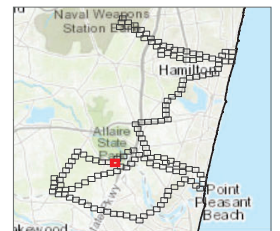


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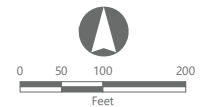
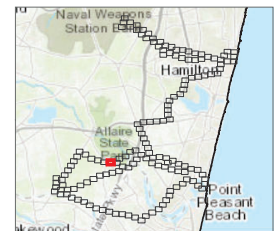


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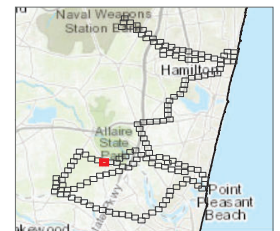


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- ▭ Study Area



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Basemap: NJ Office of GIS 2020 Natural Color Imagery









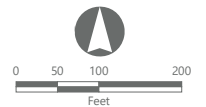
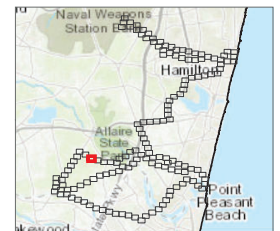


### Atlantic Shores North Offshore Wind – New Jersey Onshore Project Study Area

Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township  
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#### Wetland Delineation Report

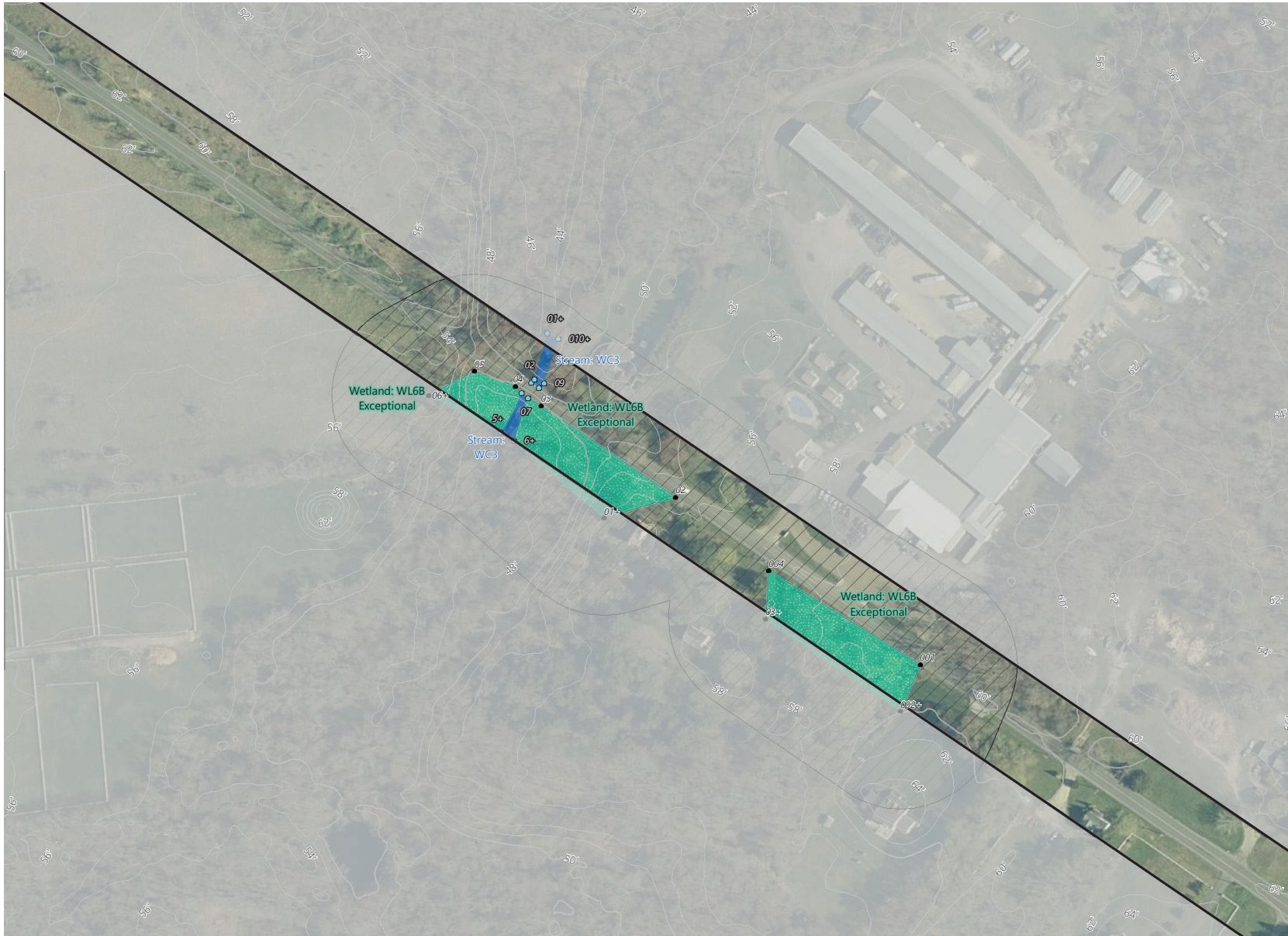
 Study Area



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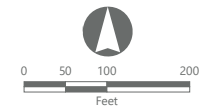
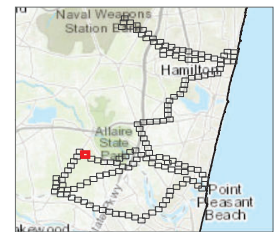


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#### Wetland Delineation Report

- Stream Flag
- Wetland Flag
- Delineated Stream
- Delineated Wetland
- Wetland Transition Area
- Study Area



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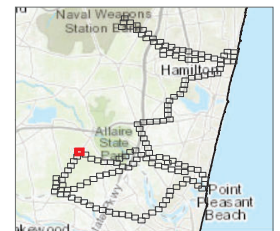


