

Appendix II-D1

Wetland and Stream Delineation Report - Cardiff and O&M Facility Study Areas

May 2024

Wetland and Stream Delineation Report

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

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

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ACRONYM LIST

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

1.0 INTRODUCTION

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

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR), was contracted by Atlantic Shores to conduct wetland and stream delineations associated with the onshore infrastructure necessary to support the Projects' interconnection to the existing Cardiff Substation located in Egg Harbor Township, Atlantic County, New Jersey. The wetland and stream delineation study area (herein referred to as the Cardiff Study Area) includes the proposed onshore interconnection route rights-of-way (ROWs) from the proposed Atlantic Landfall location in the City of Atlantic City, Atlantic County, New Jersey; the proposed onshore substation and/or converter station site options located in Egg Harbor Township, New Jersey; and the Cardiff point of interconnection (POI). In addition, this report also includes the results of wetland and stream evaluations associated with Atlantic Shores' proposed Operations and Maintenance (O&M) Facility site (referred to herein as the O&M Facility Study Area) also located in Atlantic City, New Jersey. Collectively the Cardiff and O&M Facility Study Areas are referred to as the Study Areas.

For both the Cardiff Study Area and O&M Facility site, this report identifies and discusses the evaluation of the three wetland parameters (i.e., hydrology, soils, and vegetation) involved in determining the location and extent of jurisdictional wetland area boundaries.



Exhibit 1: Cardiff Study Area and O&M Facility Study Area Locations (not drawn to scale)

1.1 Regulatory Framework

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas" (Environmental Protection Agency, 40 Code of Federal Regulations [CFR] 239.3 and Army Corps of Engineers, 33 CFR 328.3).

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

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

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

Wetland transition areas established under N.J.A.C. 7:7-9.28 and N.J.A.C. 7:7A-3.3(d), varies depending on the resource value classification of the associated wetland or surface water based on surface water quality standards, special area protections and fish and wildlife requirements. The following are the resources 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, is considered a drainage ditch or swale, a detention facility created for stormwater purposes or existing in lawns, maintained landscaped areas and other disturbed locations.
- Intermediate Resource Value (50-foot transition area) wetlands are those wetlands that are not classified as either exceptional or ordinary resource value.
- Exceptional Resource Value (150-foot transition area in freshwater wetland systems and 300-foot in tidal wetland systems) wetlands are those that discharge into trout production waters or their tributaries or Category One waters and are a present or documented habitat for threatened & endangered species.¹

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.

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

1.2 Purpose

This report describes the results of the wetland and stream delineations conducted which includes identification of the federal and/or state jurisdictional wetland and water resources within the Cardiff Study Area and O&M Facility 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 NJDEP regulations for the purpose of supporting required permit applications.

2.0 GENERAL SITE CHARACTERISTICS

Publicly available information used in determining the presence and approximate boundaries of wetlands and waters of the United States were obtained and reviewed prior to commencing field investigations and are summarized in the sub-sections 2.1 through 2.5.

Materials and data supporting this investigation have been derived from a number of publicly available sources including United States Geological Survey (USGS) topographic mapping (i.e., Pleasantville, Oceanville, and Atlantic City NJ 7.5 minute quadrangles), USFWS National Wetlands Inventory (NWI) mapping, NJDEP Wetlands mapping, the Natural Resources Conservation Service (NRCS) Web Soil Survey (Soil Survey Staff, 2020), the NRCS List of Hydric Soils of the State of New Jersey (NRCS, 2020), the National Land Cover Dataset (NLCD) land cover and vegetation classes (Yang et al., 2018), and recent aerial photography.

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

2.1 Physiography and Soils

The Cardiff and O&M Facility Study Areas are 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).

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 online databases, this is for general use and does not supersede specific conditions documented in the field. Within the Cardiff Study Area, elevations range from below sea level between Atlantic City and the mainland to approximately 65 feet above sea level approaching Cardiff Substation. The USGS map presented in Figure 1 shows the range of mapped elevations within the Cardiff Study Area, the O&M Facility Study Area, and the surrounding areas.

The Web Soil Survey of Atlantic County (Soil Survey Staff, 2020) indicates the occurrence of 19 soil series within the Cardiff Study Area and three soil series within the O&M Facility Study Area (see Figure 2). Downer loamy sand (DocBO) and Psammaquents (PstAt) are the predominant series occurring within the Cardiff Study Area and the O&M Facility Study Area. Other dominant soil series mapped on-site include Galloway loamy sand (GamB) and Psamments (PssA). Soils range from very poorly drained to excessively drained, and soil textures range from sand to muck. Table 1 lists the soil series found within the Study Areas and their characteristics including slope, drainage class and hydric status. "Hydric" and "Potentially Hydric" designations are based on information obtained on the NRCS Web Soil Survey (Soil Survey Staff, 2020) and the National Hydric Soils List (Soil Survey Staff, 2020).

Mapping Unit Symbol	Series	Slope (%)	Drainage ¹	Hydric Percentage ²	Hydric Rating²
AtsAO	Atsion sand, Northern Tidewater Area	0-2	PD	95	Hydric
AugaA	Aura sandy loam, Northern Tidewater Area	0-2	WD	0	Not Hydric
AugaB	Aura sandy loam, Northern Tidewater Area	2-5	WD	0	Not Hydric
DocBO	Downer loamy sand, Northern Tidewater Area	0-5	WD	5	Partially Hydric
FobB	Fort Mott sand	0-5	WD	3	Partially Hydric
GamB	Galloway loamy sand	0-5	SPD	10	Partially Hydric
HbmB	Hammonton loamy sand	0-5	MWD	15	Partially Hydric
HoruBr	Hooksan-Urban land complex, rarely flooded	0-10	ED	15	Partially Hydric
LakB	Lakehurst sand	0-5	MWD	10	Partially Hydric

Table 1. Mapped Soil Units within the Study Areas

Mapping Unit Symbol	Series	Slope (%)	Drainage ¹	Hydric Percentage ²	Hydric Rating ²
MakAt	Manahawkin muck	0-2	VPD	100	Hydric
MumA	Mullica sandy loam	0-2	VPD	100	Hydric
PHG	Pits, sand and gravel	N/A	WD	0	Not Hydric
PssA	Psamments	0-2	WD	15	Partially Hydric
PstAt*	Psammaquents, sulfidic substratum	0-2	VPD	100	Hydric
SacAO	Sassafras sandy loam, Northern Tidewater Area	0-2	WD	0	Not Hydric
SacBO	Sassafras sandy loam, Northern Tidewater Area	2-5	WD	0	Not Hydric
TrkAv*	Transquaking mucky peat, very frequently flooded	0-1	VPD	100	Hydric
WATERS*	Water, saline	NA	NA	Water	Water
WoeAO	Woodstown sandy loam, Northern Tidewater Area	0-2	MWD	6	Partially Hydric

¹ Soil drainage is represented by the following abbreviation: "ED" = excessively drained, "WD" = well drained, "MWD" = moderately well drained, "PD" = poorly drained, and "VPD" = very poorly drained. ² Hydric = 50-100, Partially Hydric = 1-49, Not Hydric = 0, Water = Water

^{*}Indicates soil present within the Cardiff Study Area and O&M Facility Study Area

2.2 Hydrology

The Cardiff and O&M Facility Study Areas are located in the NJDEP Great Egg Harbor Watershed Management Area (WMA) as shown in Figure 3. The Cardiff Study Area spans across the following Hydrologic Unit Codes (HUC) that are within the WMA (Figure 3).

- HUC 8:
 - Great Egg Harbor (02040302)
- HUC 10:
 - Great Egg Harbor Bay-Frontal Atlantic Ocean (0204030204)
 - Great Egg Harbor Bay-Atlantic Ocean (0204030205)
- HUC 12:
 - Absecon Bay (020403020408)
 - Great Egg Harbor Bay-Great Egg Harbor Inlet (020403020500)
 - Great Egg Harbor Inlet-Atlantic Ocean (020403020500)
 - o Patcong Creek (020403020408).

Wetland and Stream Delineation Report Cardiff and O&M Facility Study Areas The O&M Facility Study Area spans the above HUC 8 and HUC 10 units as well as the HUC 12 Absecon Bay (020403020408) unit.

Most of the surface hydrology within the Cardiff and O&M Facility Study Areas is generated by precipitation and surface water run-off from adjacent land. Due to the sandy texture of the soil and portions of the Study Areas at or below sea level, there are areas where surface hydrology is influenced by groundwater discharge. In addition, total annual precipitation (from 2000 to 2022) averages 47.78 inches in the Atlantic City Region (NOAA, 2022). The on-site wetland delineation for the portions of the Study Areas that were accessible occurred during and after the growing season between June 22 and 24, 2020; December 9, 2020; September 14, 2021; June 20 and 21, 2022; February 8, 9 and 15, 2023, and September 1, 2023. Precipitation for the month of May 2020 was low (1.62 inches) compared to the monthly average of 3.39 inches in the Atlantic City Area. Precipitation for November 2020 was above average (5.60 inches) compared to the monthly average of 3.69 inches. Precipitation for August 2021 was above average (6.28) compared to the monthly average of 4.15 inches in the Atlantic City Area. Precipitation for June 2022 was below average (2.59 inches) compared to the monthly average of 3.39 inches. Precipitation for January 2023 was slightly above average (3.74 inches) compared to the monthly average of 4.08 inches. (NOAA, 2023).

2.3 Federal- and State-Mapped Wetlands

New Jersey State-mapped wetlands indicate that there are 47 mapped wetlands totaling approximately 25.4 acres in the Cardiff Study Area, and no mapped wetlands are within the O&M Facility Study Area (Figure 4). The mapped wetlands in the Cardiff Study Area include saline marsh (10.2 acres low marsh, 1.0 acre high marsh), herbaceous wetlands (3.4 acres), phragmites dominated interior wetlands (4.2 acres), coniferous wooded wetlands (2.7 acres), deciduous scrub/shrub wetlands (0.2 acre), vegetated dune communities (0.4 acre), managed wetland in built-up maintained rec area (0.7 acre), coniferous scrub/shrub wetlands (0.6 acre), modified disturbed wetlands (0.3 acre), mixed scrub/shrub wetlands (0.02 acre coniferous dominant, 0.03 acre deciduous dominant), mixed wooded wetlands (0.8 acre deciduous dominant, 0.4 acre coniferous dominant), phragmites dominate urban areas (<0.01 acre), phragmites dominate coastal wetlands (<0.01 acre), and deciduous wooded wetlands (0.2 acre).

NWI mapping indicates the presence of 17 wetland communities and 3 riverine resources totaling approximately 86.6 acres within the Cardiff Study Area and two estuarine and marine deepwater resource totaling approximately 01.7 acre within the O&M Facility Study Area (Figure 4). Estuarine and marine deepwater communities are the dominant community type mapped on site, totaling approximately 65.3 acres. Other NWI-mapped communities within the Study Areas include estuarine and marine wetland (16.0 acres), freshwater emergent wetland (1.3 acres), freshwater forested/shrub wetlands (5.2 acres), freshwater pond (0.01 acre), and riverine resources (0.5 acre).

New Jersey mapping identifies three perennial waterways and their tributaries as well as an estuary of several thoroughfares within the Cardiff Study Area. The perennial waterways include Mill Branch, Cedar Branch, Maple Run, and their associated tributaries. The estuary consists of the Beach and Great Thoroughfares that connects to the Inside Thoroughfare and ultimately the Atlantic Ocean.

In addition, mapping indicates one perennial waterbody, the Delta Basin, a small harbor within the O&M Facility Study Area. The Delta Basin flows into Clam Creek, which continues into the Absecon Inlet where it makes a direct connection to the Atlantic Ocean.

2.4 Mapped Floodplains

According to the Federal Emergency Management Agency (FEMA) map service, the portions of the Cardiff Study Area on the barrier island and along Route 40 across the estuary are within the 1% annual chance flood zone. The remainder of the Cardiff Study Area on the mainland is outside of any mapped floodplains. Figure 5 shows the location of the mapped floodplain areas in relation to the Cardiff Study Area.

2.5 Vegetation

Land cover and vegetation occurring within the Study Areas 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 Cardiff Study Area encompasses approximately 566 acres and consists primarily of commercial and industrial development, transportation (highways and railroads), utilities, tidal rivers/inland bays/tidal waters, mixed and deciduous forest, and residential development (Table 2). The O&M Facility Study Area totals approximately 7 acres and consists primarily of an urban vacant lot landward of the existing bulkhead (Table 2A). The location and extent of various land use and land cover locations is provided in Figure 6.

Land Cover Class	Acres	Percent Cover (%)
Commercial/Services	80.8	14.3
Transportation/Communication/Utilities	67.4	11.9
Tidal Rivers, Inland Bays, And Other Tidal Waters	65.8	11.6
Major Roadway	58.2	10.3
Mixed Forest (>50% Coniferous With >50% Crown Closure)	48.4	8.6
Deciduous Forest (>50% Crown Closure)	36.9	6.5
Residential, High Density or Multiple Dwelling	27.2	4.8
Other Urban or Built-Up Land	26.1	4.6
Recreational Land	22.6	4.0
Upland Rights Of Way Undeveloped	20.8	3.7
Residential, Single Unit, Medium Density	14.6	2.6
Mixed Forest (>50% Deciduous With >50% Crown Closure)	12.7	2.3
Saline Marsh (Low Marsh)	10.2	1.8
Mixed Deciduous/Coniferous Brush/Shrubland	8.9	1.6
Residential, Rural, Single Unit	7.6	1.3
Residential, Single Unit, Low Density	6.5	1.1
Industrial	5.4	1.0
Athletic Fields (Schools)	4.3	0.8
Phragmites Dominate Interior Wetlands	4.1	0.7

Table 2. Vegetation/Land Cover Within the Cardiff Study Area

Land Cover Class	Acres	Percent Cover (%)
Stormwater Basin	4.1	0.7
Coniferous Forest (>50% Crown Closure)	3.7	0.7
Herbaceous Wetlands	3.5	0.6
Transitional Areas	3.2	0.6
Stadium, Theaters, Cultural Centers and Zoos	3.0	0.5
Coniferous Wooded Wetlands	2.7	0.5
Mixed Forest (>50% Deciduous With 10-50% Crown Closure)	2.0	0.4
Airport Facilities	1.9	0.3
Railroads	1.8	0.3
Cemetery	1.5	0.3
Coniferous Brush/Shrubland	1.3	0.2
Old Field (<25% Brush Covered)	1.3	0.2
Saline Marsh (High Marsh)	1.1	0.2
Deciduous Forest (10-50% Crown Closure)	0.9	0.2
Mixed Wooded Wetlands (Deciduous Dom.)	0.8	0.1
Mixed Urban or Built-Up Land	0.7	0.1
Coniferous Scrub/Shrub Wetlands	0.7	0.1
Managed Wetland in Built-Up Maintained Rec Area	0.7	0.1
Disturbed Wetlands (Modified)	0.5	0.1
Deciduous Brush/Shrubland	0.5	0.1
Orchard/Vineyard/Nurseries/Horticultural Areas	0.5	0.1
Mixed Wooded Wetlands (Coniferous Dom.)	0.4	0.1
Vegetated Dune Communities	0.4	0.1
Coniferous Forest (10-50% Crown Closure)	0.2	0.04
Artificial Lakes	0.2	0.04
Deciduous Wooded Wetlands	0.2	0.03
Mixed Scrub/Shrub Wetlands (Coniferous Dom.)	0.03	0.006
Bridge Over Water	0.03	0.005
Mixed Scrub/Shrub Wetlands (Coniferous Dom.)	0.02	0.004
Phragmites Dominate Coastal Wetlands	0.004	0.0006
Beaches	0.0003	<0.0001
Total	566.2	100

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

Table 2A.	Vegetation/Lan	d Cover V	Vithin the	O&M Facili	tv Study	/ Area
	Vegetation, Lan			Canninacii	cy Study	, ,

Land Cover Class	Acres	Percent Cover (%)
Recreational Land	3.6	52.0
Tidal Rivers, Inland Bays, and Other Tidal Waters	1.7	24.5
Other Urban of Built-Up Land	1.1	15.2
Residential, High Density or Multiple Dwelling	0.6	8.3
Total	6.9	100

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

3.0 FIELD INVESTIGATIONS

An initial desktop analysis using the data sources described in Section 2.0 was conducted by EDR prior to performing on-site wetland delineations to identify areas likely to contain wetland and stream resources within the Cardiff and O&M Facility Study Areas. This desktop analysis guided the field wetland delineation of the Cardiff Study Area conducted by EDR environmental scientists between June 22 and June 24, 2020, December 18, 2020, September 14, 2021, June 20 and 21, 2022, February 8, 9 and 15, 2023, and September 1, 2023

3.1 Methodology

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:

- 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.
- 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 Cardiff Study Area were classified based on the Cowardin et al. (1979) classification system.

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

4.0 RESULTS

EDR field delineated 27 wetlands and 8 streams during field work within the Cardiff and O&M Facility Study Areas, as well as an additional one stream through desktop evaluation within the O&M Facility Study Areas as shown in the Wetland and Stream Delineation Plan in Appendix D. The data collected at each delineated wetland and stream, including presumed jurisdiction and NJDEP resource value classification are summarized in Table 3 and a detailed description of each resource is in Section 4.1. In accordance with the Cowardin et al. (1979) classification system, the waters delineated and/or identified within the Study Areas consist of the following community types: estuarine emergent (EEM), palustrine open water (POW), palustrine emergent (PEM), and palustrine forested (PFO). One watercourse located along the shore of the proposed O&M Facility on the Clam Creek portion of Absecon Inlet has been delineated via desktop aerial imagery and has not been field verified. This area, which includes open water within the active navigation channel, was desktop evaluated due to lack of access for safety, security, or property owner concerns within the O&M Facility Study Area. This feature has been noted in Table 3.