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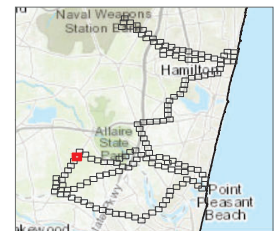


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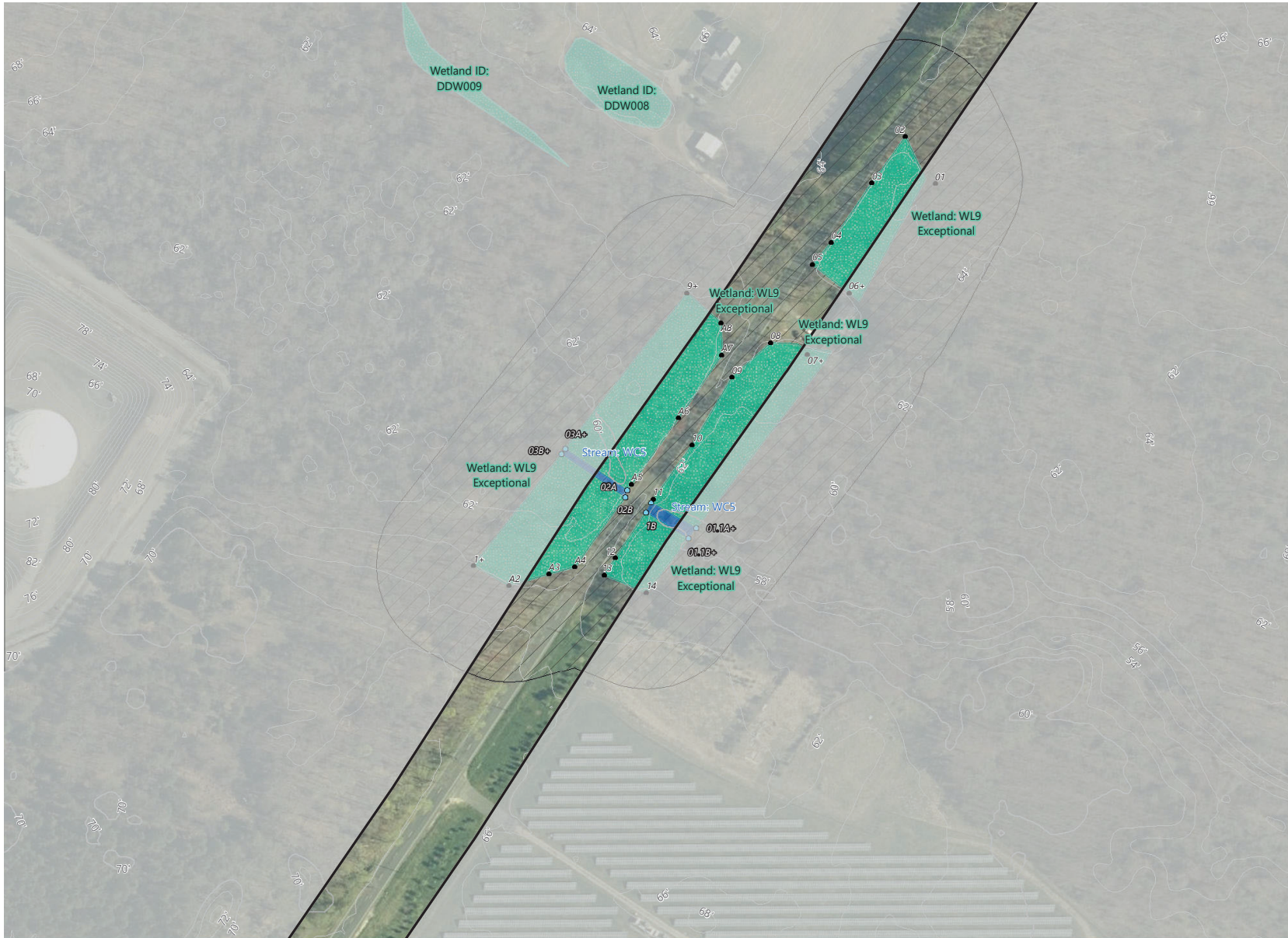
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-  Delineated Wetland
-  Wetland Transition Area
-  Study Area



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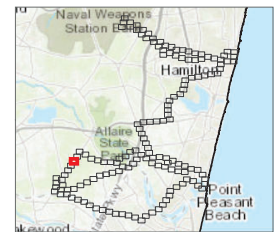


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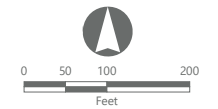
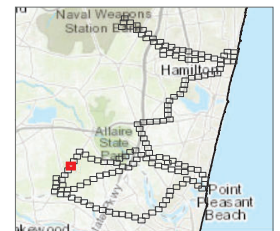


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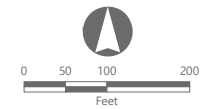
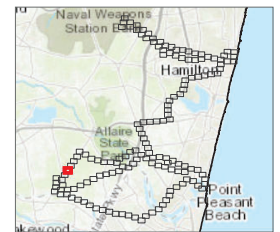


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- Delineated Wetland
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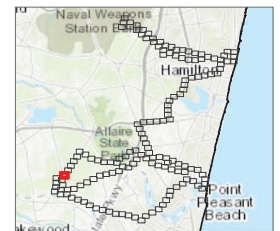


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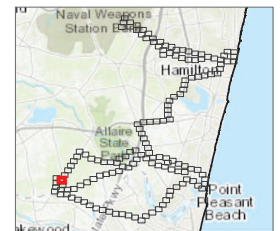


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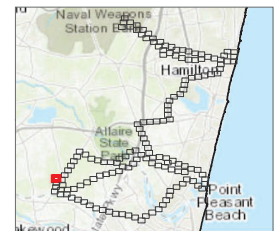


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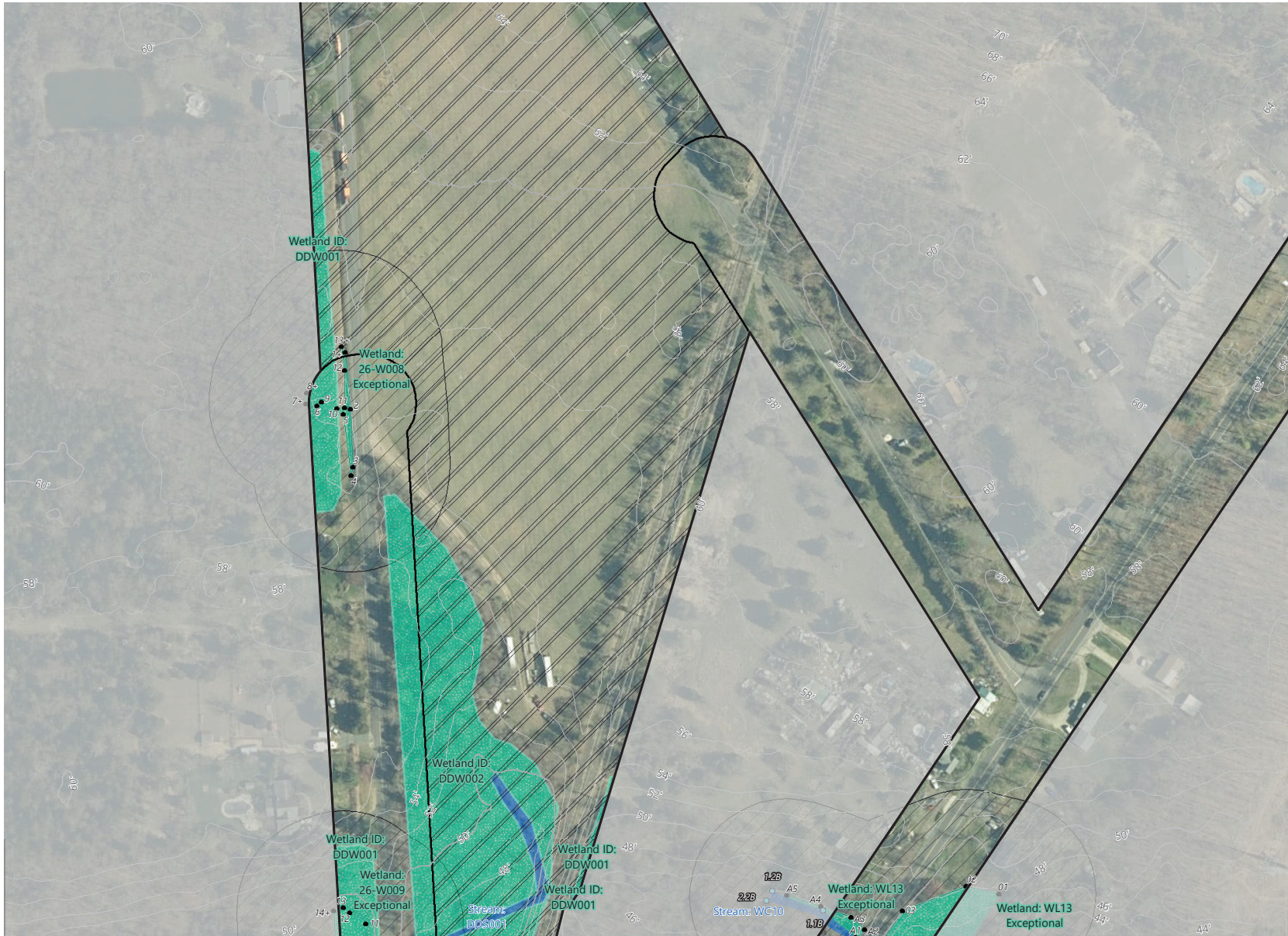
-  Desktop Delineated Area
-  Study Area



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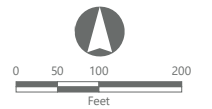
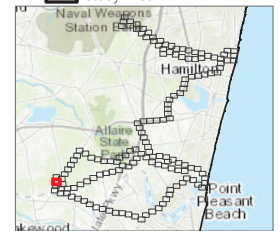


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- Delineated Stream
- Delineated Wetland
- Wetland Transition Area
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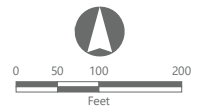
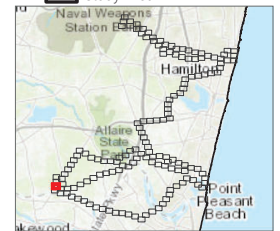


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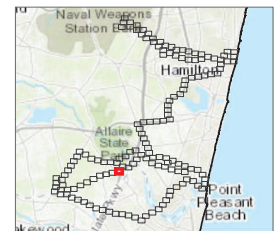


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 Study Area



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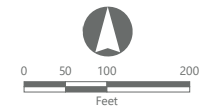
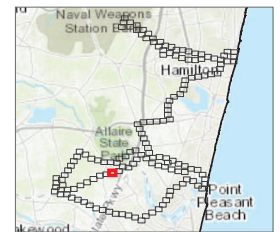


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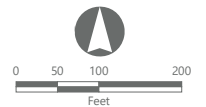
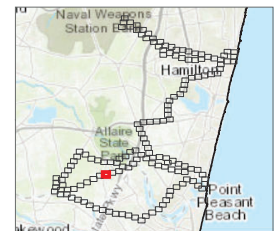


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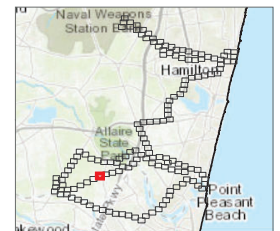


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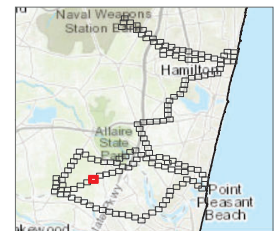


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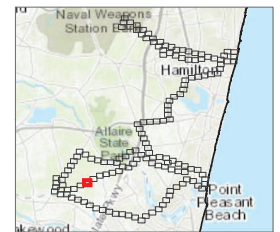