Delineation	Latitude of	Longitude	Wetland	d Acreage	Within C by Type ²	ardiff Stu	ıdy Area	Stream	Linear Feet of Stream	Resource Value	Anticipated Federal	Anticipated State
יטו	Centroid	or Centroid	POW	EEM	PEM	PFO	Total	Type	Study Areas	Classification	Jurisdiction ⁴	Jurisdiction ⁵
WL1A	39.365315	-74.467726		1.1			1.1			Exceptional	Yes	Yes
WL1	39.36598	-74.4718			0.4		0.4			Exceptional	No	Yes
WL2	39.383038	-74.499678		1.0			1.0			Exceptional	Yes	Yes
WL3	39.404461	-74.566856			0.1		0.1			Intermediate	Yes	Yes
WL4	39.412709	-74.593835			0.3		0.3			Exceptional	Yes	Yes
WL5	39.413681	-74.597032			0.15	0.01	0.16			Ordinary	Yes	Yes
WL6	39.418985	-74.614486				0.2	0.2			Ordinary	Yes	Yes
W001	39.3924	-74.5558			0.18		0.18			Ordinary	No	No
W001A	39.39246	-74.5566			0.04		0.04			Ordinary	No	No
W002	39.39299	-74.5572			0.1		0.1			Ordinary	No	No
W003	39.39275	-74.5491			0.2		0.2			Intermediate	No	No
W004	39.38363	-74.5033		0.06			0.06			Intermediate	Yes	Yes
W005	39.38158	-74.4981	0.09	0.03			0.1			Exceptional	Yes	Yes
W005A	39.38091	-74.4965		0.003			0.003			Exceptional	Yes	Yes
W005B	39.38131	-74.4965		0.6			0.6			Exceptional	Yes	Yes
W006	39.37903	-74.4918		0.02			0.02			Intermediate	Yes	Yes
W007	39.37070	-74.4796		2.9			2.9			Exceptional	Yes	Yes
26-W001	39.36827	-74.4723		0.4			0.4			Exceptional	Yes	Yes
26-W002	39.37171	-74.4776		0.6			0.6			Exceptional	Yes	Yes
26-W005	39.40396	-74.5669			0.03		0.03			Exceptional	Yes	Yes
26-W006	39.41302	-74.596				0.04	0.04			Exceptional	Yes	Yes
26-W007	39.37396	-74.482			1.3		1.3			Exceptional	Yes	Yes
26-W007A	39.3738	-74.482		6.0			6.0			Exceptional	Yes	Yes
26-W008+	39.376119	-74.428896		0.08			0.08+			Exceptional	Yes	Yes

Table 3. Delineated Wetlands and Streams

Delineation	Latitude of	Longitude	Wetland Acreage Within Cardiff Study Area by Type ²				Stream	Linear Feet of Stream	Resource Value	Anticipated Federal	Anticipated State	
ID'	Centroid	or centrola	POW	EEM	PEM	PFO	Total	Type	Study Areas	Classification	Jurisdiction ⁴	Jurisdiction ⁵
99-W23	39.42456	-74.625126			0.02		0.02			Ordinary	No	Yes
99-W24	39.424812	-74.626958			0.01		0.01			Ordinary	No	Yes
99-W25	39.424948	-74.624853			0.006		0.006			Ordinary	No	Yes
26-ST002	39.413079	-74.596703						R3	51		No	Yes
26-ST010	39.37588	-74.4852						R3	42		No	Yes
26-ST003	39.41756	-74.61136						R6	46		No	Yes
S001	39.365854	-74.468576						R1	9,790		Yes	Yes
WC3	39.37638	-74.4844						R1	62		Yes	Yes
WC4	39.38358	-74.501						R1	153		Yes	Yes
WC5	39.41795	-74.6112						R6	28		No	Yes
WC6	39.41898	-74.6145						R6	25		No	Yes
WC9*+	39.37563	-74.4284						R1	164+		Yes	Yes
Totals			0.09	12.8	2.8	0.3	16.0		10,361			

¹Field ID assigned by EDR.

²Wetland community types are based upon the Cowardin et al. (1979) classification system: estuarine emergent wetland (EEM), palustrine emergent wetland (PEM), palustrine forested wetland (PFO).

³ Stream type is based upon the Cowardin et al. (1979) classification system: tidal (R1), perennial (R3), and ephemeral (R6)

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

⁵ Based on existing NJDEP mapping of wetlands and streams. See Sections 2.2 and 2.3 for additional information.

* Feature has been delineated via desktop and aerial imagery and has not been field verified.

*Feature is located entirely within the O&M Facility Study Area

Most of these wetlands and streams are tidal or within 1,000 feet of the head of tide; therefore, USACE jurisdiction applies to some of the wetlands and streams identified as it relates to Section 404 of the Clean Water Act and Section 10 of the River and Harbors Act. Because the NJDEP also regulates all wetlands within the state, all of the delineated wetlands and streams are expected to be under their jurisdiction. Descriptions of the delineated wetlands and delineated streams within the Cardiff Study Areas are provided in Sections 4.1.1 and Section 4.1.2, respectively.

4.1.1 Wetlands

EDR field delineated 27 wetlands totaling approximately 16.0 acres within the Cardiff and O&M Facility Study Areas. Many of the wetlands identified contained more than one community type. The area of each community type is summarized in Table 3 and a detailed description is provided below which includes information to support resource classifications of ordinary or exceptional. Wetlands that do not satisfy the definition of ordinary or exceptional are assumed to be intermediate resource value.

Wetland 1A (WL1A) (EEM)

Wetland 1A (WL1A) is a complex of emergent tidal wetlands (EEM) along the Great Thorofare that are dominated by smooth cordgrass (*Spartina alterniflora*, OBL), glasswort (*Salicornia depressa*, OBL), seaside goldenrod (*Solidago sempervirens*, FACW), saltmeadow cordgrass (*Spartina patens*, FACW), sea lavender (*Limonium carolinianum*, OBL), and common reed (*Phragmites australis*, FACW). Soils ranged from a sand to sandy loam with a low chroma matrix (10 YR 4/2), additional soil characteristics identified during delineations included brightly colored mottles (5YR 4/6), criteria meeting the definition of a histic epipedon, and hydrogen sulfide odor; qualifying the soils as a hydric. Wetland hydrology indicators observed included standing water, soil saturation, tidal influence and oxidized rhizospheres on living roots. This wetland is assumed to be of exceptional resource value due to its tidal influence and importance to the tidal ecosystem as well as the documented threatened & endangered that utilize these wetlands.

Wetland 1 (WL1) (PEM)

Wetland 1 (WL1) is a depressional PEM wetland situated between US Route 40 (US-40) and the Atlantic City High School. Dominant vegetation consists of Japanese stilt grass (*Microstegium vimineum*, FAC). Soils observed on site met the criteria for a depleted matrix with 0 to 2 inches of 10YR 2/2 coarse sand and -18 inches of 2.5YR 4/2 coarse sand. Hydrology indicators observed during the site visit included surface water, a high-water table, and saturation. Soils could not be obtained after 8 inches below grade due to the high-water table and surface water. This wetland is assumed to be classified as exceptional due to the location of documented threatened species.

Wetland 2 (WL2) (EEM)

Wetland 2 (WL2) is a complex of emergent tidal wetlands that are fed by tidal streams and connected through culverts along US-40 and a railroad corridor. Dominant vegetation consists of saltmeadow cordgrass (*Spartina patens*, FACW) and smooth cordgrass (*Spartina alterniflora*, OBL) with patches of eastern red cedar (*Juniperus* virginiana, FACU) and high tide bush (*Iva annua*, FAC) present along the edges of the

wetland boundaries and meets the criteria for hydrophytic vegetation. Soils consisted of a thick layer of heavy organic matter with some sand and rocky material meeting the criteria for a histic epipedon and had a low chroma matrix (5Y 4/1) indicating that the soils were frequently inundated. Given these indicators, the soil met the criteria for hydric soil. Wetland hydrology indicators observed were ground surface inundation, tidal inundation, soil saturation, and hydrogen sulfide odor. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the location of documented threatened and endangered species.

Wetland 3 (WL3) (PEM)

Wetland 3 (WL3) is a PEM wetland located in a depression within an Atlantic City Electric (ACE) powerline ROW and adjacent to a pedestrian bike path which is a converted railroad corridor. Dominant vegetation consists of reed canary grass (*Phalaris arundinacea*, OBL), broadleaf cattail (*Typha latifolia*, OBL) and marshmallow (*Althaea officinalis*, FACW) and meets the hydrophytic plant community criteria. Soils were a sandy loam with a low chroma matrix (10YR 2/1) and mottles (5YR 5/6) indicating that the soil is inundated for significant periods of time throughout the year but a varying water level/soil saturation. Wetland hydrology indicators observed were soil saturation, geomorphic position, and water-stained leaves. This wetland is assumed to be of intermediate resource value because of its proximity to multiple paved roads and lack documented habitat for sensitive species.

Wetland 4 (WL4) (PEM)

Wetland 4 (WL4) is a PEM wetland located in a depression within an ACE powerline ROW located along a pedestrian bike path. Dominant vegetation consists of hairgrass (*Deschampsia cespitosa*, FACW) and meets the hydrophytic plant community criteria. Soils were an organic loam with a low chroma matrix (5YR 2/1), indicating the soil is saturated or inundated for long durations. Wetland hydrology indicators observed were soil saturation and geomorphic position. This wetland is assumed to be classified as exceptional due to the location of documented threatened species.

Wetland 5 (WL5) (PEM & PFO)

Wetland 5 (WL5) is a PEM/PFO wetland associated with Cedar Branch. The portion within the Cardiff Study Area is in a depression of an ACE powerline ROW located between a pedestrian bike path and West Jersey Avenue. Vegetation in the canopy was dominated by red maple (*Acer rubrum*, FAC) the understory manly consisted of spicebush (*Lindera benzoin*, FACW), red maple saplings, and high-bush blueberry (*Vaccinium corymbosum*, FACW). The herbaceous layer was dominated by moss, slender path rush (*Juncus tenuis*, FAC), and hairgrass. Based on the species observed, the hydrophytic plant community criteria were satisfied. Soils were an organic loam that met the criteria for a histic epipedon. In addition, soils were a low chroma matrix (5YR 2/1) indicating a long duration of soils saturation occurs. Wetland hydrology indicators observed were soil saturation, a high-water table, moss trim lines, buttressed and eroded tree roots, wet leaves, and a sparsely vegetated concave surface. This wetland is assumed to be classified as ordinary due to direct impacts of human activity and development surrounding the immediate area.

Wetland 6 (WL6) (PFO)

Wetland 6 (WL6) is a PFO wetland associated with a drainage culvert under the bike path and drains south. Dominant vegetation in the canopy consists of red maple (*Acer rubrum*, FAC), and the understory is dominated by black gum (*Nyssa sylvatica*, FAC) and red maple saplings. Dominant vegetation in the herbaceous layer consists of a sparse understory of cinnamon fern (*Osmunda cinnamomea*, FACW) and black gum seedlings. The species observed indicate the vegetation community met the hydrophytic plant community criteria. Soils were a loamy sand and masked with organic material, meeting criteria for a histic epipedon. In addition, soils were a low chroma matrix (10YR 3/2 and 2/1) indicating a long duration of soil saturation occurs. Wetland hydrology indicators observed include soil saturation, water-stained leaves, and geomorphic position. This wetland is assumed to be classified as ordinary due to direct impacts of human activity and development surrounding the immediate area.

Wetland 001 (W001), 001A (W001A) and 002 (W002) (PEM)

Wetlands 001 (W001), 001A (W001A) and 002 (W002) are a series of three man-made drainage basins constructed in uplands for the purposes of stormwater management. All of these basins now support hydrophytic vegetation and exhibit soils are that are heavily disturbed with placement of a heavy clay layer to aid in retention of stormwater. Additionally, all of these wetlands are connected through various underground pipes with inflow and outflow outfalls. Herbaceous vegetation in WL001 and WL002 consist of narrowleaf cattail (Typha angustifolia, OBL), spikerush (Eleocharis palustris, OBL), and common reed (Phragmites australis, FACW). WL001A is the most natural of the three; however, this area has clearly been excavated with spoils directly adjacent to the basin and a heavy clay layer observed. No other areas on the site or adjacent to these basins possessed a heavy clay layer indicating this layer was installed. However, this basin does exhibit characteristics that could be classified as a vernal pool such as sparsely vegetated, organic matter layer, and dries out at some point during the season. Overall, the species observed in these areas met the criteria for hydrophytic plant communities. Soils in WL001 and WL002 were a sandy loam with a high chroma matrix (2.5Y 5/4, 5YR 5/8) with mottles (10Y 7/1) or could not be accessed due to fencing. Soils in the vernal pool were a sandy clay texture with a high chroma matrix (10YR 5/4, 2.5YR 5/6) with mottles (5Y 6/8). Soils in these areas did not meet hydric soil criteria. Wetland hydrology indicators observed include standing water, soil saturation, a high-water table, algal mat or crust, water-stained leaves, oxidized rhizospheres, and aquatic fauna. Although these areas could be classified as a wetland, the infrastructure (i.e., wingwalls, outfalls, and installed clay layers) indicate these areas were constructed with the intent of stormwater control and are therefore not jurisdictional.

Wetland 003 (W003) (PEM)

Wetland 003 (W003) is a PEM wetland that is a stormwater feature encircled by a fence. Access to the feature was prohibited. Dominant herbaceous vegetation consists of narrowleaf cattail (*Typha angustifolia*, OBL) and dark green bulrush (*Scirpus atrovirens*, OBL) qualifying the vegetation as hydrophytic. Soils were inaccessible due to fencing. Wetland hydrology indicators observed included standing water, inundation visible on aerial imagery, geomorphic position and aquatic fauna. This wetland is assumed to be of

intermediate resource value because of its proximity to multiple paved roads and lack of documented habitat for sensitive species.

Wetland 004 (W004) (EEM)

Wetland 004 (W004) is an EEM wetland that is connected to Lakes Bay and situated adjacent to US-40. Dominant vegetation consists of high tide bush (*Iva frutescens*, FACW) in the shrub layer and common reed (*Phragmites australis*, FACW) in the herbaceous layer, meeting criteria for hydrophytic vegetation. Soils were inaccessible due to fencing around the wetland. Hydrology indicators observed include standing water, inundation visible on aerial imagery, geomorphic position, and aquatic fauna. This wetland is assumed to be of exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened & endangered species.

Wetlands 005 (W005) (POW/EEM), 005A (W005A) (EEM) and 005B (W005B) (EEM)

Wetland 005 (W005) is a POW wetland with a separate section of EEM wetland and wetlands 005A (W005A) and 005B (W005B) are EEM wetlands that are interconnected through pipes. The wetlands are also bisected by US-40. Dominant vegetation consists of common duckweed (*Lemna minor*, OBL) and smooth cordgrass (*Spartina alterniflora*, OBL), meeting criteria for hydrophytic vegetation. In certain areas soils were inaccessible due to deep water, in other areas soils had a low chroma matrix (10YR 4/1) with mottles (7.5YR 4/6) meeting criteria for a depleted matrix and qualifying as a hydric soil. Hydrology indicators observed include standing water, saturated soils, a high-water table, true aquatic plants, drainage patterns, algal mat or crust, hydrogen sulfide odor, inundation visible on aerial imagery, geomorphic position, and aquatic fauna. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened & endangered species.

Wetland 006 (W006) (EEM)

Wetland 006 (W006) is an EEM wetland that is connected to Lakes Bay and situated adjacent to US-40. Dominant vegetation consists of common reed (*Phragmites australis*, FACW) meeting criteria for hydrophytic vegetation. Soils displayed a low chroma matrix (10YR 2/1 and 2.5Y 5/4) with mottles (7.5YR 6/6) that met criteria for a Dark Surface soils classification and qualify the soils as hydric soil. Hydrology indicators observed include inundation visible on aerial imagery, geomorphic position, and drainage patterns. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened & endangered species.

Wetland 007 (W007) (EEM)

Wetland 007 (W007) is an EEM wetland that is a salt marsh community connected to Lakes Bay and situated adjacent to US-40. Dominant vegetation consists of common reed (*Phragmites australis*, FACW) meeting criteria for hydrophytic vegetation. Soils displayed a low chroma matrix (10YR 2/1 and 2.5Y 5/4) with mottles (7.5YR 6/6) that met criteria for a Dark Surface soils classification and qualify the soils as hydric soil. Hydrology indicators observed include inundation visible on aerial imagery, geomorphic position, and

drainage patterns. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened & endangered species.

Wetland 26-W001 (EEM)

Wetland 26-W001 is a salt marsh community (EEM) that is situated between Great Thorofare and US-40. Dominant vegetation consists of salt meadow cordgrass (*Spartina patens*, FACW) and smooth cordgrass (*Spartina alterniflora*, OBL). Soils could not be obtained during the site visit due to soil inundation. Hydrology indicators observed during the site investigation included surface water, a high-water table, saturation, iron deposits, and hydrogen sulfide odor. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened & endangered species.

Wetland 26-W002 (EEM)

Wetland 26-W002 is a salt marsh community (EEM) that is situated between tributaries of Great Thorofare and US-40. Dominant vegetation consists of salt meadow cordgrass (*Spartina patens*; FACW) and smooth cordgrass (*Spartina alterniflora*, OBL). Other species present included Virginia glasswort (*Salicornia depressa*, OBL) and common reed (*Phragmites australis*, FACW). Soils observed on site met the criteria for a Histosol with a soil profile of 0 to 6 inches of 10YR 2/1 Mucky Peat and 6 to 18 inches of 10YR 3/1 muck. Hydrology indicators observed during the site investigation included surface water, a high-water table, saturation, and hydrogen sulfide odor. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened & endangered species.