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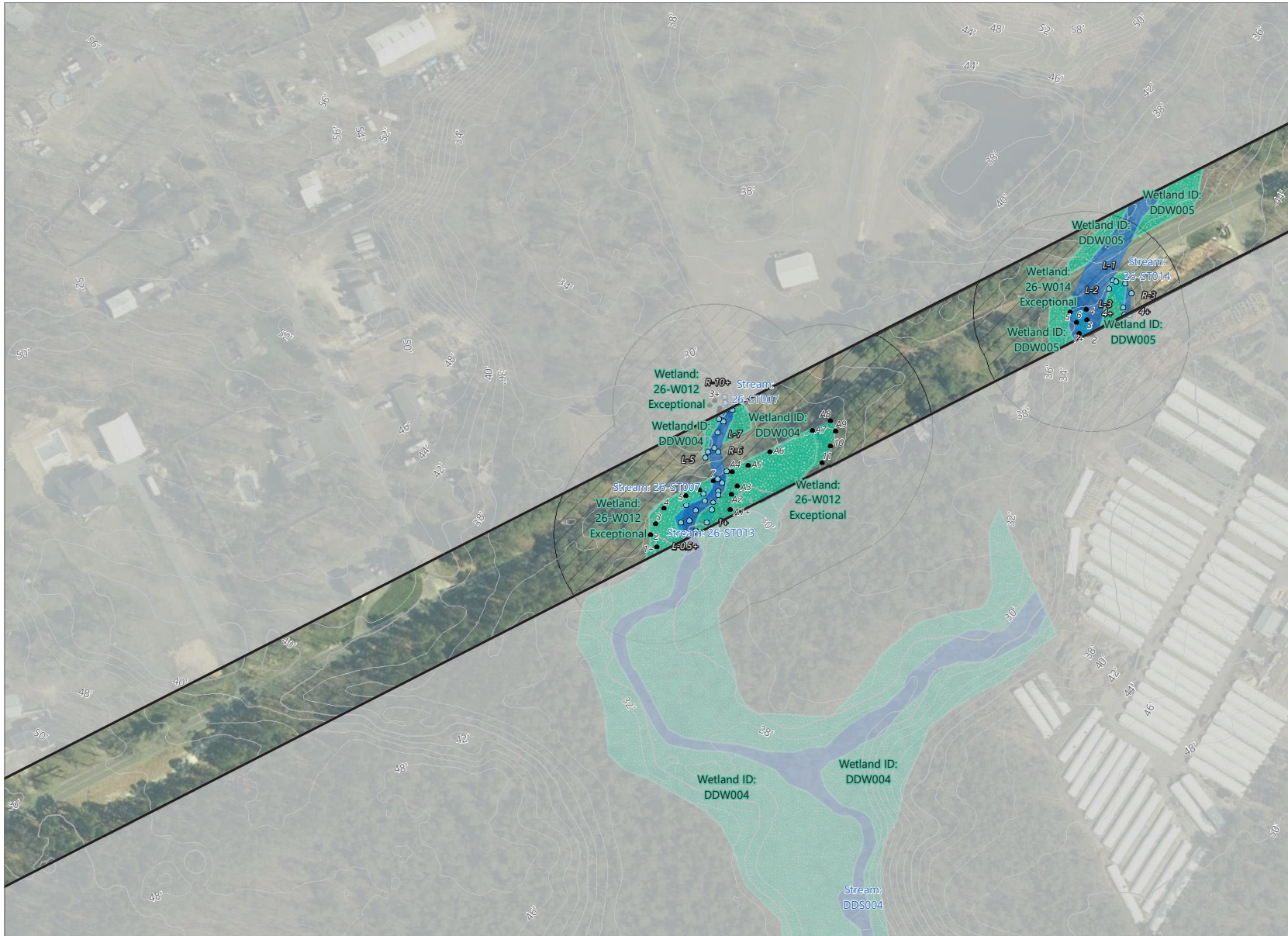
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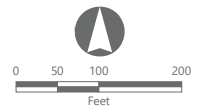
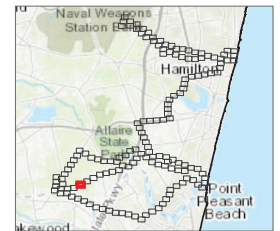