Wetland 26-W005 (PEM)

Wetland 26-W005 is a PEM wetland situated south of West Jersey Avenue. Dominant vegetation consisted of common reed (*Phragmites australis*, FACW). Soils observed on site met the criteria for depleted matrix with a soil profile of 0 to 3 inches of 10YR 2/1 sandy loam and 3 to 12 inches of 10YR 5/1 sandy loam with 10YR 6/6 redox concentrations in the pore lining. Hydrology indicators observed during the site investigation included surface water, a high-water table and saturation. This wetland is assumed to be classified as exceptional due to documented state threatened species.

Wetland 26-W006 (PFO)

Wetland 26-W005 is a PFO wetland situated south of West Jersey Avenue and east of Mountain Lane. Wetland 26-W005 is adjacent to 26-ST002 (Cedar Branch). Dominant vegetation consisted of red maple (*Acer rubrum*, FAC). Soils observed on site met the criteria for thick Dark Surface with a soil profile of 0 to 16 inches of 10YR 2/1 muck. Hydrology indicators observed during the site investigation included a highwater table and saturation. This wetland is assumed to be classified as exceptional due to the non-disturbed location of documented threatened species.

Wetland 26-W007 (EEM)

Wetland 26-W007 is a EEM wetland situated between US-40 and the entrance ramp for US-40. The wetland may have a hydrologic connection to the salt marsh to the south (Wetland 26-W007A) and subsequently Great Thorofare. Dominant vegetation consisted of common reed (*Phragmites australis*, FACW). Soils observed on site met the criteria for depleted matrix with a soil profile 0 to 4 inches of 10YR 3/1 sandy loam and 4 to 6 inches of 10YR 5/2 sand. Hydrology indicators observed during the site investigation included a high-water table, saturation, and water-stained leaves. The high-water table prevented soil sampling from progressing beyond 6 inches below grade. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened and endangered species.

Wetland 26-W007A (EEM)

Wetland 26-W007A is a salt marsh community (EEM) situated between US-40 and Great Thorofare. Dominant vegetation consisted of salt meadow cordgrass (*Spartina patens*, FACW). Soils observed on site met the criteria for a depleted matrix with a soil profile of 0 to 10 inches of 10YR 2/1 muck and 10 to 12 inches 10YR 5/1 fine sand. Hydrology indicators observed during the site investigation included surface water, a high-water table, saturation, and hydrogen sulfide odor. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened and endangered species.

Wetland 26-W008 (EEM)

Wetland 26-W008 is an EEM wetland located between a paved parking lot and the Clam Creek portion of Absecon Inlet. Dominant vegetation consisted of common reed (*Phragmites australis*, FACW). Soils were not taken during the site investigation as the wetland area was covered by riprap and gravel. Hydrology indicators observed during the site investigation included surface water. These wetlands are assumed to be exceptional resource value due to their tidal influence, importance to the tidal ecosystem, and the proximity of documented threatened and endangered species.

Wetlands 99-W23 (99-W23), 99-W24 (99-W24), and 99-W25 (99-W25) (PEM)

Wetlands 99-W23 (99-W23), 99-W24 (99-W24), and 99-W25 (99-W25) are three PEM wetlands located within an existing, maintained ACE utility roadway/ROW along Roberta Avenue. These wetlands are in early stages of development due to the previous development of the utility roadway/ROW, including recent activities leading to further compaction and grading Vegetation consisted of several herbaceous species across the three wetlands, with dominant species consisting of watershield (*Brasenia schreberi*, OBL), rice cut grass (*Leersia oryzoides*, OBL), and common reed (*Phragmites australis*, FACW). The wetland-upland transition was very abrupt due to the maintenance of the utility roadway/ROW. Some upland areas were located lower in elevation than the wetlands, due to the compaction and grading of the utility roadway/ROW. Soils were problematic with frequent refusal due to compaction. Soils observed in wetland 99-W25 showed signs of recent redox processes (5Y 3/2 concentrations in the matrix), possibly due to compaction and the reduced ability of water to move through the soil. Soil in the immediate adjacent area

on either side of the utility roadway/ROW are sandy, porous, and very well drained. Wetland hydrology indicators observed included standing water, saturation, and water-stained leaves. These wetlands are assumed to be of ordinary resource value due to the location of the wetlands within an existing, maintained utility roadway/ROW and frequent disturbance from vehicular access/use.

4.1.2 Surface Waters

EDR field delineated eight surface waters and desktop delineated one surface water that includes streams, thoroughfares, harbors, and other surface drainage features within the Cardiff Study Area and O&M Facility Study Areas. Descriptions of each watercourse are presented in this subsection. One watercourse (WC9) located along the shore of the proposed O&M Facility on the Clam Creek portion of Absecon Inlet has been delineated via desktop aerial imagery and has not been field verified. This area, which includes open water within the active navigation channel, was desktop evaluated due to lack of access for safety, security, or property owner concerns within the O&M Facility Study Area. A description of this surface waters identified as part of the desktop evaluation is not provided. When field delineations have been conducted, this report will be updated with the description of this surface water.

Watercourse 3 (WC3) – Tidal (R1)

Watercourse 3 (WC3) is a tidal creek that is directly connected to the Great Thorofare and flows under US-40. The approximate bank width ranged from 4 to 15 feet depending on location (it was narrowest at the farthest point from Great Thoroughfare. At the time of field studies, water depth was greater than 1 foot and rising with the tide.

Watercourse 4 (WC4) – Tidal (R1)

Watercourse 4 (WC4) is a tidal creek that is directly connected to the Great Thorofare and flows under US-40. The approximate bank width ranged from 80 feet to 4 feet depending on location (it was narrowest at the farthest point from Great Thoroughfare well north of the Cardiff Study Area. At the time of field studies, water depth was inaccessible due to steep and often soft banks.

Watercourse 5 (WC5) – Ephemeral (R6)

Watercourse 5 (WC5) is Mill Branch, a channelized swale that flows via culvert under a pedestrian bike path from north to south. At the time of field studies, no flow was present but had a gentle slope and an approximate bank width of 5 feet. This watercourse was also characterized by overhanging canopy vegetation, channelization, channel armoring (around the culvert intake and outflow), and substrate that consisted of sand, silt, and gravel.

Watercourse 6 (WC6) – Ephemeral (R6)

Watercourse 6 (WC6) is a channelized swale that flows under a pedestrian bike path via culvert from north to south. This drainage eventually connects with Mill Branch several hundred feet south of the Cardiff Study Area. At the time of delineation, no flow was present; however, this watercourse has a gentle slope and an approximate bank width of 6 feet. This watercourse was also characterized by overhanging vegetation, channelization, channel armoring (around the culvert intake and outflow), and substrate that consisted of sand, silt, and gravel.

Watercourse 9 (WC9) – Tidal (R1)

Watercourse 9 (WC9) is a tidal waterbody, the Atlantic City Harbor, that borders the proposed O&M Facility and Parking Lot. Due to security restrictions, this waterbody was not surveyed and was evaluated via desktop only.

Watercourse S001 – Tidal (R1)

Watercourse S001 is a tidal waterbody, the Inside Thorofare, the Beach Thorofare, and the Great Thorofare. The watercourse was inaccessible due to steep banks and areas protected by concrete banks and was evaluated from bridge crossings and measured via desktop measurements.

Stream 002 (26-ST002) (R3)

Stream 002 (26-ST002) is a perennial stream and part of Cedar Branch, which eventually flows into Mill Branch. 26-ST002 had a depth of approximately 5 inches with a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 6 to 8 feet, depending on location. The substrate consisted of sand, silt, and clay. Stream 002 (26-ST002) flows into and adjacent to wetland 26-W006 and connects to WL5 to the north via a culvert which runs underneath West Jersey Avenue and the Atlantic County Bikeway.

Stream 003 (26-ST003) (R6)

Stream 003 (26-ST003) is an ephemeral swale south of West Jersey Avenue. There was no surface water or saturation present at the time of the site investigation. There is a culvert that runs underneath West Jersey Avenue and the Atlantic County Bikeway between 26-ST003 and WL6 to the north. However, there was no perceptible flow between the two features at the time of the site investigation. Stream 003 (26-ST003) is not a mapped feature.

Stream 010 (26-ST010) (R3)

Stream 010 (26-ST010) is a perennial stream located south of West Jersey Avenue. It is connected to WC5 to the north via a culvert which runs underneath West Jersey Avenue and the Atlantic County Bikeway. 26-ST010 had a depth of more than 12 feet at Thalweg with a gentle stream gradient of 0 to 5%. The bank width of the stream was approximately 10 to 14 feet, depending on location. The substrate consisted of bedrock, gravel, and sand.

5.0 CONCLUSIONS

EDR conducted a wetland and watercourse delineation in June and December 2020, September 2021, June 2022, February 2023, and September 2023 for the Atlantic Shores proposed onshore interconnection cable route to the Cardiff POI and associated onshore infrastructure sites. A total of 27 wetlands totaling approximately 16.0 acres and 8 watercourses totaling approximately 10,197 linear feet were identified and delineated within the Cardiff Study Area. One watercourse (WC9) totaling 164 linear feet and located within the O&M Facility Study Area has been delineated via desktop. This resource was identified and approximated using aerial imagery and other publicly available data sources.

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 are also under the jurisdiction of the USACE under Section 10 of the River and Harbors Act and the Section 404 of the Clean Water Act. Any wetlands and watercourses greater than 1,000 feet upslope from the head of tide are under the assumed jurisdiction of NJDEP.

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

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Appendix A Figures

Figure 1 Project Location Map

Figure 1. USGS Project Location Map





Figure 2 SSURGO Soils Map










PssA - Psammaquents, sulfidic substratum, 0 to 2 percent slopes, frequently flooded WATERs - Water, saline

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

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

Wetland Delineation Report









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

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

Wetland Delineation Report





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

ATLANTIC SHORES



WATERs - Water, saline

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Wetland Delineation Report



TrkAv

WATERs





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

ATLANTIC SHORES

EDR



PssA - Psammaquents, sulfidic substratum, 0 to 2 percent slopes, frequently flooded

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

ATLANTIC SHORES

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

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











Pleasantville, and Egg Harbor Township, Atlantic County,

Wetland Delineation Report



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

EDR















DocBO GamB

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

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*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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Figure 3

Watershed Management Areas and Hydrologic Units

Figure 3. Watershed Management Areas and Hydrologic Units







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

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Sheet 3 of 8















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Figure 5

FEMA 1% Chance Annual Floodplain

Figure 5. FEMA 1% Chance Annual Floodplain



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FEMA Floodplain (1% Annual Chance of Flood)



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Study Area









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

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Study Area





Feet

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ATHLETIC FIELDS (SCHOOLS) BRIDGE OVER WATER COMMERCIAL/SERVICES CONIFEROUS BRUSH/SHRUBLAND CONIFEROUS SCRUB/SHRUB WETLANDS DECIDUOUS BRUSH/SHRUBLAND DISTURBED WETLANDS (MODIFIED) HERBACEOUS WETLANDS MAJOR ROADWAY MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA 🗾 TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)

MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.) OTHER URBAN OR BUILT-UP LAND PHRAGMITES DOMINATE COASTAL WETLANDS PHRAGMITES DOMINATE INTERIOR WETLANDS RAILROADS RESIDENTIAL, HIGH DENSITY OR MULTIPLE DWELLING SALINE MARSH (HIGH MARSH) SALINE MARSH (LOW MARSH) STORMWATER BASIN

TRANSPORTATION/COMMUNICATION/UTILITIES



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Study Area

North



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Study Area

Offshore Wind – Cardiff and O&M **Facility Study Areas** City of Atlantic City, City of

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Feet
Figure 6. Land Use/Land Cover

 MAJOR ROADWAY
 STORMWATER BASIN

 MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND
 TRANSITIONAL AREAS

 MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)
 TRANSPORTATION/COMMUNICATION/UTI

 MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)
 UPLAND RIGHTS-OF-WAY UNDEVELOPED

 MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)
 UPLAND RIGHTS-OF-WAY UNDEVELOPED

ARTIFICIAL LAKES

INDUSTRIAL

COMMERCIAL/SERVICES

CONIFEROUS BRUSH/SHRUBLAND

CONIFEROUS FOREST (10-50% CROWN CLOSURE)

DECIDUOUS FOREST (>50% CROWN CLOSURE)

CONIFEROUS FOREST (>50% CROWN CLOSURE) DECIDUOUS FOREST (10-50% CROWN CLOSURE) MIXED WOODED WETLANDS (DECIDUOUS DOM.)
OTHER URBAN OR BUILT-UP LAND
RAILROADS
RECREATIONAL LAND
RESIDENTIAL, HIGH DENSITY OR MULTIPLE DWELLING
RESIDENTIAL, RURAL, SINGLE UNIT
RESIDENTIAL, SINGLE UNIT, LOW DENSITY
RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY
STORMWATER BASIN
TRANSITIONAL AREAS
TRANSPORTATION/COMMUNICATION/UTILITIES
UPLAND RIGHTS-OF-WAY UNDEVELOPED



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

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

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Study Area





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offshore wind

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Figure 6. Land Use/Land Cover



COMMERCIAL/SERVICES

CONIFEROUS FOREST (10-50% CROWN CLOSURE) CONIFEROUS FOREST (>50% CROWN CLOSURE) CONIFEROUS WOODED WETLANDS DECIDUOUS FOREST (>50% CROWN CLOSURE) MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE) STORMWATER BASIN MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE) TRANSITIONAL AREAS MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE) TRANSPORTATION/COMMUNICATION/UTILITIES MIXED WOODED WETLANDS (CONIFEROUS DOM.)

ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS OTHER URBAN OR BUILT-UP LAND RECREATIONAL LAND RESIDENTIAL, RURAL, SINGLE UNIT RESIDENTIAL, SINGLE UNIT, LOW DENSITY RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY

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

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

Wetland Delineation Report

Study Area







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offshore wind

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Feet

Figure 6. Land Use/Land Cover



APPENDIX B

Routine Wetland Determination Data Sheets and Stream Inventory Forms

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	COP South Cardiff	City/Cou	unty: Atlantic	City, Atlantic County, NJ	Sampling Date: 02/08/2023
Applicant/Owner:	A	sow		State: New Jersey	Sampling Point: WL1-1U
Investigator(s):	TCAL	Section,	Township, Range:	Atlantic C	ity, Atlantic County, NJ
Landform (hillslope, terrace, etc):	Depressional area	Local relief (cond	ave, convex, none)): concave	Slope (%): 0-3
Subregion (LRR or MLRA):	LRR S	Lat: 3	9.365812	Long: -74.471277	717 Datum: WGS 1984
Soil Map Unit Name: Psamn	naquents, sulfidic substrat	um, 0 to 2 percent slo	pes, frequently floo	ded NWI classificat	ion:
Are climatic / hydrologic conditions of	n the site typical for this tin	ne of year? Yes	<u>X No</u>	(If no, explain in Remar	ks.)
Are Vegetation, Soil	, or Hydrology	significantly disturbe	ed? Are "I	Normal Circumstances" pres	ent? Yes X No
Are Vegetation, Soil	, or Hydrology	naturally problemati	c? (If ne	eded, explain any answers ir	Remarks.)
SUMMARY OF FINDINGS - /	Attach site map sho	wing sampling p	oint locations,	, transects, important	features, etc.
Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled	Δrea	
Hydric Soil Present?	Yes	No X	within a Wetlan	d? Yes	No X
Wetland Hydrology Present?	Yes		If ves. optional V	Vetland Site ID:	
footalia i jui ology i		<u> </u>	11 Joo, op		
Remarks: (Explain alternati∨e proc	edures here or in a separa	ate report.)			
20 20 E					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of on	e required; check all that a	apply)		Secondary Indic	ators (minimum of two required)
Surface Water (A1)	v	Vater-Stained Leaves	(B9)	Surface Sc	il Cracks (B6)
High Water Table (A2)	A	quatic Fauna (B13)		Drainage F	Patterns (B10)
Saturation (A3)	N	/larl Deposits (B15)		Moss Trim	Lines (B16)
Water Marks (B1)	[_]	lydrogen Sulfide Odor	· (C1)	Dry-Seaso	n Water Table (C2)
Sediment Deposits (B2)	_ c	Dxidized Rhizospheree	s on Living Roots (C	Crayfish Bu	urrows (C8)
Drift Deposits (B3)	P	Presence of Reduced	lron (C4)	Saturation	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	F	tecent Iron Reduction	in Tilled Soils (C6)	Stunted or	Stressed Plants (D1)
Iron Deposits (B5)	т	hin Muck Surface (C7	')	Geomorph	ic Position (D2)
Inundation Visible on Aerial In	nagery (B7) C	Other (Explain in Rema	arks)	Shallow Ac	uitard (D3)
				Microtonoo	raphic Relief (D4)
Sparsely Vegetated Concave	Surface (B8)				
Sparsely Vegetated Concave	Surface (B8)			FAC-Neutr	al Test (D5)
Sparsely Vegetated Concave	Surface (B8)			FAC-Neutr	al Test (D5)
Sparsely Vegetated Concave Field Observations:	Surface (B8)			FAC-Neutr	al Test (D5)
Field Observations: Surface Water Present?	Surface (B8) Yes NoX	Depth (inches):		FAC-Neutr	al Test (D5)
Field Observations: Surface Water Present? Water Table Present?	Surface (B8) Yes NoX Yes NoX	Depth (inches): Depth (inches):		FAC-Neutr	al Test (D5)
Field Observations: Surface Water Present? Water Table Present? Saturation Present?	Surface (B8) Yes No X Yes No X Yes No X	Depth (inches): Depth (inches): Depth (inches):	We	FAC-Neutro	al Test (D5) Yes NoX
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EGETATION - Use scientific names of plants.	2				Sam	pling Point	: <u>WL1</u>	-1U
Tree Stratum (Plot size: 30 Feet) 1.	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test Number of Domin That Are OBL, FA Total Number of I Species Across A	worksheet: nant Species ACW, or FAC: Dominant III Strata:		1	(A) (B)
				Percent of Domin That Are OBL, FA	ant Species \CW, or FAC:	3	100.0	_ (A/B)
6 7		- Tatal Cau		Prevalence Inde Total % Cov	x worksheet: /er of:	Mu	tiply by:	
Sapling/Shrub Stratum (Plot size: 15 Feet) 1.				OBL species FACW species FAC species FACU species UPL species Column Totals:	0 95 0 0 95	x 1 = x 2 = x 3 = x 4 = x 5 = (A)	0 0 285 0 0 285	 (B)
6 7.				Prevalence	Index = B/A =		3.0	
Herb Stratum (Plot size: 5 Feet) 1. Microstegium vimineum / Japanese stilt grass 2.	0 	_ = Total Cove	r FAC	Hydrophytic Veg 1 - Rapid Ter 2 - Dominan X 3 - Prevalent 4 - Morpholo Problematic ¹ Indicators of hyd be present, unles	yetation Indic st for Hydroph ce Test is >50 ce Index ≤3.0 ⁴ gical Adaptati Hydrophytic V ric soil and we s disturbed or	ators: ytic Vegeta % ons¹ (Pro∨ egetation¹ etland hydr problemat	ation de suppor (Explain) ology mus ic.	rting st
8 9				Definitions of Ve	egetation Stra	ita		
10 11 12.				Tree - Woody pla breast height (DB	nts 3 in. (7.6 c H), regardless	m) or mor s of height.	e in diame	ter at
Woody Vine Stratum (Plot size:	95	= Total Cove	r 	Sapling/shrub - greater than or ec Herb - All herbac size, and woody p Woody vines - A height.	Woody plants qual to 3.28 ft eous (non-wo plants less tha Il woody vines	less than 3 (1 m) tall. ody) plants n 3.28 ft ta s greater th	3 in. DBH : , regardle II. an 3.28 ft	and ss of in
	0	_ = Total Cove	r	Hydrophytic Vegetation Present?	Yes	<u>X </u> No		

-	-		
	_		
-			
		_	-

Depinit Interfact Redok / Features Type4 Loc2 Texture Remarks 0-3 10YR 3/3 100 0
0-3 10YR 3/3 100 Coarse Sand Coarse Sand 3-6 2.5Y 4/3 100 Coarse Sand Coarse Sand 6-18 10YR 6/8 Image: Sand Sand Sand Sand Sand Sand Sand Sand
3-6 2.5Y 4/3 100 Coarse Sand 6-18 10YR 6/8
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Polyvalue Below Surface (S8) (LRR R,MLRA 149B) 2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)
Black Histic (A3) Loamy Mucky Mineral (F1) (LRR K, L) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L)
Stratified Layers (A5) Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5) Red Parent Material (F21)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):
Туре:
Depth (inches): Hydric Soil Present? Yes No X
Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	COP South Cardiff	City/County: At	lantic City, Atlantic	County, NJ	Sampling Date:	02/08/2023
Applicant/Owner:	ASOW		Stat	e: New Jersey	Sampling Poin	t: WL1-1W
Investigator(s):	TCAL	Section, Township, Ra	nge:	Atlantic Cit	y, Atlantic Count	y, NJ
Landform (hillslope, terrace, etc):	Bowl shaped depression Local r	elief (concave, convex, i	none):	conca∨e	Slop	e (%): 0-3
Subregion (LRR or MLRA):	LRR S Lat:	39.365817	Long:	-74.471474	l Datu	m: WGS 1984
Soil Map Unit Name: Psamr	naquents, sulfidic substratum, 0 to 2 p	ercent slopes, frequently	/flooded	IWI classificatio	n:	
Are climatic / hydrologic conditions o	n the site typical for this time of year?	Yes X No	(If no, exp	lain in Remarks	s.)	
Are Vegetation, Soil	, or Hydrologysignificant	ly disturbed?	Are "Normal Circum	stances" prese	nt? Yes	X No
Are Vegetation, Soil	, or Hydrologynaturally p	problematic?	(If needed, explain a	any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing sar	npling point location	ons, transects,	important f	features, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sam	nled Area	-		
Hydric Soil Present?	Yes X No	— within a W	etland?	Yes X	No	
Wetland Hydrology Present?	Yes X No	- If ves. optic	nal Wetland Site ID			_
foctaria rigarology risson.			The volume one	3		9
Remarks: (Explain alternati∨e proc	edures here or in a separate report.)					
na 25 25						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of on	e required; check all that apply)		<u> </u>	econdary Indica	tors (minimum of	two required)
X Surface Water (A1)	Water-Staine	⊧d Leaves (B9)	-	_ Surface Soil	Cracks (B6)	
X High Water Table (A2)	Aquatic Faur	าa (B13)		_ Drainage Pa	tterns (B10)	
X Saturation (A3)	Marl Deposit	s (B15)	<u> </u>	Moss Trim L	ines (B16)	
Water Marks (B1)	Hydrogen Su	ılfide Odor (C1)		_ Dry-Season	Water Table (C2))
Sediment Deposits (B2)	Oxidized Rhi	zospheres on Living Roo	ots (C3)	_ Crayfish Bur	rows (C8)	
Drift Deposits (B3)	Presence of	Reduced Iron (C4)		Saturation V	isible on Aerial In	nagery (C9)
Algal Mat or Crust (B4)	Recent Iron	Reduction in Tilled Soils	(C6)	Stunted or S	tressed Plants (D	01)
Iron Deposits (B5)	Thin Muck S	urface (C7)	· · · · ·	Geomorphic	Position (D2)	
Inundation Visible on Aerial Ir	nagery (B7) Other (Expla	in in Remarks)	_	Shallow Aqu	iitard (D3)	
Inundation Visible on Aerial Ir Sparsely Vegetated Concave	nagery (B7) Other (Expla Surface (B8)	in in Remarks)		Shallow Aqu Microtopogra	iitard (D3) aphic Relief (D4)	
Inundation Visible on Aerial In Sparsely Vegetated Concave	nagery (B7) Other (Expla Surface (B8)	in in Remarks)		Shallow Aqu Microtopogra	itard (D3) aphic Relief (D4) Test (D5)	
Inundation Visible on Aerial Ir	magery (B7) Other (Expla Surface (B8)	in in Remarks)		Shallow Aqu Microtopogra	itard (D3) aphic Relief (D4) Test (D5)	
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations:	magery (B7) Other (Expla Surface (B8)	in in Remarks)		Shallow Aqu Microtopogra	iitard (D3) aphic Relief (D4) Test (D5)	
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present?	Magery (B7) Other (Expla Surface (B8) YesXNo Depth (inch	in in Remarks)		Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5)	
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present?	magery (B7) Other (Expla Surface (B8) Yes X Yes X Yes X Depth (inch	in in Remarks) ies): <u>4</u> ies): <u>3</u>		Shallow Aqu Microtopogra FAC-Neutral	iitard (D3) aphic Relief (D4) Test (D5)	
Field Observations: Surface Water Present? Water Table Present? Saturation Present?	Magery (B7) Other (Explain the constraint of the const	in in Remarks) ies): <u>4</u> ies): <u>3</u> ies): <u>0</u>	Wetland Hydrold	Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	magery (B7) Other (Expla Surface (B8) Yes X	in in Remarks) ies): <u>4</u> ies): <u>3</u> ies): <u>0</u>	 → Wetland Hydrolo	Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present?	magery (B7) Other (Expla Surface (B8) Yes X	in in Remarks) ies):	Wetland Hydrold	Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of the second data)	magery (B7) Other (Expla Surface (B8) Other (Expla Yes X No Depth (inch yauge, monitoring well, aerial photos, page Yeta (Social Social	in in Remarks) ies):	Wetland Hydrolo	Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation)	magery (B7) Other (Explain of the constraints) Surface (B8) Other (Explaints) Yes X No Depth (inchraints) yauge, monitoring well, aerial photos, page Depth Depth	in in Remarks)	Wetland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): nes): nes): orevious inspections), if a	Wetland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	magery (B7) Other (Expla Surface (B8) Yes No Depth (inch YesX No Depth (inch YesX No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): nes): nes): orevious inspections), if a	Wetland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	magery (B7) Other (Expla Surface (B8) Yes No Depth (inch YesX No Depth (inch YesX_ No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): nes): nes): orevious inspections), if a	Wetland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	magery (B7) Other (Expla Surface (B8) Yes No Depth (inch YesX No Depth (inch YesX No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if a	Wetland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generates) Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if a	₩etland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if a	₩etland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generates) Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if a	₩etland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if a	₩etland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if i	₩etland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, j	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if i	₩etland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): <u>4</u> nes): <u>3</u> nes): <u>0</u> previous inspections), if i	₩etland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	magery (B7) Other (Expla Surface (B8) Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch gauge, monitoring well, aerial photos, p	in in Remarks) nes): 4 nes): 3 nes): 0 previous inspections), if i	Wetland Hydrold	_ Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	magery (B7) Other (Expla Surface (B8) Yes <u>X</u> No Depth (inch Yes <u>X</u> No Depth (inch Yes <u>X</u> No Depth (inch gauge, monitoring well, aerial photos, j	in in Remarks) ies): <u>4</u> ies): <u>3</u> ies): <u>0</u> previous inspections), if i	Wetland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	magery (B7) Other (Expla Surface (B8) Yes <u>X</u> No Depth (inch Yes <u>X</u> No Depth (inch Yes <u>X</u> No Depth (inch gauge, monitoring well, aerial photos, j	in in Remarks) ies): <u>4</u> ies): <u>3</u> ies): <u>0</u> previous inspections), if i	Wetland Hydrold	_ Shallow Aqu _ Microtopogra _ FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generates) Remarks:	magery (B7) Other (Explain of the constraints) Yes X No Depth (inchrates) gauge, monitoring well, aerial photos, parameters Depth (inchrates)	in in Remarks)	Wetland Hydrold	_ Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generates) Remarks:	magery (B7) Other (Explain of the second	in in Remarks)	Wetland Hydrold	_ Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No
Inundation Visible on Aerial II Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generates) Remarks:	magery (B7) Other (Explain of the constraints) Yes X No Depth (inchrain of the constraints) Yes X No Depth (inchraints) Yes X No Depth (inchraints) gauge, monitoring well, aerial photos, parameters Second photos, parameters	in in Remarks)	Wetland Hydrold	_ Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5) Yes <u>X</u>	_ No

VEGETATION - Use scientific names of plants.				Samp	ling Point:		-1W
<u>Tree Stratum</u> (Plot size: <u>30 Feet</u>) 1. <u>Acer rubrum / Red maple</u> 2 3	Absolute <u>% Cover</u> 5	Dominant Species? Yes	Indicator Status FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata:		33	(A) (B)
4 5.			·	That Are OBL, FACW, or FAC:	1(0.0	(A/B)
6. 7. <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 Feet</u>) 1. <i>Lyonia ligustrina I</i> Maleberry	5 10	= Total Cov Yes	er FACW	Prevalence Index worksheet: Total % Cover of: OBL species 0 FACW species 25 EAC species 80	Multip x 1 = x 2 = y 3 =	ply by: 0 50 240	
2. 3. 4. 5.			_	FACU species 0 UPL species 0 Column Totals: 105	$\begin{array}{c} x & 0 \\ x & 4 = \\ x & 5 = \\ (A) \end{array}$	0 290	(B)
o 7	-			Prevalence Index = B/A =	2	.76	_
Herb Stratum (Plot size: 5 Feet) 1. Microstegium vimineum / Japanese stilt grass 2. Phragmites australis / Common reed 3. 4. 5. 6. 7. 8		_ = Total Cov Yes No	FAC FACW	Hydrophytic Vegetation Indica 1 - Rapid Test for Hydrophy X 2 - Dominance Test is >509 X 3 - Prevalence Index ≤3.01 4 - Morphological Adaptatic Problematic Hydrophytic Veget ¹ Indicators of hydric soil and weget be present, unless disturbed or present	itors: itic Vegetati % ins ¹ (Provid egetation ¹ (I problematic	on e suppo Explain) logy mus	rting st
9.			-	Definitions of Vegetation Strat	la		
10 11 12.				Tree - Woody plants 3 in. (7.6 cr breast height (DBH), regardless	n) or more of height.	in diame	eter at
Woody Vine Stratum (Plot size:	90	= Total Cov	er 	Sapling/shrub - Woody plants I greater than or equal to 3.28 ft (Herb - All herbaceous (non-woo size, and woody plants less thar Woody vines - All woody vines height.	ess than 3 i 1 m) tall. idy) plants, n 3.28 ft tall greater tha	in. DBH regardle n 3.28 ft	and ess of in
	0	_ = Total Co∨	er	Hydrophytic Vegetation Present? Yes	<u>(</u> No _		
Remarks: (Explain alternative procedures here or in a separat	te report.)						

~	-		
~	~		-

Profile Desc	ription: (Describe to tl	he depth ne	eded to document th	ne indicator	or confirm	the abse	nce of indicators	s.)
Depth	Matrix		Redo>	<pre>< Features</pre>			3 <u>7-</u> 92 93	
(inches)	Color (moist)		Color (moist)		ype ¹	Loc	lexture	Remarks
	10YR 2/2	100	<u>.</u>				Coarse Sand	
<u> </u>	2.5Y 4/2	100			. <u> </u>		Coarse Sand	
	-		-				2	
			2					
. <u></u>	- N <u>r</u>							
		····		- 11	. <u></u>			
							a	
	-							
-			48				à. <u> </u>	
¹ Type: C=Cor	ncentration, D=Depletio	n, RM=Redu	iced Matrix, MS=Masł	ked Sand Gr	ains.		² Locat	tion: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators	for Problematic Hydric Soils ³
Hyune Sonn	(A1)			v Surface (St				
	(A I) Sin adam (40)		- Fulyvalue Belov					Desiris Deday (140) (LRR K, L, MERA 1496)
	alpedon (AZ)			ce (59) (LR		(149B)	Coast	Prairie Redox (A16) (LRR K, L, R)
	SUC (A3)			ineral (F1)	(LKKK, L)			VIUCKY Peat of Peat (S3) (LRR K, L, R)
Hydroge	n Sulfide (A4)		Loamy Gleyed N	vlatnx (F2)			Dark S	Surface (S7) (LRR K, L)
Stratified	I Layers (A5)		X Depleted Matrix	(F3)			— ^{Polyva}	alue Below Surface (S8) (LRR K, L)
Depleted	Below Dark Surface (A11)	Redox Dark Sur	face (F6)			Thin D	Dark Surface (S9) (LRR K, L)
Thick Da	ark Surface (A12)		Depleted Dark S	Surface (F7)			Iron-N	langanese Masses (F12) (LRR K, L, R)
Sandy N	lucky Mineral (S1)		Redox Depressi	ons (F8)			Piedm	iont Floodplain Soils (F19) (MLRA 149B)
Sandy G	lleyed Matrix (S4)						Mesic	Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy R	edox (S5)						Red F	Parent Material (F21)
Stripped	Matrix (S6)						Very S	Shallow Dark Surface (TF12)
Dark Su	face (S7) (LRR R, ML	RA 149B)					Other	(Explain in Remarks)
³ Indicators of	hydrophytic vegetation	and wetland	hydrology must be n	recent unlec	e dicturbed	or problem	matic	
Indicators of	nydropnyde vegetation	and wettand	rnydrology mast be pi	resent, unies	s usturbeu		T	
Restrictive L	ayer (if observed):							
Туре:								
Depth (in	ches):						Hydric Soil Pr	resent? Yes X No
Remarks:							9	
1	Standing water and a h	igh water tat	le prevents soil from	being extrac	ted after 8"	below gra	de.	