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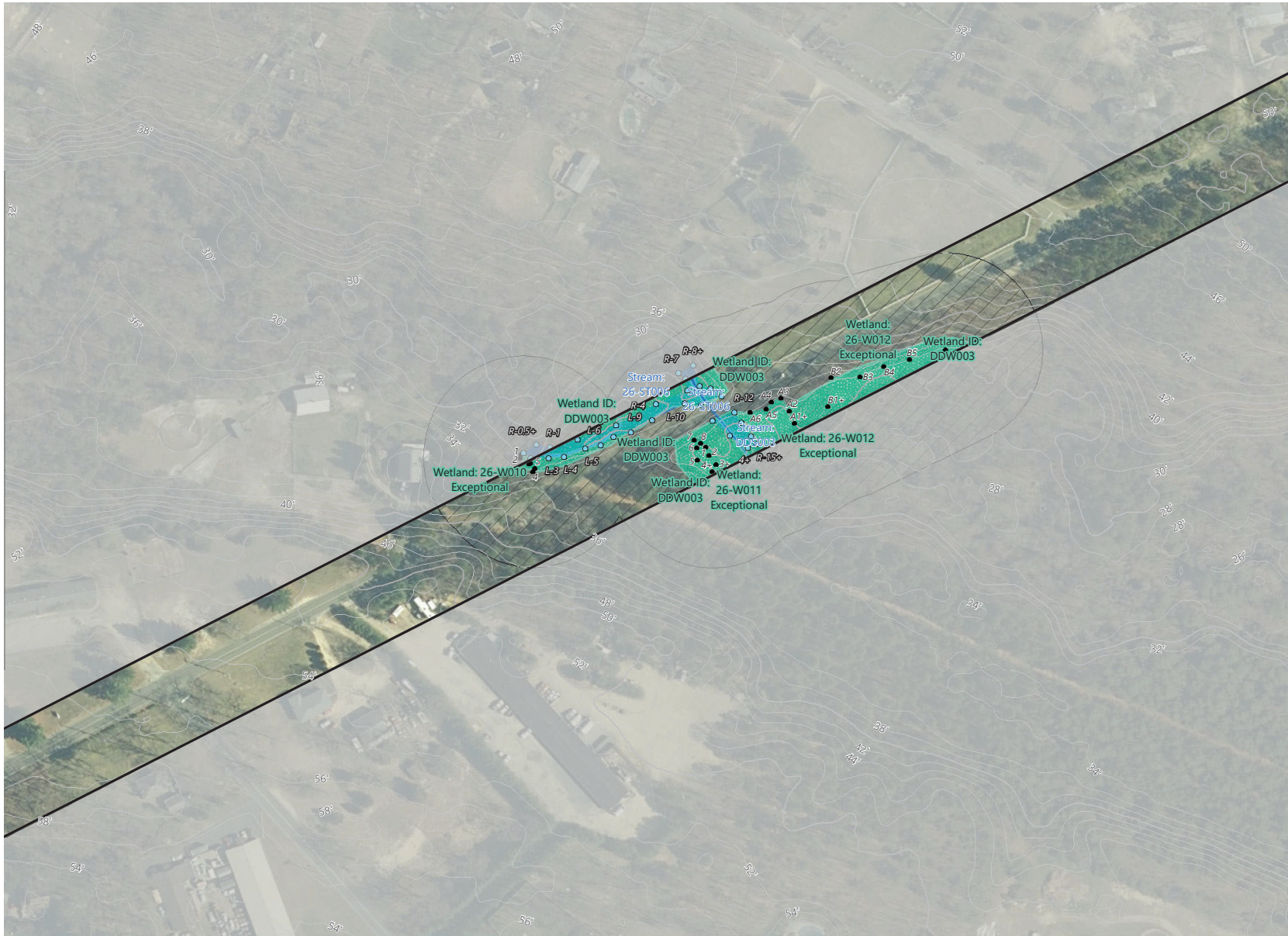
- Stream Flag
- Wetland Flag
- Delineated Stream
- Delineated Wetland
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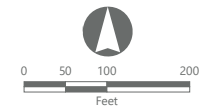
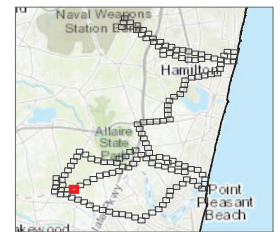


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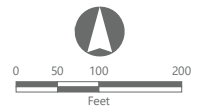
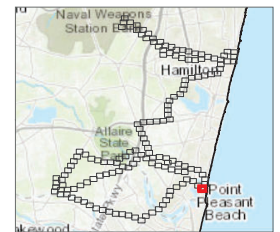


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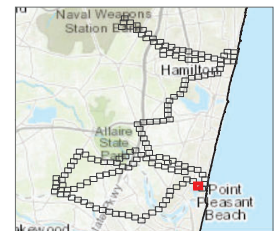


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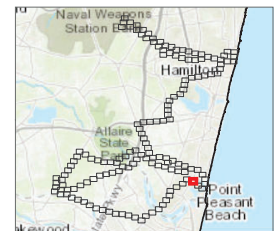


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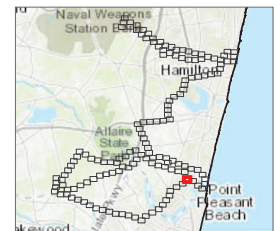


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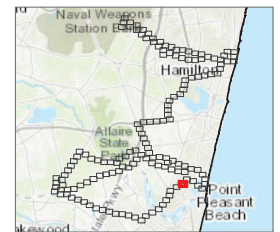


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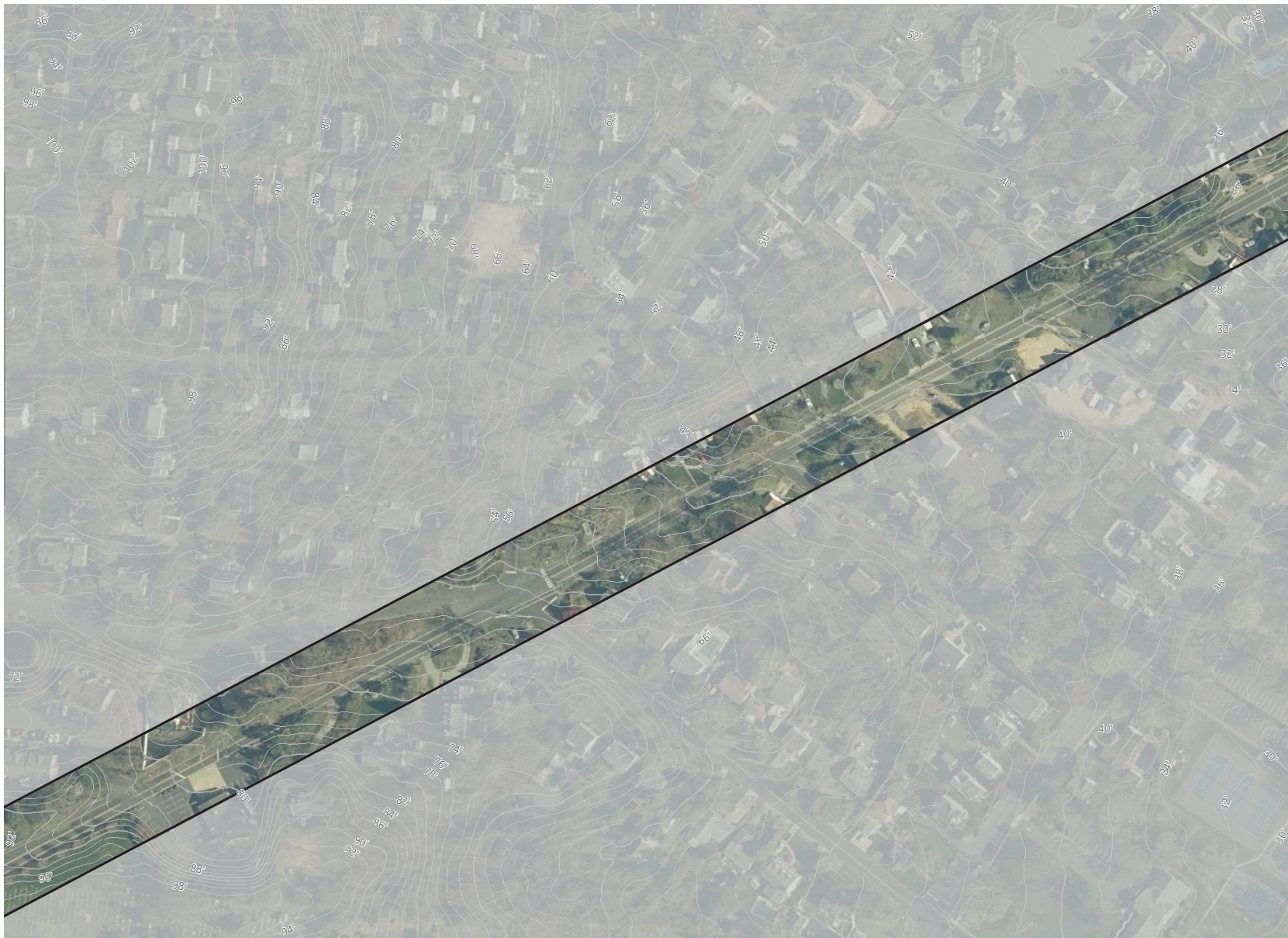
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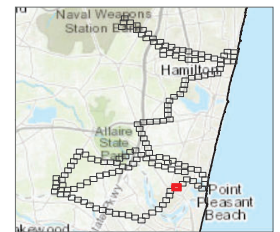