Field Investigators: Heather Berry Kyle Crawford	Date: <u>9/14/2021</u>					
Project/Site: Cardiff Wetland Delineation State: NJ County: Atlantic County						
Applicant/Owner: Atlantic Shores Offshore Wind						
Plant Community#/Name: Wetland 1A – 11						
Note: it a more detailed site description is necessary, prov sparsely vegetated area	/ide detail here: <u>Uplai</u>	nd between roadwa	ay and wetland,			
Do normal environmental conditions exist at the plant corr	nmunity?					
Yes 🖂 No 🗌 (If no, explain)						
Has the vegetation, soils, and/or hydrology been significar	ntly disturbed?					
Yes⊡ No⊠ (If yes, explain)						
VEGE	TATION					
Dominant Plant Species	Percent Cover	Indicator Status	Stratum			
1. High Tide Bush (Iva frutescens)	70	FACW	Shrub			
2. Salt Marsh Goldenrod (Solidado sempervirens)	2	FACW	Herbaceous			
3. Poison Ivy (Toxicodendron radicans)	30	FAC	Herbaceous			
4. Common Reed (Phragmites australis)	2	FACW	Herbaceous			
5. Virginia Creeper (Parthenocissus quinquefolia)	5	FACU	Woody Vine			
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>66.7</u> Is the hydrophytic vegetation criterion met? Yes \boxtimes No \square Rationale:						
SC	DILS					
Series/Phase: Entisols Subgroup: Aquents						
Is the soil on the hydric soils list? Yes $\hfill \square$ No	⊠ Undete	rmined 🗆				
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" 7.5YR 5/8, 4-8" 2.4Y 7/4 clay sand						

Mottle Colors: <u>N/A</u>			
Other hydric soil indicators: <u>N/A</u>			
Is the hydric soil criterion met?	Yes 🗆	No 🖂	
Rationale:			
	ł	IYDROLOGY	
Is the ground surface inundated?	Yes 🗆	No 🖂	Surface water depth: <u>N/A</u>
Is the soil saturated? Yes \square	No 🖂		
Depth to free-standing water in pit/s	soil probe hole: <u>N</u>	<u>/A</u>	
List of other field evidence of surfac	e inundation or s	oil saturation: <u>N/A</u>	
Is the wetland hydrology criterion m	iet? Yes □] No 🛛	
Rationale:			

Field Investigators: <u>Heather Berry Klye Crawford</u> Date: <u>9/14/2021</u>							
Project/Site: Cardiff Wetland Delineation State: NJ County: Atlantic County							
Applicant/Owner: Atlantic Shores Offshore Wind							
Plant Community#/Name: <u>Wetland 1A – 1W</u>							
Note: if a more detailed site description is necessary, provide	detail here: <u>Tidal V</u>	Vetland					
Do normal environmental conditions exist at the plant commu	nity?						
Yes 🛛 No 🗌 (If no, explain)							
Has the vegetation, soils, and/or hydrology been significantly	disturbed?						
Yes⊡ No⊠ (If yes, explain)							
VEGETA	FION						
Dominant Plant Species	Percent Cover	Indicator Status	Stratum				
1. <u>Glasswort (Salicornia depressa)</u>	5	OBL	Herbaceous				
	~~		Horbacoouc				
2. <u>Smooth Cordgrass (Spartina alterniflora)</u>	99		TIEIDaceous				
2. <u>Smooth Cordgrass (Spartina alterniflora)</u>	99		TIEIDaceous				
2. <u>Smooth Cordgrass (Spartina alterniflora)</u> Percent of Dominant Species that are OBL, FACW, and/or FA	<u>99</u> AC: <u>100%</u>		THEIDACEOUS				
2. <u>Smooth Cordgrass (Spartina alterniflora)</u> Percent of Dominant Species that are OBL, FACW, and/or FA Is the hydrophytic vegetation criterion met? Yes ⊠	99 AC: <u>100%</u> No 🗆		THEIDACEOUS				
2. <u>Smooth Cordgrass (Spartina alterniflora)</u> Percent of Dominant Species that are OBL, FACW, and/or FA Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale:	99 AC: <u>100%</u> No 🗆		THEIDACEOUS				
2. <u>Smooth Cordgrass (Spartina alterniflora)</u> Percent of Dominant Species that are OBL, FACW, and/or FA Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale:	99 AC: <u>100%</u> No 🗆		THEIDACEOUS				
Smooth Cordgrass (Spartina alterniflora) Percent of Dominant Species that are OBL, FACW, and/or F/ Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale: SOIL	99 AC: <u>100%</u> No □		THEIDACEOUS				
2. <u>Smooth Cordgrass (Spartina alterniflora)</u> Percent of Dominant Species that are OBL, FACW, and/or FA Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale: Series/Phase: <u>Entisols</u> Subgroup: <u>Aquents</u>	99 AC: <u>100%</u> No □ 3						
2. Smooth Cordgrass (Spartina alterniflora) Percent of Dominant Species that are OBL, FACW, and/or F/ Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale: Solls Series/Phase: Entisols Subgroup: Aquents Is the soil on the hydric soils list? Yes □ No ⊠	99 AC: <u>100%</u> No 🗆 3 Undeter	mined					
2. Smooth Cordgrass (Spartina alterniflora) Percent of Dominant Species that are OBL, FACW, and/or F/ Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale: SOIL: Series/Phase: Entisols Subgroup: Aquents Is the soil on the hydric soils list? Yes □ No ⊠ Is the soil a Histosol? Yes □ No ⊠	99 AC: <u>100%</u> No □ 3 Undeter Histic epipedon p	mined □ present? Yes ⊠	No				
2. Smooth Cordgrass (Spartina alterniflora) Percent of Dominant Species that are OBL, FACW, and/or FA Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale: SOILS Soils Series/Phase: Entisols Subgroup: Aquents Is the soil on the hydric soils list? Yes □ No ⊠ Is the soil a Histosol? Yes □ No ⊠ Is the soil: Mottled? Yes □ No ⊠	99 AC: <u>100%</u> No □ S Histic epipedon p Gleyed? Yes [mined □ present? Yes ⊠ □ No ⊠	No 🗆				
2. Smooth Cordgrass (Spartina alterniflora) Percent of Dominant Species that are OBL, FACW, and/or FA Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale: SOIL: SOIL: Series/Phase: Entisols Subgroup: Aquents Is the soil on the hydric soils list? Yes □ No ⊠ Is the soil a Histosol? Yes □ No ⊠ Is the soil: Mottled? Yes □ No ⊠ Matrix Color: 0-8" 10YR 3/1 sandy rocky material with organic	yy AC: <u>100%</u> No □ S Histic epipedon p Gleyed? Yes [cmatter	mined present? Yes No No No No No No No No	No 🗆				
2. Smooth Cordgrass (Spartina alterniflora) Percent of Dominant Species that are OBL, FACW, and/or FA Is the hydrophytic vegetation criterion met? Yes ⊠ Rationale: SOIL: Soil: Series/Phase: Entisols Subgroup: Aquents Is the soil on the hydric soils list? Yes □ No ⊠ Is the soil a Histosol? Yes □ No ⊠ Is the soil: Mottled? Yes □ No ⊠ Matrix Color: 0-8" 10YR 3/1 sandy rocky material with organic Mottle Colors: N/A	yy AC: <u>100%</u> No □ 3 Histic epipedon p Gleyed? Yes [matter	mined □ present? Yes ⊠ □ No ⊠	No 🗆				

Is the hydric soil criterion met?	Yes 🛛	No 🗆	
Rationale:			
		HYDROLOGY	
Is the ground surface inundated?	Yes 🛛	No 🗆	Surface water depth: <u>1"</u>
Is the soil saturated? Yes \square	No 🗆]	
Depth to free-standing water in pit/s	soil probe hole: <u>(</u>	<u>)"</u>	
List of other field evidence of surface	e inundation or	soil saturation: <u>N/A</u>	í.
Is the wetland hydrology criterion m	iet? Yes [🛛 🛛 No 🗆	
Rationale:			

Field Investigators: Matt Spadoni, Jacqueline McMillen Date: 6/23/2020						
Project/Site: Cardiff Wetland Delineation State: NJ	County: <u>Atlantic</u>	<u>County</u>				
Applicant/Owner: Atlantic Shores Offshore Wind						
Plant Community#/Name: WL2 -1W						
Note: if a more detailed site description is necessary, provide <u>Previously: Wetland 3 – 1W</u>	e detail here: <u>PEM t</u>	idal wetland				
Do normal environmental conditions exist at the plant comm	unity?					
Yes 🖂 No 🗌 (If no, explain)						
Has the vegetation, soils, and/or hydrology been significantly	disturbed?					
Yes⊡ No⊠ (If yes, explain)						
VEGETA	TION					
Dominant Plant Species	Percent Cover	Indicator Status	Stratum			
1. Jesuit's bark (Iva frutescens)	15	FACW	Shrub			
2. Saltmeadow Cordgrass (Spartina patens)	20	FACW	Herbaceous			
3. Smooth Cordgrass (Spartina alterniflora)	<u>25</u>	OBL	Herbaceous			
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>100%</u> Is the hydrophytic vegetation criterion met? Yes I No I Rationale:						
SOIL	s					
Series/Phase: Entisols Subgroup: <u>Aquents</u>						
Is the soil on the hydric soils list? Yes \square No \boxtimes	Undete	rmined 🗆				
Is the soil a Histosol? Yes \Box No $igtriangleq$	Histic epipedon	oresent?Yes 🛛	No 🗆			
Is the soil: Mottled? Yes \Box No \boxtimes	Gleyed? Yes	□ No ⊠				
Matrix Color: Unable to access soils, perennial stream prese	<u>nt</u>					
Mottle Colors: <u>N/A</u>						

Other hydric soil indicators: <u>N/A</u>						
Is the hydric soil criterion met?	Yes 🛛	No 🗆				
Rationale: Soils too saturated/muck	vy to access samp	ble				
	HYDROLOGY					
Is the ground surface inundated?	Yes 🛛	No 🗆	Surface water depth: 2"+			
Is the soil saturated? Yes \square	is the soil saturated? Yes ⊠ No □					
Depth to free-standing water in pit/s	Depth to free-standing water in pit/soil probe hole: <u>0"</u>					
List of other field evidence of surface inundation or soil saturation: <u>N/A</u>						
Is the wetland hydrology criterion met? Yes $oxtimes$ No \Box						
Rationale:						

Field In	Field Investigators: <u>Matt Spadoni, Jacqueline McMillen</u> Date: <u>6/23/2020</u>							
Project/	Project/Site: Cardiff Wetland Delineation State: NJ County: Atlantic County							
Applica	nt/Owner: <u>Atlantic Sho</u>	res Offshore Wind	t					
Plant Co	ommunity#/Name: <u>WL</u>	<u>2 – 2U</u>						
Note: if <u>runs alc</u> <u>Previou</u>	a more detailed site d ong wetland boundary sly: Wetland 3 – 2U	escription is neces	sary, provide o	detail here: <u>Uplan</u>	d consisting of gra	vel roadbed that		
Do norn	nal environmental con	ditions exist at the	plant commun	ity?				
Yes 🛛	No 🗆	(If no, expla	in)					
Has the	vegetation, soils, and	/or hydrology beer	n significantly c	listurbed?				
Yes⊠	No	(If yes, expl	ain) <u>gravel roa</u>	dbed, no soil sam	ole			
			VEGETAT	ION				
	Dominant Plant Spec	cies		Percent Cover	Indicator Status	Stratum		
1.	<u>Eastern Redcedar (J</u>	uniperus virginian	a)	5	FACU	Tree		
2. 3.	<u>Jesuit's bark (Iva frut</u> Common Reed (Phra	<u>escens)</u> agmities australis)		<u>5</u> 25	FACW FACW	<u>Shrub</u> Herbaceous		
Percent	of Dominant Species	that are OBL, FAC	CW, and/or FA	C: <u>50%</u>				
Is the h	ydrophytic vegetation	criterion met? Yes	G 🗌	No 🖂				
Rationa	Rationale:							
			SOILS					
Series/F	^o hase: <u>Entisols</u> Su	bgroup: <u>Aquents</u>						
Is the se	oil on the hydric soils li	st? Yes 🗆	No 🖂	Undeter	mined 🛛			
Is the se	oil a Histosol? Ye	s 🗆 🛛 No		Histic epipedon p	oresent?Yes 🗆	No 🖂		
Is the so	oil: Mottled?	Yes 🗆 🛛 No		Gleyed? Yes [□ No ⊠			
Matrix C	Color: <u>Gravel Roadbec</u>							
Mottle C	Colors: <u>N/A</u>							

Other hydric soil indicators: <u>N/A</u>					
Is the hydric soil criterion met?	Yes 🗆	No 🖂			
Rationale:					
	н	YDROLOGY			
Is the ground surface inundated?	Yes 🗆	No 🖂	Surface water depth: <u>N/A</u>		
Is the soil saturated? Yes \Box	No 🖂				
Depth to free-standing water in pit/soil probe hole: <u>N/A</u>					
List of other field evidence of surface inundation or soil saturation: <u>N/A</u>					
Is the wetland hydrology criterion m	et? Yes 🗆	No 🖂			
Rationale:					

Field Inv	vestigators: <u>Matt Spadoni, Jacquelin</u>	e McMillen	Date: <u>6/</u>	23/2020	
Project/	Site: Cardiff Wetland Delineation	State: NJ	County: Atlantic (County	
Applica	nt/Owner: Atlantic Shores Offshore	A/ind	al. la		
Plant Co	ommunity#/ivame: vvlz – zvv				
Note: if <u>Previou</u>	a more detailed site description is n sl <u>y: Wetland 3 – 2W</u>	ecessary, provide o	detail here: <u>Tidal V</u>	Vetland	
Do norn	nal environmental conditions exist a	the plant commur	iity?		
Yes 🛛	No 🗌 (If no, e	xplain)			
Has the	vegetation, soils, and/or hydrology	peen significantly o	disturbed?		
Yes⊡	No⊠ (If yes,	explain)			
		VEGETAT	ION		
	Dominant Plant Species		Percent Cover	Indicator Status	Stratum
1.	Eastern Red Cedar (Juniperus virg	iniana)	30	FACU	Tree
2.	Jesuit's bark (Iva frutescens)		40	FACW	Shrub
3.	Glasswort (Salicornia depressa)		5	OBL	Herbaceous
4. Smooth cordgrass (Spartina patens)			90	OBL	Herbaceous
5. Grass sp.			40	NA	Herbaceous
6. Common Reed (Phragmities austalis)			5	FACW	Herbaceous
7.	Sea Lavender (Limonium carolinia	num)	2	OBL	Herbaceous
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>60%</u> Is the hydrophytic vegetation criterion met? Yes I No I Rationale:					
		SOILS			
Series/F	Phase: <u>Entisols</u> Subgroup: <u>Aque</u>	<u>nts</u>			
Is the so	oil on the hydric soils list? Yes \square	No 🖂	Undeter	mined 🗆	
Is the soil a Histosol? Yes \Box No \boxtimes Histic epipedon present? Yes \boxtimes No \Box					
Is the so	oil: Mottled? Yes □	No 🖂	Gleyed? Yes [□ No ⊠	

Matrix Color: 0-5" 10YR 3/2, 5-8" 10YR 4/1, 8-18 10YR 2/1; heavy organic matter, sandy some small rocks Mottle Colors: N/A Other hydric soil indicators: Depletions present Is the hydric soil criterion met? Yes 🛛 No 🗆 Rationale: HYDROLOGY Is the ground surface inundated? Yes \Box 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:

Field Investigators: Matt Spadoni, Jacqueline McMillen Date: 6/23/2020						
Project/Site: Cardiff Wetland Delineation State: NJ	County: <u>Atlantic County</u>					
Applicant/Owner: Atlantic Shores Offshore Wind						
Plant Community#/Name: WL3 – 1U						
Note: if a more detailed site description is necessary, provide	detail here: <u>Previously: Wetland 4 – 1U</u>					
Do normal environmental conditions exist at the plant commu	nity?					
Yes 🖂 No 🗌 (If no, explain)						
Has the vegetation, soils, and/or hydrology been significantly	disturbed?					
Yes⊡ No⊠ (If yes, explain)						
VEGETAT	TON					
Dominant Plant Species	Percent Cover Indicator Status Stratum					
1. Spotted Knapweed (Centaurea stoebe)	10 NA Herbaceous					
2. Japanese clover (Kummerowia striata)	<u>30 FACU Herbaceous</u>					
Percent of Dominant Species that are OBL, FACW, and/or FA	.C: <u>0%</u>					
Is the hydrophytic vegetation criterion met? Yes \Box No \boxtimes						
Rationale:						
SOILS	5					
Series/Phase: Spodosols Subgroup: Aquods						
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box	Undetermined					
Is the soil a Histosol? Yes \Box No \boxtimes	Histic epipedon present? Yes 🛛 No 🖾					
Is the soil: Mottled? Yes \Box No \boxtimes	Gleyed? Yes 🗆 No 🖂					
Matrix Color: 0-10" 10YR 4/1. 10-18" 5YR 5/8						
Mottle Colors: <u>N/A</u>						
Other hydric soil indicators: <u>N/A</u>						

Is the hydric soil criterion met?	Yes 🗆	No 🖂				
Rationale:						
	Н	IYDROLOGY				
Is the ground surface inundated?	Yes 🗆	No 🖂	Surface water depth: <u>N/A</u>			
Is the soil saturated? Yes \Box	No 🖂					
Depth to free-standing water in pit/s	Depth to free-standing water in pit/soil probe hole: <u>N/A</u>					
List of other field evidence of surface inundation or soil saturation: <u>N/A</u>						
Is the wetland hydrology criterion m	iet? Yes ⊡] No ⊠				
Rationale:						

Field Investigators: Matt Spadoni, Jacqueline McMillen	Date: <u>6</u>	/23/2020		
Project/Site: <u>Cardiff Wetland Delineation</u> State: <u>NJ</u>	County: <u>Atlantic</u>	County		
Applicant/Owner: Atlantic Shores Offshore Wind	·			
Plant Community#/Name: VVL3 – 1VV				
Note: if a more detailed site description is necessary, propreviously: Wetland 4 – 1W	vide detail here: <u>PEM</u>			
Do normal environmental conditions exist at the plant con	nmunity?			
Yes ⊠ No □ (If no, explain)				
Has the vegetation, soils, and/or hydrology been significa	intly disturbed?			
Yes⊡ No⊠ (If yes, explain)				
VEGE	ETATION			
Dominant Plant Species	Percent Cover	Indicator Status	Stratum	
1. Reed Canary Grass (Phalaris arundinacea)	60	OBL	Herbaceous	
2. Broadleaf Cattail (Typha latifolia)	20	OBL	Herbaceous	
3. Marsh Mallow (Althaea officinalis)	15	FACW	Herbaceous	
4. Common Rush (Juncus effuses)	10	OBL	Herbaceous	
5. Shallow sedge (Carex Iurida)	10	OBL	Herbaceous	
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>100%</u> Is the hydrophytic vegetation criterion met? Yes I No I Rationale:				
S	OILS			
Series/Phase: Spodosols Subgroup: Aquods				
Is the soil on the hydric soils list? Yes $oxtimes$ No	□ Undete	rmined		
Is the soil a Histosol? Yes \Box No \boxtimes	Histic epipedon	present?Yes 🗆	No 🖂	
Is the soil: Mottled? Yes $oxtimes$ No \Box	Gleyed? Yes	□ No ⊠		
Matrix Color: <u>0-18" 10YR 2/1 (85%)</u>				

Mottle Colors: <u>5YR 4/6 (15%)</u>					
Other hydric soil indicators: <u>N/A</u>					
Is the hydric soil criterion met?	Yes 🛛	No			
Rationale:					
		HYDRO	OLOGY		
Is the ground surface inundated?	Yes 🗆	No [\boxtimes	Surface water depth: <u>N/A</u>	
Is the soil saturated? Yes \boxtimes	Ν	No 🗆			
Depth to free-standing water in pit/s	soil probe h	nole: <u>N/A</u>			
List of other field evidence of surface inundation or soil saturation: geomorphic position, water stained leaves					
Is the wetland hydrology criterion m	iet? Y	íes ⊠	No 🗆		
Rationale:					

Field Investigators: Matt Spadoni, Jacqueline McMillen	Field Investigators: <u>Matt Spadoni, Jacqueline McMillen</u> Date: <u>6/23/2020</u>						
Project/Site: Cardiff Wetland Delineation State: NJ	County: <u>Atlantic County</u>						
Applicant/Owner: Atlantic Shores Offshore Wind							
Plant Community#/Name: WL 4 -1W							
Note: if a more detailed site description is necessary, provide <u>bike path</u> <u>Previously: Wetland 5 – 1W</u>	detail here: Gully between forest li	ne and pedestrian					
Do normal environmental conditions exist at the plant commu	nity?						
Yes 🖂 No 🗌 (If no, explain)							
Has the vegetation, soils, and/or hydrology been significantly	disturbed?						
Yes⊡ No⊠ (If yes, explain)							
VEGETA	FION						
Dominant Plant Species	Percent Cover Indicator Statu	s Stratum					
1. Japanese Stiltgrass (Microstegium vimineum)	5 FAC	Herbaceous					
 <u>Slender Path Rush (Juncus tenuis)</u> Hairgrass (Deschampsia cespitosa) 	<u>10 FAC</u> 75 FACW	<u>Herbaceous</u> Herbaceous					
Percent of Dominant Species that are OBL, FACW, and/or FA	NC: <u>66.7</u>						
Is the hydrophytic vegetation criterion met? Yes \boxtimes	 No 🗆						
Rationale:							
SOIL	6						
Series/Phase: <u>Ultisols</u> Subgroup: <u>Udults</u>							
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box	Undetermined						
Is the soil a Histosol? Yes 🗆 No 🖂	Histic epipedon present? Yes	🛙 No 🗆					
Is the soil: Mottled? Yes 🗆 No 🖂	Gleyed?Yes 🗆 🛛 No 🛛	3					
Matrix Color: <u>0-5" 5YR 2/1, 5-10" 10YR 2/1 organic loam</u>							
Mottle Colors: <u>N/A</u>							

Other hydric soil indicators: <u>N/A</u>						
Is the hydric soil criterion met?	Yes 🛛	No 🗆				
Rationale:						
	н	YDROLOGY				
Is the ground surface inundated?	Yes 🗆	No 🖂	Surface water depth: N/A			
Is the soil saturated? Yes \square	No 🗆					
Depth to free-standing water in pit/s	Depth to free-standing water in pit/soil probe hole: <u>N/A</u>					
List of other field evidence of surface inundation or soil saturation: low lying area						
Is the wetland hydrology criterion m	net? Yes ⊠	No 🗆				
Rationale:						

Field Investigators: Matt Spadoni, Jacqueline McMillen	Date: <u>6/23/2020</u>
Project/Site: Cardiff Wetland Delineation State: NJ	County: <u>Atlantic County</u>
Applicant/Owner: Atlantic Shores Offshore Wind	
Plant Community#/Name: <u>WL5 – 1U</u>	
Note: if a more detailed site description is necessary, pr delineated wetland Previously: Wetland 6 – 1U	provide detail here: <u>Hillslope between walking path and</u>
Do normal environmental conditions exist at the plant c	community?
Yes 🖂 No 🗌 (If no, explain)	
Has the vegetation, soils, and/or hydrology been signifi	ïcantly disturbed?
Yes□ No⊠ (If yes, explain)	
VEC	GETATION
Dominant Plant Species	Percent Cover Indicator Status Stratum
1. Sassafras (Sassafras albidum)	15 FACU Shrub/Sapling
2. Grey Birch (Betula populifolia)	5 FACW Shrub/Sapling
3. Black Oak (Quercus velutina)	10 Non-Wetland (Pinelands) Shrub/Sapling
4. <u>Cherry (Prunus serotina)</u>	<u>15</u> <u>FACU</u> Shrub/Sapling
5. <u>Sweetbay Magnolia (Magnolia virginiana)</u>	10 FACW Shrub/Sapling
6. <u>Pepper Bush (Clethra alnifolia)</u>	10 FACW Shrub/Sapling
7. <u>Spolled Knapweed (Centaurea stoepe)</u>	
Percent of Dominant Species that are OBL, FACW, and	id/or FAC: 28.6
Is the hydrophytic vegetation criterion met? Yes \Box	No 🖾
Rationale	
Nationale.	
	SOILS
Series/Phase: <u>Ultisols</u> Subgroup: <u>Udults</u>	
Is the soil on the hydric soils list? Yes $oxtimes$ N	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: <u>0-8</u>	<u>" 10YR 3/3,</u>	8-14" 10YR 4/6	sandy				
Mottle Colors: <u>N/</u>	<u>A</u>						
Other hydric soil	indicators: <u>I</u>	<u> </u>					
Is the hydric soil	criterion me	t? Yes □	No 🖂				
Rationale:							
HYDROLOGY							
Is the ground sur	face inunda	ted? Yes 🗆	No 🗵	Ş	Surface water de	pth: <u>N/A</u>	
Is the soil saturat	ed? Y	es 🗆	No 🛛				
Depth to free-sta	nding water	in pit/soil probe	e hole: <u>N/A</u>				
List of other field	evidence of	surface inunda	ation or soil saturat	ion: <u>N/A</u>			
Is the wetland hy	drology crite	erion met?	Yes 🗆	No 🖂			
Rationale:							

Routine Onsite Determination Form

Field Inv	Field Investigators: <u>Matt Spadoni, Jacqueline McMillen</u> Date: <u>6/23/2020</u>									
Project/S	Project/Site: Cardiff Wetland Delineation State: NJ County: Atlantic County									
Applicar	nt/Owner: Atlantic Shores Offshore Wind									
Plant Co	Plant Community#/Name: <u>WL5 – 1W</u>									
Note: if a more detailed site description is necessary, provide detail here: <u>Gully between forest line and pedestrian</u> <u>bike path</u> <u>Previously: Wetland 6 – 1W</u>										
Do norm	nal environmental conditions exist at the plant comr	nunity?								
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.	Red Maple (Acer rubrum)	40	FAC	Tree						
2.	Cherry (Prunus serotina)	2	FACU	Tree						
3.	Spicebush (Lindera benzoin)	10	FACW	Shrub/Sapling						
4.	Red Maple (Acer rubrum) 15 FAC Shrub/Sapling									
5.	Sassafras (Sassafras albidum) 1 FACU Shrub/Sanling									
6.	White Oak (Quercus alba)	1	FACU	Shrub/Sapling						
7.	Greenbriar (Smilax rotundifolia)	20	FACW	Wood Vine						
8.	Moss	40	NA	Herbaceous						
9.	Japanese Stiltgrass (Microstegium vimineum)	5	FAC	Herbaceous						
10.	Slender Path Rush (Juncus tenuis)	10	FAC	Herbaceous						
11.	Hairgrass (Deschampsia cespitosa)	15	FACW	Herbaceous						
12.	Sundew (Drosera rotundifolia)	2	OBL	Herbaceous						
13.	Bladderwort (Utricularia foliosa)	5	OBL	Herbaceous						
14.	Showy Goldenrod (Solidago speciose)	5	NA	Herbaceous						
15.	Cinnamon fern (Osmunda cinnamomea)	5	FACW	Herbaceous						

Percent of Dominant Species that are OBL, FACW, and/or FAC: 66.7

Is the hydrophytic vegetation criterion met? Yes \boxtimes No \square

Rationale:

SOILS							
Series/Phase: <u>Ultisols</u> Subgroup: <u>Udults</u>							
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box Undetermined \Box							
Is the soil a Histosol? Yes \Box No \boxtimes Histic epipedon present? Yes \boxtimes No \Box							
Is the soil: Mottled? Yes \Box No $oxtimes$ Gleyed? Yes \Box No $oxtimes$							
Matrix Color: <u>0-5" 5YR 2/1, 5-10" 10YR 2/1 organic loam</u>							
Mottle Colors: <u>N/A</u>							
Other hydric soil indicators: <u>N/A</u>							
Is the hydric soil criterion met? Yes $oxtimes$ No \Box							
Rationale:							
HYDROLOGY							
Is the ground surface inundated? Yes \boxtimes No \square Surface water depth: <u>0.5</u> "							
Is the soil saturated? Yes $oxtimes$ No \Box							
Depth to free-standing water in pit/soil probe hole: <u>N/A</u>							
List of other field evidence of surface inundation or soil saturation: low lying area with sparsely vegetated habitat							
Is the wetland hydrology criterion met? Yes $oxtimes$ No \Box							
Rationale:							

Field Investigators: Matt Spadoni, Jacqueline McMillen Date: 6/23/2020								
Project/Site: Cardiff Wetland Delineation State: NJ County: Atlantic County								
Applicant/Owner: Atlantic Shores Offshore Wind								
Plant Community#/Name: WL 5 – 2W								
Note: if a more detailed site description is necessary, provide detail here: <u>PFO</u> <u>Previously: Wetland 6 – 2W</u>								
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)								
VEGETAT	ION							
Dominant Plant Species	Percent Cover	Indicator Status	Stratum					
 <u>Red Maple (Acer rubrum)</u> <u>Black Gum (Nyssa sylvatica)</u> <u>Blueberry (Vaccinium corymbosum)</u> <u>Black Gum (Nyssa sylvatica)</u> <u>Holly (Ilex opaca)</u> <u>Moss</u> Royal Fern (Osmunda regalis) 	95 10 10 5 2 20 1	FAC FAC FAC FAC FAC NA OBL	Tree Tree Shrub/Sapling Shrub/Sapling Shrub/Sapling Herbaceous Herbaceous					
8. <u>Grass sp.</u>	<u>10</u>	NA	Herbaceous					
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>100</u> Is the hydrophytic vegetation criterion met? Yes ⊠ No □ Rationale:								
SOILS								
Series/Phase: Inceptisols Subgroup: Aquepts								
Is the soil on the hydric soils list? Yes \Box No $oxtimes$ Undetermined \Box								
Is the soil a Histosol? Yes □ No ⊠ Histic epipedon present? Yes ⊠ No □								

<i>I</i> lottle Colors: <u>N/A</u>							
Other hydric soil indicators: <u>N/A</u>							
Is the hydric soil criterion met?	Yes 🗵	3	No				
Rationale:							
HYDROLOGY							
Is the ground surface inundated?	Yes 🗆]	No	\boxtimes		Surface wat	er depth: <u>N/A</u>
Is the soil saturated? Yes	3	No 🗆					
Depth to free-standing water in pi	/soil prob	e hole: <u>5"</u>					
List of other field evidence of surfa wet leaves	ace inund	ation or so	oil sat	turati	on: <u>moss</u>	<u>trim lines, b</u>	uttressed and eroded tree roots
Is the wotland hydrology criterion	met?	Yes 🕅			No 🗆		

Field In	Field Investigators: Matt Spadoni, Jacqueline McMillen Date: 6/23/2020								
Project/Site: Cardiff Wetland Delineation State: NJ County: Atlantic County									
Applica	Applicant/Owner: Atlantic Shores Offshore Wind								
Plant C	ommunity#/Name: \\// 6_	- 111							
r lant O	ommunity#/Name. <u>vvL0 –</u>	<u>- 10</u>							
Note: if <u>Previou</u>	Note: if a more detailed site description is necessary, provide detail here: <u>Hillside between wetland and bike path</u> <u>Previously: Wetland 7 – 1U</u>								
Do norn	Do normal environmental conditions exist at the plant community?								
Yes 🛛	No 🗆	(If no, explain)							
Has the	vegetation, soils, and/or	hydrology been sign	ificantly disturb	ed?					
Yes⊡	No⊠	(If yes, explain)							
		V	EGETATION						
	Dominant Plant Species	6	Perce	ent Cover Indic	ator Status	Stratum			
1.	Pitch Pine (Pinus rigida))	60	FAC	-	Free			
2	Red Maple (Acer rubrur	n)	40	FAC		Tree			
3	Black Gum (Nyssa sylv	atica)	40	FAC	N	Tree			
4	Pepperbush (Clethra al	nifolia)	5	EAC	νν 	Shrub/Sapling			
5	Fastern Red Cedar (Ju	ninerus virginiana)	2	EAC	<u></u>	Shrub/Sapling			
6	Blueberry (Vaccinium a	ngustifolium)	2	FAC	<u>u</u>	Shrub/Sapling			
7	Greenbriar (Smilax rotri	undifolia)	5	FAC	<u> </u>	Woody Vine			
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>57.1</u> Is the hydrophytic vegetation criterion met? Yes I No I Rationale:									
	SOILS								
Series/F	Series/Phase: Inceptisols Subgroup: Aquepts								
Is the s	Is the soil on the hydric soils list? Yes \Box No \boxtimes Undetermined \Box								
Is the soil a Histosol? Yes \Box No \boxtimes Histic epipedon present? Yes \Box No \boxtimes									
Is the soil: Mottled? Yes 🗆 No 🖾 Gleyed? Yes 🗆 No 🖾									

Matrix Color: <u>0-2" 5yr 3/2, 2-6" 10yr 3/1, 6-14" 2.5y 5/4 sandy</u>								
Mottle Colors: <u>N/A</u>								
Other hydric soil indicators: <u>N/A</u>								
Is the hydric soil criterion met? Yes \Box	No 🖂							
Rationale:								
	HYDROLOGY							
Is the ground surface inundated? Yes \Box	No 🖂	Surface water depth: <u>N/A</u>						
Is the soil saturated? Yes \Box N	No 🖂							
Depth to free-standing water in pit/soil probe hole: <u>N/A</u>								
List of other field evidence of surface inundation	on or soil saturation: <u>N/A</u>							
Is the wetland hydrology criterion met?	Yes 🗆 🛛 No 🖂							
Rationale:								

Field Investigators: Matt Spadoni, Jacqueline McMillen Date: 6/23/2020									
Project/	Project/Site: Cardiff Wetland Delineation State: NJ County: Atlantic County								
Applica	Applicant/Owner: Atlantic Shores Offshore Wind								
Plant C	ommunity#/Name: <u>WL6 –</u>	<u>1W</u>							
Note: if <u>Previou</u>	Note: if a more detailed site description is necessary, provide detail here: <u>PFO – low drainage</u> <u>Previously: Wetland 7 – 1W</u>								
Do norr	mal environmental condition	ons exist at the plant c	community?						
Yes 🗵	No 🗆	(If no, explain)							
Has the	e vegetation, soils, and/or	nydrology been signifi	cantly disturbed?						
Yes⊡	No⊠	(If yes, explain)							
о ^т		VE	GETATION						
	Dominant Plant Species		Percent Cover	Indicator Status	Stratum				
1	Red Maple (Acer rubrum	1)	85	FAC	Tree				
2.	Pitch Pine (Pinus rigida)		5	FACU	Tree				
3.	Black Gum (Nyssa sylva	tica)	15	FAC	Sapling/Shrub				
4.	Red Maple (Acer rubrum	1)	10	FAC	Sapling/Shrub				
5.	Black Gum (Nyssa sylva	tica)	5	FAC	Herbaceous				
6.	Cinnamon Fern (Osmun	da cinnamomea)	<u>5</u>	FACW	Herbaceous				
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>100%</u> Is the hydrophytic vegetation criterion met? Yes ⊠ No □ Rationale:									
SOILS									
Series/I	Phase: <u>Inceptisols</u>	Subgroup: <u>Aquepts</u>	3						
Is the s	oil on the hydric soils list?	Yes 🗆 🛛 🗎	No 🖂 Undete	rmined					
Is the soil a Histosol? Yes \Box No \boxtimes Histic epipedon present? Yes \boxtimes No \Box									
Is the soil: Mottled? Yes □ No ⊠ Gleyed? Yes □ No ⊠									
Matrix Color: 0-3" 10yr 3/2, 3-4" 2.5y 6/3 (clay), 4-12" 10yr 2/1 saturated, sand masked with OM									
--									
Mottle Colors: <u>N/A</u>									
Other hydric soil indicators: <u>N/A</u>									
Is the hydric soil criterion met? Yes \boxtimes No \square									
Rationale:									
HYDROLOGY									
Is the ground surface inundated? Yes \Box No \boxtimes Surface water depth: <u>N/A</u>									
Is the soil saturated? Yes ⊠ No □									
Depth to free-standing water in pit/soil probe hole: <u>N/A</u>									
List of other field evidence of surface inundation or soil saturation: water stained leaves, geomorphic position									
Is the wetland hydrology criterion met? Yes \boxtimes No \square									
Rationale:									

Routine Onsite Determination Form

Field Investigators	s: HB, AL	Date: 06/20/2022				
Project/Site: Atlan	tic Shores	State: NJ	County: Atlantic			
Applicant/Owner:	Atlantic Shores, L	LC				
Plant Community#	#/Name: 37-W001	-1U				
Note: if a more de materials excavate	Note: if a more detailed site description is necessary, provide detail here: Area consists of a man-made berm with materials excavated from the stormwater basin.					
Do normal enviror	nmental conditions	s exist at the plant	community?			
Yes 🖂	No 🗆	(lf no, explain) <u>Cl</u>	ick or tap here to enter text.			
Has the vegetation	n, soils, and/or hy	drology been sign	ificantly disturbed?			
Yes⊠ berm	No□	(If yes, explain) S	oils were previously excavated and piled to create this upland			

VEGETATION

	Dominant Plant Species	Percent	Cover	Indicator Status	Stratum
1.	Pitch Pine (Pinus rigida)		60	FACU	Tree
2.	Blackjack Oak (Quercus m	narilandica)	15	FACU	Tree
3.	Wintergreen (Gaultheria p	rocumbens)	10	FACU	Herb
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 \Box No \boxtimes

Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slo	pes Subgroup: Aura
Is the soil on the hydric soils list? Yes $igtrianglequence$ No \Box	Undetermined
Is the soil a Histosol? Yes □ No ⊠	Histic epidedon present? Yes 🛛 No 🛛
Is the soil: Mottled? Yes 🗆 No 🖂	Gleyed? Yes □ No ⊠
Matrix Color: 0-2" 10YR 2/2 (100%); 2-6" 10YR 5/8 (100%)	Mottle Colors: N/A
Other hydric soil indicators: None	
Is the hydric soil criterion met? Yes \Box No \boxtimes	
Rationale: This is a characteristic upland soil without ar	y colors or hydric indicators.
HYDROLO	GY
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: None
Is the soil saturated? Yes \Box No \boxtimes	
Depth to free-standing water in pit/soil probe hole: None	
List of other field evidence of surface inundation or soil saturat	on: None
Is the wetland hydrology criterion met? Yes \Box	No 🖂
Rationale: No primary or secondary wetland hydrology indicate	rs exist.