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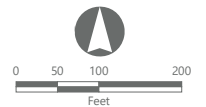
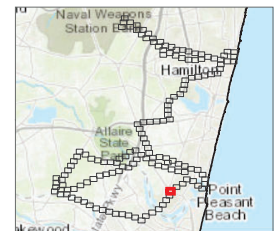


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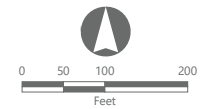
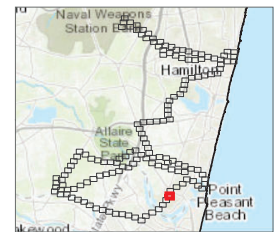


### Atlantic Shores North Offshore Wind – New Jersey Onshore Project Study Area

Borough of Point Pleasant, Lakewood Township, Borough of Brielle, Brick Township, Borough of Sea Girt, Borough of Neptune City, City of Asbury Park, Howell Township, Ocean Township, Borough of Tinton Falls, Colts Neck Township, Wall Township, Borough of Manasquan, Neptune Township  
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#### Wetland Delineation Report

- Wetland Flag
- ▨ Delineated Wetland
- ▨ Wetland Transition Area
- ▭ Study Area



Prepared March 23, 2023  
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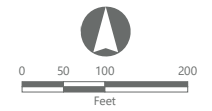
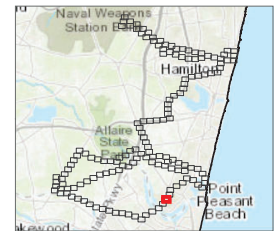


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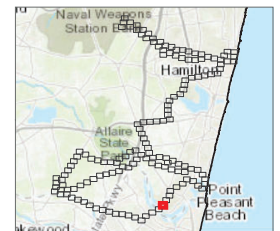


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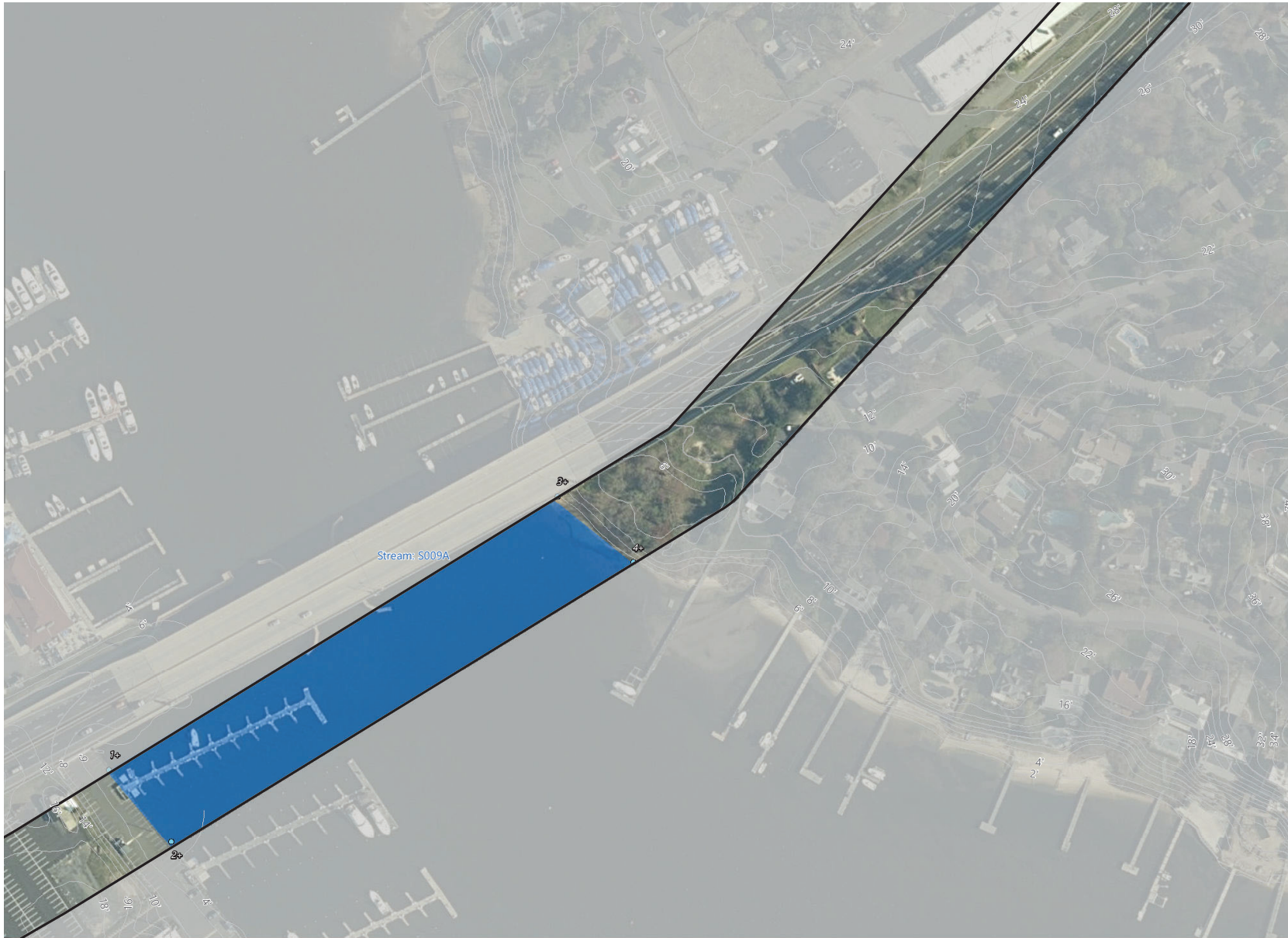
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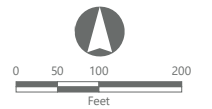
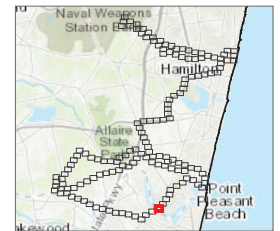