Routine Onsite Determination Form

Field Investigators: HB, AL	Date: 06/20/20)22
Project/Site: Atlantic Shores	State: NJ	County: Atlantic
Applicant/Owner: Atlantic Shore	s, LLC	
Plant Community#/Name: 37-Wo	001-1W	
Note: if a more detailed site des	cription is necessa	ry, provide detail here: PEM wetland.
Do normal environmental condit	ions exist at the pla	ant community?
Yes 🛛 No 🗆	(If no, explain)	<u>Click or tap here to enter text.</u>
Has the vegetation, soils, and/or	hydrology been si	ignificantly disturbed?

Yes	No⊠	(If yes, explain) Click or tap here to enter	r text.
			Contraction of the local division of the loc

VEGETATION

	Dominant Plant Species	s Percen	t Cover	Indicator Status	Stratum
1.	Spikerush (Eleocharis p	palustris)	5	OBL	Herb
2.	Common Reed (Phragn	nites australis)	5	FACW	Herb
3.	Flat-top Goldentop (Eul	thamia graminifolia)	3	FAC	Herb
4.	Species Name	STATU	ISStrat	um	
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	
raant	of Dominant Coopies the		and/an EAC: 400	20/	

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

Is the hydrophytic vegetation criterion met? Yes $\begin{tabular}{ll} \label{eq:linear}$ No $\begin{tabular}{ll} \label{eq:linear}$

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

SOILS

Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slopes

Subgroup: Aura

Is the soil on the hydric soils list? Yes \Box No \boxtimes Undetermined \Box					
Is the soil a Histosol? Yes \Box No $oxtimes$ Histic epidedon present? Yes \Box No $oxtimes$					
Is the soil: Mottled? Yes $oxtimes$ No \Box Gleyed? Yes \Box No $oxtimes$					
Matrix Color: 0-1" 2.5Y 5/4 100%; 1-20" 5YR 5/8 70% Mottle Colors: 10Y 7/1 30%					
Other hydric soil indicators: Click or tap here to enter text.					
Is the hydric soil criterion met? Yes $oxtimes$ No \Box					
Rationale: Both colors and texture qualify this soil to be hydric.					
HYDROLOGY					
Is the ground surface inundated? Yes \boxtimes No \square Surface water depth <u>: 0.5 inch</u>					
Is the soil saturated? Yes \boxtimes No \square					
Depth to free-standing water in pit/soil probe hole: 0 inches					
List of other field evidence of surface inundation or soil saturation: Algal mat or crust, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres, geomorphic position, FAC neutral test, hydrogen sulfide odor, aquatic fauna (tadpoles).					
Is the wetland hydrology criterion met? Yes $oxtimes$ No \Box					
Rationale: Multiple primary and secondary hydrology indicators present.					

Routine Onsite Determination Form

Field Inv	vestigators: SM	Date: 08/11/2022	2				
Project/	Site: Atlantic Shores	State: NJ	County: Atlantic				
Applicar	nt/Owner: Atlantic Shores, I	LC					
Plant Co	ommunity#/Name: W001A-	1U					
Note: if material	a more detailed site descrip s excavated from the storm	otion is necessary, water basin	provide detail her	e: Area co	onsists of a man-m	nade berm with	
Do norm	nal environmental condition	s exist at the plant	community?				
Yes 🖂	No 🗆	(If no, explain) <u>Cl</u>	ick or tap here t	o enter t	ext.		
Has the	vegetation, soils, and/or hy	drology been sign	ificantly disturbed	?			
Yes⊠	No	(If yes, explain) S	Soils were previous	sly excava	ited		
VEGETATION							
	Dominant Plant Species Percent Cover Indicator Status Stratum						
	Dominant Plant Species	Percent	Cover	Indicator	Status	Stratum	
1.	Dominant Plant Species Black Cherry (Prunus sero	Percent	Cover 15	Indicator	Status FACU	Stratum Tree	
1. 2.	Dominant Plant Species Black Cherry (Prunus sero Catalpha (Catalpha specie	Percent otina) osa)	Cover 15 5	Indicator	Status FACU FACU	Stratum Tree Tree	
1. 2. 3.	Dominant Plant Species Black Cherry (Prunus sero Catalpha (Catalpha specie Pitch Pine (Pinus rigida)	Percent otina) osa)	Cover 15 5 5	Indicator	Status FACU FACU FACU	Stratum Tree Tree Tree	
1. 2. 3. 4.	Dominant Plant Species Black Cherry (Prunus sero Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L.	Percent otina) osa)	Cover <u>15</u> 5 5 5	Indicator	Status FACU FACU FACU STATUS	Stratum Tree Tree Tree Herb	
1. 2. 3. 4.	Dominant Plant Species Black Cherry (Prunus sero Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria	Percent otina) osa) sinensis)	Cover 15 5 5 5 20	Indicator	Status FACU FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6.	Dominant Plant Species Black Cherry (Prunus serce Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name	Percent osa) sinensis) % Cover	Cover 15 5 5 20 STATUS	Indicator	Status FACU FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6. 7.	Dominant Plant Species Black Cherry (Prunus serce Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name Species Name	Percent otina) osa) sinensis) % Cover % Cover	Cover 15 5 5 20 STATUS STATUS	Indicator Stratum Stratum	Status FACU FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6. 7. 8.	Dominant Plant Species Black Cherry (Prunus serce Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name Species Name Species Name	Percent otina) osa) sinensis) % Cover % Cover % Cover	Cover 15 5 20 STATUS STATUS STATUS	Indicator Stratum Stratum Stratum	Status FACU FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6. 7. 8. 9.	Dominant Plant Species Black Cherry (Prunus sero Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name Species Name Species Name Species Name	Percent otina) osa) sinensis) % Cover % Cover % Cover % Cover	Cover 15 5 5 20 STATUS STATUS STATUS STATUS STATUS	Indicator Stratum Stratum Stratum Stratum	Status FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Dominant Plant Species Black Cherry (Prunus serce Catalpha (Catalpha species Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name Species Name Species Name Species Name Species Name	Percent otina) osa) sinensis) % Cover % Cover % Cover % Cover % Cover	Cover 15 5 20 STATUS STATUS STATUS STATUS STATUS STATUS	Indicator Stratum Stratum Stratum Stratum Stratum	Status FACU FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11.	Dominant Plant Species Black Cherry (Prunus sero Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name Species Name Species Name Species Name Species Name Species Name	Percent otina) osa) sinensis) % Cover % Cover % Cover % Cover % Cover % Cover	Cover 15 5 20 STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Indicator Stratum Stratum Stratum Stratum Stratum Stratum Stratum	Status FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	Dominant Plant Species Black Cherry (Prunus sero Catalpha (Catalpha specie Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name	Percent otina) osa) sinensis) % Cover % Cover % Cover % Cover % Cover % Cover % Cover	15 5 5 20 STATUS	Indicator Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	Status FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13.	Dominant Plant Species Black Cherry (Prunus serce Catalpha (Catalpha species Pitch Pine (Pinus rigida) Yucca L. Chinese wisteria (Wisteria Species Name	Percent otina) osa) sinensis) % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover	15 5 5 20 STATUS STATUS	Indicator Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	Status FACU FACU STATUS STATUS	Stratum Tree Tree Tree Herb Tree	

Is the hydrophytic vegetation criterion met? Yes \Box No \boxtimes

Rationale: Click or tap here to enter text.

	UCIED
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 \Box	No Undetermined
Is the soil a Histosol? Yes \Box No \boxtimes	Histic epidedon present? Yes 🔲 No 🗵
Is the soil: Mottled? Yes □ No ⊠	Gleyed? Yes 🗆 No 🖂
Matrix Color: -8 2.5Y 4/5, 8+ 2.5Y 4/6 medium to coa	rse sand Mottle Colors: Click or tap here to enter text.
Other hydric soil indicators: None	
Is the hydric soil criterion met? Yes \Box	No 🖂
Rationale:	
Н	YDROLOGY
Is the ground surface inundated? Yes \square	No 🖾 Surface water depth: None
le the soil esturated? Vec 🗆 Ne 🕅	
Depth to free-standing water in pit/soil probe hole: No	pne
Depth to free-standing water in pit/soil probe hole: No	one bil saturation: none
Depth to free-standing water in pit/soil probe hole: No List of other field evidence of surface inundation or so Is the wetland hydrology criterion met? Yes	one bil saturation: none No ⊠
Depth to free-standing water in pit/soil probe hole: No List of other field evidence of surface inundation or so Is the wetland hydrology criterion met? Yes Rationale:	one oil saturation: none No ⊠

Routine Onsite Determination Form

Project/Site: A	Atlantic Shores	State: NJ	County: Atlantic			
Applicant/Ow	ner: Atlantic Shores	, LLC				
Plant Commu	nity#/Name: W001/	∖-1 ₩				
Note: if a mor materials exca to unnatural c	Note: if a more detailed site description is necessary, provide detail here: Area consists of a man-made berm with materials excavated from the stormwater basin, can potentially act as a vernal pool early in the growing season due to unnatural clay soils. Connected to Wetlands W001 and W002 through pipes					
Do normal en	vironmental condition	ons exist at the pla	int community?			
Yes 🛛	No 🗆	(If no, explain)	Click or tap here to enter text.			
Has the veget	ation, soils, and/or	hydrology been si	gnificantly disturbed?			
Yes⊠ depression	No	(If yes, explain)) Soils were previously excavated and piled to create this			
	VEGETATION					

	Dominant Plant Species	Percent	Cover	Indicator Status	Stratum
1.	Red Maple (Acer rubrum)		45	FAC	Tree
2.	Species Name	_% Cover	STATUS		
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	

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

Is the hydrophytic vegetation criterion met? Yes igsquare No \Box

Rationale: dominant vegetation meets criteria for hydrophytic vegetation.

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 \square	No □ Undetermined ⊠
Is the soil a Histosol? Yes \Box No \boxtimes	Histic epidedon present? Yes 🛛 No 🖾
Is the soil: Mottled? Yes $oxtimes$ No \Box	Gleyed? Yes 🗆 No 🖾
Matrix Color: 0-6" 10YR 5/4, 6-10+ 2.5Y 5/6 sandy Cl	ay Mottle Colors: concentrations 5Y 6/8
Other hydric soil indicators: None	
Is the hydric soil criterion met? Yes $igtriangleup$	No 🗆
Rationale: The soils have been heavily disturbe	d and are not natural for the area, they are problematic
but show signs of holding water for long period	ds of time.
but show signs of holding water for long period	ds of time. YDROLOGY
but show signs of holding water for long period H' Is the ground surface inundated? Yes \Box	As of time. YDROLOGY No ⊠ Surface water depth <u>: None</u>
but show signs of holding water for long period H Is the ground surface inundated? Yes Is the soil saturated?	ds of time. YDROLOGY No ⊠ Surface water depth <u>: None</u>
but show signs of holding water for long period H' Is the ground surface inundated? Yes □ Is the soil saturated? Yes □ No ⊠ Depth to free-standing water in pit/soil probe hole: No	As of time. YDROLOGY No ⊠ Surface water depth <u>: None</u> ne
but show signs of holding water for long period H* Is the ground surface inundated? Yes □ Is the soil saturated? Yes □ No ⊠ Depth to free-standing water in pit/soil probe hole: No List of other field evidence of surface inundation or so surface, geomorphic position	As of time. YDROLOGY No I Surface water depth <u>: None</u> ne il saturation: water stained leaves, concave unvegetated
but show signs of holding water for long period H Is the ground surface inundated? Yes Is the soil saturated? Yes No Depth to free-standing water in pit/soil probe hole: No List of other field evidence of surface inundation or so surface, geomorphic position Is the wetland hydrology criterion met?	As of time. YDROLOGY No I Surface water depth: None ne il saturation: water stained leaves, concave unvegetated No I

Routine Onsite Determination Form

Field Investigators: HB, AL	Date: 06/20/2022	2
Project/Site: Atlantic Shores	State: NJ	County: Atlantic
Applicant/Owner: Atlantic Shores,	LC	
Plant Community#/Name: 37-W00	2-1U	
Note: if a more detailed site descrip	tion is necessary,	provide detail here: Area consists of adjacent upland forest.
1	-10V	
Do normal environmental condition	s exist at the plan	community?
Do normal environmental conditior Yes ⊠ No □	s exist at the plan (If no, explain) <u>C</u>	community? ick or tap here to enter text.

Yes	NoX	(If yes explain) Click or tap here to enter text
		(if yes, explain) click of tap here to enter text.

VEGETATION

	Dominant Plant Speci	es Per	cent Cover	Indicator Status	Stratum
1.	Pitch Pine (Pinus rigid	la)	20	FACU	Tree
2.	Sassafras (Sassafras	albidum)	20	FACU	Tree
3.	Sassafras (Sassafras	albidum)	10	FACU	Shrub/Sapling
4.	Lowbush Blueberry (V	/accinium angustil	folium)40	FACU	Herb
5.	Bracken Fern (Pteridiu	um aquilinum)	20	FACU	Herb
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 th	hat are OBL, FAC	W, and/or FAC: 0%	, 0	

Is the hydrophytic vegetation criterion met? Yes □ No ⊠

Is the soil on the hydric soils list? Yes $oxtimes$ No \Box Undetermined \Box	
Is the soil a Histosol? Yes \Box No \boxtimes Histic epidedon present? Yes \Box No \boxtimes	
Is the soil: Mottled? Yes \Box No \boxtimes Gleyed? Yes \Box No \boxtimes	
Matrix Color: 0-2" 7.5YR 4/3 (100%); 2-4" 10YR 5/1 (100%); 4-6" 10YR 5/6 (100%) Mottle Colors: N/A	
Other hydric soil indicators: None	
Is the hydric soil criterion met? Yes \square No \boxtimes	
Rationale: This is a characteristic upland soil without any colors or hydric indicators.	
HYDROLOGY	
HYDROLOGY Is the ground surface inundated? Yes No No Surface water depth: None	
HYDROLOGY Is the ground surface inundated? Yes No Surface water depth: None Is the soil saturated? Yes No No	
HYDROLOGY Is the ground surface inundated? Yes No Surface water depth: None Is the soil saturated? Yes No No Depth to free-standing water in pit/soil probe hole: None	
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	
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	

Routine Onsite Determination Form

Field Inv	vestigators: HB, AL	Date: 06/20/2022	2		
Project/	Site: Atlantic Shores	State: NJ	County: Atlantic		
Applicar	nt/Owner: Atlantic Shores, I	LC			
Plant Co	ommunity#/Name: 37-W002	2-1W			
Note: if fence. S	a more detailed site descrip Stormwater feature has bee	otion is necessary, n managed and fe	provide detail her nced for protectior	e: PEM wetland that was no n.	ot sampled due to
Do norm	nal environmental condition	s exist at the plant	community?		
Yes 🛛	No 🗆	(If no, explain) <u>Cl</u>	ick or tap here t	o enter text.	
Has the	vegetation, soils, and/or hy	drology been sign	ificantly disturbed	?	
Yes□	No⊠	(If yes, explain) ⊆	lick or tap here	to enter text.	
		v	EGETATION		
	Dominant Plant Species	Percent	Cover	Indicator Status	Stratum
1.	Narrowleaf Cattail (Typha	angustifolia)	100	OBL	Herb
2.	Species Name	% Cover	STATUS	Stratum	
3.	Species Name	% Cover	STATUS	Stratum	
4.	Species Name	% Cover	STATUS	Stratum	
5.	Species Name	STATUS	5 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					
10.	Species Name	% Cover	STATUS	Stratum	
14.	Species Name Species Name	% Cover % Cover	STATUS	Stratum Stratum	
14. 15.	Species Name Species Name Species Name	% Cover % Cover % Cover	STATUS STATUS STATUS	<u>Stratum</u> Stratum Stratum	

SOILS	į.
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Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slopes Subgroup: Aura
s the soil on the hydric soils list? Yes \Box No \boxtimes Undetermined \Box
s the soil a Histosol? Yes \Box No $oxtimes$ Histic epidedon present? Yes \Box No $oxtimes$
s the soil: Mottled? Yes □ No □ Gleyed? Yes □ No ⊠
Matrix Color: Click or tap here to enter text. Mottle Colors: Click or tap here to enter text.
Other hydric soil indicators: Other
s the hydric soil criterion met? Yes ⊠ No □
Rationale: Soils not sampled due to the fence surrounding wetland feature.
HYDROLOGY
HYDROLOGY s the ground surface inundated? Yes ⊠ No □ Surface water depth: 3" + inches
HYDROLOGY s the ground surface inundated? Yes IM
HYDROLOGY s the ground surface inundated? Yes I No I Surface water depth: 3" + inches s the soil saturated? Yes I No I Depth to free-standing water in pit/soil probe hole: 0 inches
HYDROLOGY s the ground surface inundated? Yes No Surface water depth: 3" + inches s the soil saturated? Yes No C Depth to free-standing water in pit/soil probe hole: 0 inches List of other field evidence of surface inundation or soil saturation: Inundation visible on aerial imagery, geomorphic position, FAC neutral test, hydrogen sulfide odor, aquatic fauna (tadpoles/amphibians).
HYDROLOGY s the ground surface inundated? Yes I No I Surface water depth: 3" + inches s the soil saturated? Yes I No I Depth to free-standing water in pit/soil probe hole: 0 inches List of other field evidence of surface inundation or soil saturation: Inundation visible on aerial imagery, geomorphic position, FAC neutral test, hydrogen sulfide odor, aquatic fauna (tadpoles/amphibians). s the wetland hydrology criterion met? Yes I No I

Routine Onsite Determination Form

Field Investigators	: HB, AL	Date: 06/20/2022	
Project/Site: Atlant	tic Shores	State: NJ	County: Atlantic
Applicant/Owner: /	Atlantic Shores, L	LC	
Plant Community#	/Name: 37-W003	-1U	
Note: if a more det	tailed site descrip	tion is necessary,	provide detail here: Area consists of mowed roadside.
Do normal environ	mental conditions	s exist at the plant	community?
Yes 🛛 🛛 I	No 🗆	(If no, explain) <u>CI</u>	ick or tap here to enter text.
Has the vegetation	n, soils, and/or hy	drology been sign	ificantly disturbed?