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- Delineated Stream
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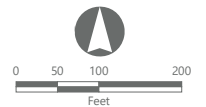
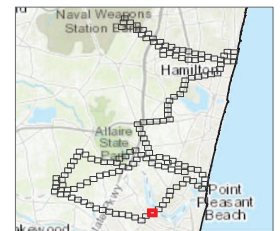


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 Study Area



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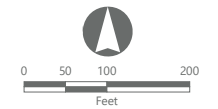
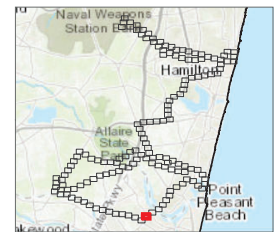


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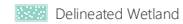


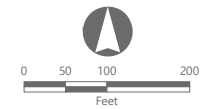
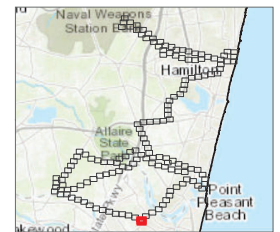


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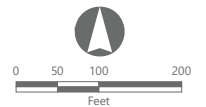
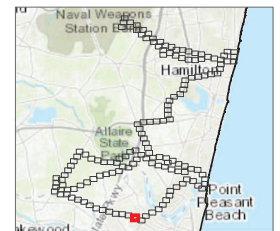


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**ATLANTIC SHORES**  
offshore wind

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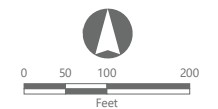
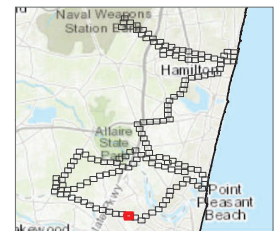


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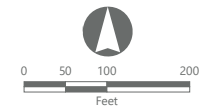
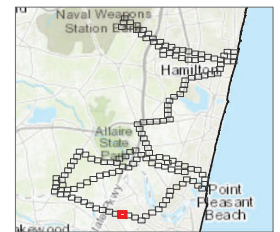


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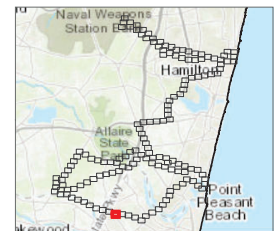


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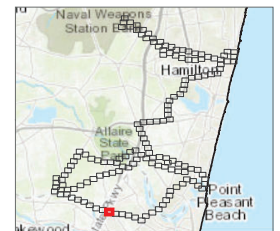


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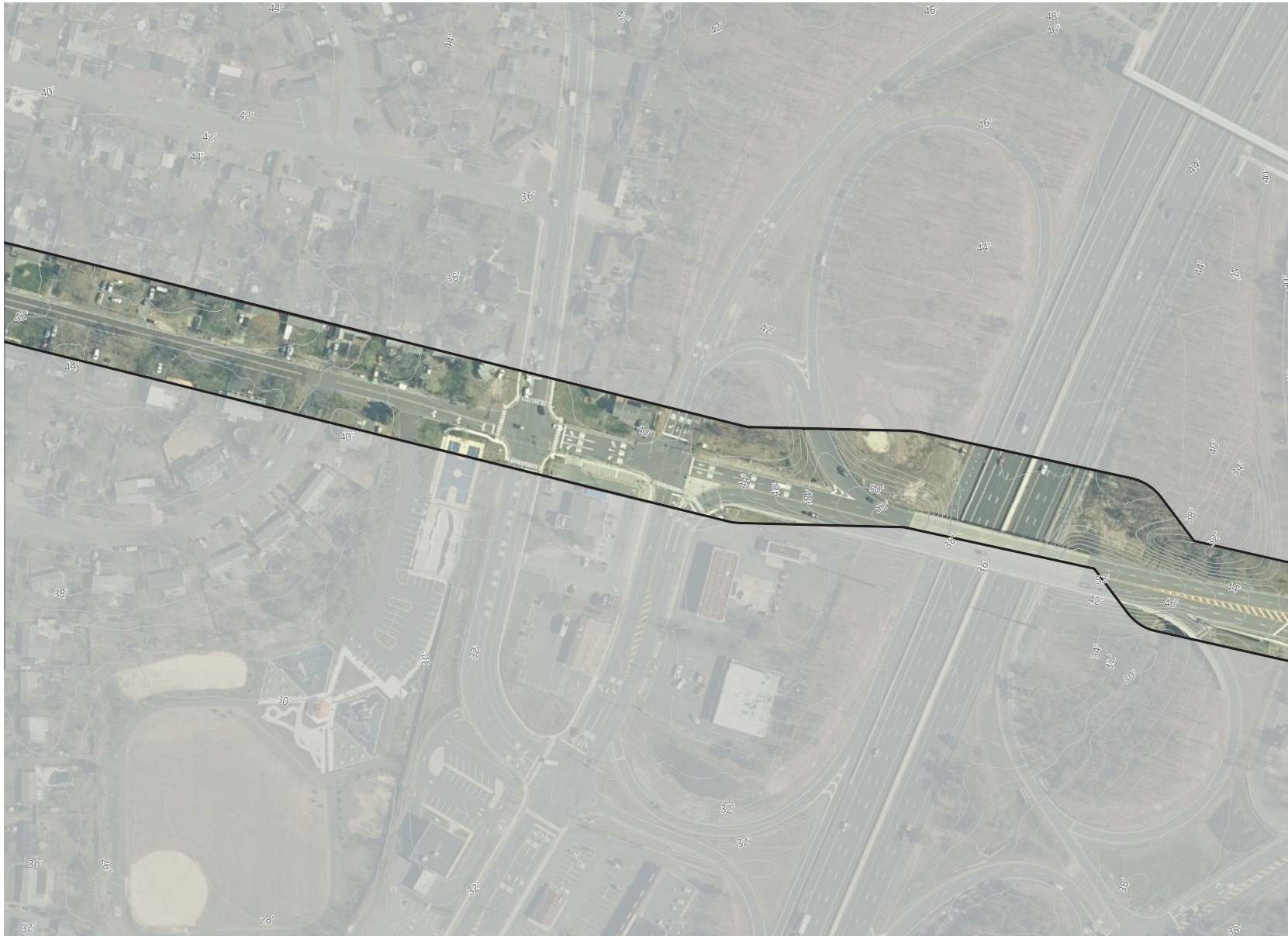
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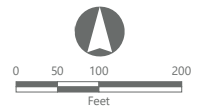
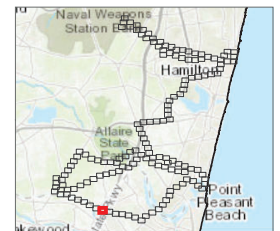


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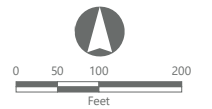
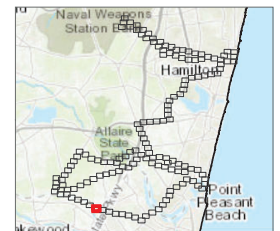


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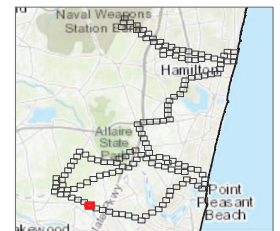


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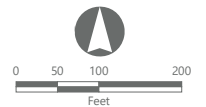
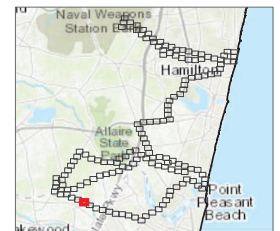


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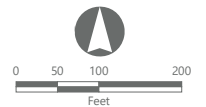
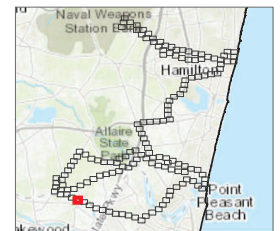


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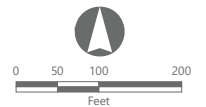
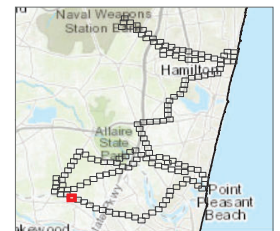


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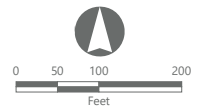
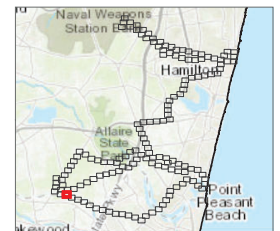


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-  Desktop Delineated Area
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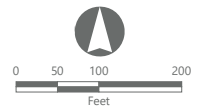
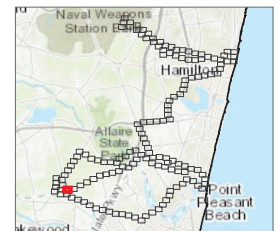


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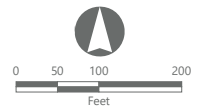
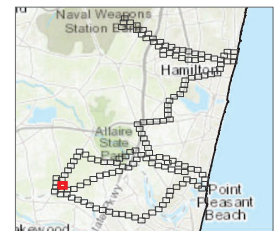


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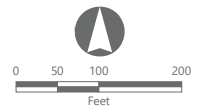
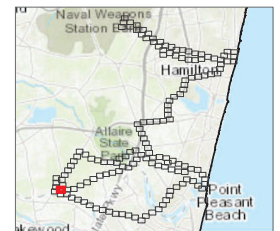


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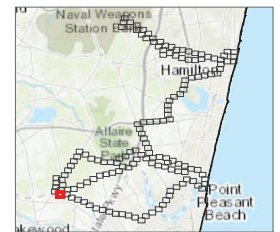


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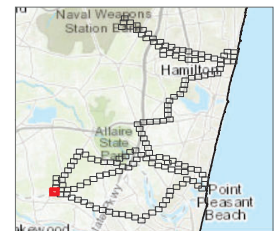


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