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

VEGETATION

	Dominant Plant Species	s Pero	cent Cover	Indicator Status	Stratum
1.	Red Fescue (Festuca r	ubra)	60	FACU	Herb
2.	English Plantain (Planta	ago lanceolata)	20	FACU	Herb
З.	Virginia Creeper (Parth	enocissus quinqu	iefolia) 20	FACU	Herb
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 ⊠

Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slopes	Subgroup: Aura
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box	Undetermined
Is the soil a Histosol? Yes □ No ⊠ Histic e	oidedon present? Yes 🗌 No 🗵
Is the soil: Mottled? Yes 🗆 No 🖾 Gleyed?	?Yes 🗆 No 🖂
Matrix Color: 0-6" 7.5YR 3/3 (100%) Mottle Colors: N/A	
Other hydric soil indicators: None	
Is the hydric soil criterion met? Yes \Box No \boxtimes	
Rationale: This is a characteristic upland soil without any colors	s or hydric indicators.
HYDROLOGY	
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: None
Is the soil saturated? Yes \Box No \boxtimes	
Depth to free-standing water in pit/soil probe hole: None	
List of other field evidence of surface inundation or soil saturation: None	e
Is the wetland hydrology criterion met? Yes \Box No \boxtimes	

Routine Onsite Determination Form

Field Inv	vestigators: HB, AL	Date: 06/20/202	22		
Project/s	Site: Atlantic Shores	State: NJ	County: Atlantic	c	
Applicar	nt/Owner: Atlantic Shores,	LLC			
Plant Co	ommunity#/Name: 37-W00	3-1W			
Note: if a fence. S	a more detailed site descrij Stormwater feature has bee	otion is necessary n managed and f	v, provide detail he enced for protecti	ere: PEM wetland that on.	was not sampled due to
Do norm	nal environmental conditior	is exist at the plai	nt community?		
Yes 🛛	No 🗆	(If no, explain) <u>(</u>	Click or tap here	to enter text.	
Has the	vegetation, soils, and/or h	ydrology been sig	nificantly disturbe	d?	
Yes□	No⊠	(If yes, explain)	Click or tap her	e to enter text.	
		,	/EGETATION		
	Dominant Plant Species	Percer	it Cover	Indicator Status	Stratum
1.	Narrowleaf Cattail (Typha	angustifolia)	80	OBL	Herb
2.	Dark Green Bulrush (Scir	ous atrovirens)	20	OBL	Herb
3.	Species Name	% Cover	STATUS	Stratum	
3. 4.	Species Name Species Name	_% Cover % Cover	STATUS STATUS	Stratum Stratum	
3. 4. 5.	Species Name Species Name Species Name	_% Cover _% Cover 	STATUS STATUS JSStratu	Stratum Stratum m	
3. 4. 5. 6.	Species Name Species Name Species Name Species Name	_% Cover _% Cover STATL _% Cover	STATUS STATUS JSStratu STATUS	Stratum Stratum m Stratum	
3. 4. 5. 6. 7.	Species Name Species Name Species Name Species Name Species Name	_% Cover _% Cover _% Cover % Cover	_STATUSSTATUS JSStratu _STATUS STATUS	Stratum Stratum m Stratum Stratum	
3. 4. 5. 6. 7. 8.	Species Name Species Name Species Name Species Name Species Name Species Name	_% Cover _% Cover STATL _% Cover _% Cover % Cover	STATUS _STATUSStratu _STATUS STATUS STATUS	Stratum Stratum m Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9.	Species Name Species Name Species Name Species Name Species Name Species Name Species Name	_% Cover _% Cover _% Cover % Cover % Cover % Cover % Cover	_STATUSSTATUSStratu JSStratuSTATUSSTA	Stratum Stratum Stratum Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9. 10.	Species Name Species Name Species Name Species Name Species Name Species Name Species Name	% Cover % Cover STATL % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9. 10. 11.	Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name	_% Cover _% Cover _% Cover % Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum m Stratum Stratum Stratum Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name	% Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum M Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13.	Species Name Species Name	% Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum M Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.	Species Name Species Name	% Cover STATU % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum m Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	Species Name Species Name	% Cover STATU STATU % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum m Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. Percent	Species Name Species Name	% Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum m Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	

Is the soil on the hydric soils list? Yes \square No \boxtimes Undetermined \square
Is the soil a Histosol? Yes □ No □ Histic epidedon present? Yes □ No □
Is the soil: Mottled? Yes □ No □ Gleyed? Yes □ No □
Matrix Color: Click or tap here to enter text. Mottle Colors: Click or tap here to enter text.
Other hydric soil indicators: Other
Is the hydric soil criterion met? Yes $oxtimes$ No \Box
Rationale: Soils not sampled due to the fence surrounding wetland feature.
HYDROLOGY
Is the ground surface inundated? Yes \boxtimes No \square Surface water depth: 3" + inches
Is the ground surface inundated? Yes \boxtimes No \square Surface water depth <u>: 3" + inches</u> Is the soil saturated? Yes \boxtimes No \square
Is the ground surface inundated? Yes \boxtimes No \square Surface water depth <u>: 3" + inches</u> Is the soil saturated? Yes \boxtimes No \square Depth to free-standing water in pit/soil probe hole: 0 inches
Is the ground surface inundated? Yes ⊠ No □ Surface water depth <u>: 3" + inches</u> 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: Inundation visible on aerial imagery, geomorphic position, FAC neutral test, aquatic fauna (tadpoles/amphibians).
Is the ground surface inundated? Yes ⊠ No □ Surface water depth <u>: 3" + inches</u> 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: Inundation visible on aerial imagery, geomorphic position, FAC neutral test, aquatic fauna (tadpoles/amphibians). Is the wetland hydrology criterion met? Yes ⊠ No □

Routine Onsite Determination Form

Field Investigators: HB, AL	Date: 06/21/2022		
Project/Site: Atlantic Shores	State: NJ	County: Atlantic	
Applicant/Owner: Atlantic Shores, I	LC		
Plant Community#/Name: 37-W004	-1U		
Note: if a more detailed site descrip	tion is necessary,	provide detail here: Area consists of mowed roadside.	
Do normal environmental conditions exist at the plant community?			

Yes ⊠ No □ (If no, explain) <u>Click or tap here to enter text.</u>

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 Specie	es Perc	ent Cover	Indicator Status	Stratum
1.	Red Fescue (Festuca	rubra)	60	FACU	Herb
2.	English Plantain (Plant	tago lanceolata)	20	FACU	Herb
3.	Virginia Creeper (Parth	nenocissus quinqu	efolia) 20	FACU	Herb
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 ⊠

Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slopes	Subgroup: Aura
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box	Undetermined
Is the soil a Histosol? Yes □ No ⊠ Histic e	oidedon present? Yes 🗌 No 🗵
Is the soil: Mottled? Yes 🗆 No 🖾 Gleyed?	?Yes 🗆 No 🖂
Matrix Color: 0-6" 7.5YR 3/3 (100%) Mottle Colors: N/A	
Other hydric soil indicators: None	
Is the hydric soil criterion met? Yes \Box No \boxtimes	
Rationale: This is a characteristic upland soil without any colors	s or hydric indicators.
HYDROLOGY	
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: None
Is the soil saturated? Yes \Box No \boxtimes	
Depth to free-standing water in pit/soil probe hole: None	
List of other field evidence of surface inundation or soil saturation: None	e
Is the wetland hydrology criterion met? Yes \Box No \boxtimes	

Routine Onsite Determination Form

Field Inv	vestigators: HB, AL	Date: 06/21/2022)			
Project/	Site: Atlantic Shores	State: NJ	County: Atlantic			
Applicar	nt/Owner: Atlantic Shores, I	LC				
Plant Co	ommunity#/Name: 37-W004	1-1W				
Note: if : Bay situ	a more detailed site descrip ated adjacent to US Route	otion is necessary, 322.	provide detail here	e: Salt marsh com	munity co	onnected to Lakes
Do norm	nal environmental condition	s exist at the plant	community?			
Yes 🛛	No 🗆	(If no, explain) <u>Cl</u>	ick or tap here to	o enter text.		
Has the	vegetation, soils, and/or hy	drology been sign	ificantly disturbed?	?		
Yes□	No⊠	(If yes, explain) ⊆	lick or tap here	to enter text.		
		V	EGETATION			
	Dominant Plant Species	Percent	Cover	Indicator Status		Stratum
1.	High-tide Bush (Iva frutes	cens)	70	FACW	Shrub/S	apling
2.	Eastern Red Cedar (Junip	erus virginiana)	10	FACU		Shrub/Sapling
3.	Common Reed (Phragmit	es australis)	60	FACW		Herb
4.	Soft Rush (Juncus effusus	3)	20	OBL	Herb	
5.	Common Spikerush (Eleo	charis palustris)	10	OBL	Herb	
6.	Species Name	% Cover	STATUS	Stratum	12	
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 a	are OBL, FACW, a	nd/or FAC: 80%			

Is the hydrophytic vegetation criterion met? Yes igtarrow No \Box

Rationale: Majority of the species are FACW or OBL.

Series/Phase: GamB: Galloway loamy sand, 0 to 5 p	percent slopes Subgroup: Galloway
Is the soil on the hydric soils list? Yes \Box N	o 🖂 Undetermined 🗆
Is the soil a Histosol? Yes \Box No \Box	Histic epidedon present? Yes 🔲 No 🗔
Is the soil: Mottled? Yes \Box No \Box	Gleyed? Yes 🗆 No 🗆
Matrix Color: Click or tap here to enter text. M	lottle Colors: Click or tap here to enter text.
Other hydric soil indicators: Other	
Is the hydric soil criterion met? Yes $oxtimes$ N	o 🗆
Rationale: Soils not sampled due to the fence sur	rounding wetland feature.
HYD	ROLOGY
HYD Is the ground surface inundated? Yes \boxtimes N	o □ Surface water depth <u>: 4" + inches</u>
HYD Is the ground surface inundated? Yes ⊠ N Is the soil saturated? Yes ⊠ No □	o □ Surface water depth <u>: 4" + inches</u>
HYD Is the ground surface inundated? Yes ⊠ N Is the soil saturated? Yes ⊠ No □ Depth to free-standing water in pit/soil probe hole: 0 inch	PROLOGY o □ Surface water depth <u>: 4[*] + inches</u> hes
HYD Is the ground surface inundated? Yes ⊠ N Is the soil saturated? Yes ⊠ No Depth to free-standing water in pit/soil probe hole: 0 inch List of other field evidence of surface inundation or soil s position, FAC neutral test, aquatic fauna (amphibians).	PROLOGY o Surface water depth: 4" + inches hes saturation: Inundation visible on aerial imagery, geomorphic
HYD Is the ground surface inundated? Yes ⊠ N Is the soil saturated? Yes ⊠ No Depth to free-standing water in pit/soil probe hole: 0 inch List of other field evidence of surface inundation or soil s position, FAC neutral test, aquatic fauna (amphibians). Is the wetland hydrology criterion met? Yes ⊠	o □ Surface water depth: 4" + inches hes saturation: Inundation visible on aerial imagery, geomorphic No □ No □
HYD Is the ground surface inundated? Yes ⊠ N Is the soil saturated? Yes ⊠ No Depth to free-standing water in pit/soil probe hole: 0 incl 0 List of other field evidence of surface inundation or soil s 0 position, FAC neutral test, aquatic fauna (amphibians). 1 Is the wetland hydrology criterion met? Yes ⊠ Rationale: Multiple primary and secondary hydrology incl	o□ Surface water depth: 4" + inches hes saturation: Inundation visible on aerial imagery, geomorphic No□ dicators present.

Routine Onsite Determination Form

Field Investigators	: HB, AL	Date: 06/21/2022		
Project/Site: Atlant	ic Shores	State: NJ	County: Atlantic	
Applicant/Owner: /	Atlantic Shores, L	LC		
Plant Community#	/Name: 37-W005	/5A-1U		
Note: if a more det	ailed site descrip	tion is necessary,	provide detail here: Area consists of mowed roadside.	
Do normal environ	mental conditions	s exist at the plant	community?	
Yes 🛛 🛛 🗎	No 🗆	(If no, explain) <u>Click or tap here to enter text.</u>		
Has the vegetation	s the vegetation, soils, and/or hydrology been significantly disturbed?			

(If yes, explain) Click or tap here to enter text.

VEGETATION

	Dominant Plant Species	er Per	cent Cover	Indicator Status	Stratum
1.	Red Fescue (Festuca ru	ibra)	60	FACU	Herb
2.	English Plantain (Planta	go lanceolata)	20	FACU	Herb
3.	Virginia Creeper (Parthe	enocissus quinqu	uefolia) 20	FACU	Herb
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.

No⊠

Yes⊡

Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slopes	Subgroup: Aura
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box	Undetermined
Is the soil a Histosol? Yes □ No ⊠ Histic e	oidedon present? Yes 🗌 No 🗵
Is the soil: Mottled? Yes 🗆 No 🖾 Gleyed?	?Yes 🗆 No 🖂
Matrix Color: 0-6" 7.5YR 3/3 (100%) Mottle Colors: N/A	
Other hydric soil indicators: None	
Is the hydric soil criterion met? Yes \Box No \boxtimes	
Rationale: This is a characteristic upland soil without any colors	s or hydric indicators.
HYDROLOGY	
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: None
Is the soil saturated? Yes \Box No \boxtimes	
Depth to free-standing water in pit/soil probe hole: None	
List of other field evidence of surface inundation or soil saturation: None	e
Is the wetland hydrology criterion met? Yes \Box No \boxtimes	

Routine Onsite Determination Form

Field Inv	nvestigators: HB, AL Date: 06/21/2022					
Project/S	Site: Atlantic Shores	State: NJ County: Atlantic				
Applicar	nt/Owner: Atlantic Shores, I	LLC				
Plant Co	ommunity#/Name: 37-W008	5-1W				
Note: if a Lakes B	a more detailed site descrip ay situated adjacent to US	otion is necessary, Route 322.	provide detail her	e: Salt marsh com	munity P	OW connected to
Do norm	nal environmental condition	s exist at the plant	t community?			
Yes 🛛	No 🗆	(If no, explain) <u>C</u>	lick or tap here t	o enter text.		
Has the	vegetation, soils, and/or hy	/drology been sigr	nificantly disturbed	?		
Yes⊡	No⊠	(If yes, explain) <u>(</u>	Click or tap here	to enter text.		
		v	EGETATION			
	Dominant Plant Species	Percent	Cover	Indicator Status		Stratum
1.	Common Duckweed (Lem	ina minor)	40	OBL	Herb	
2.	Species Name	% Cover	STATUS	Stratum		
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: 100%						
is the ny	corophytic vegetation criteri	unmera res 🖂				

Rationale: The only species present is OBL.

Series/Phase: PstAt: Psammaquents, sulfidic substratum, 0 to 2 percent slopes Subgroup: Psammaquents
Is the soil on the hydric soils list? Yes \Box No \Box Undetermined \boxtimes
Is the soil a Histosol? Yes □ No □ Histic epidedon present? Yes □ No □
Is the soil: Mottled? Yes □ No □ Gleyed? Yes □ No □
Matrix Color: Click or tap here to enter text. Mottle Colors: Click or tap here to enter text.
Other hydric soil indicators: Other
Is the hydric soil criterion met? Yes $oxtimes$ No \Box
Rationale: Soils not sampled due to deep open water.
HYDROLOGY
Is the ground surface inundated? Yes ⊠ No □ Surface water depth: 24" + inches
Is the soil saturated? Yes \boxtimes No \square
Depth to free-standing water in pit/soil probe hole: 0 inches
List of other field evidence of surface inundation or soil saturation: Inundation visible on aerial imagery, geomorphic position, FAC neutral test, drainage patterns, algal mat or crust, true aquatic plants, hydrogen sulfide odor, aquatic fauna (amphibians, fiddler crabs).
Is the wetland hydrology criterion met? Yes $oxtimes$ No \Box
Rationale: Multiple primary and secondary hydrology indicators present.

Routine Onsite Determination Form

Field Inv	ield Investigators: HB, AL Date: 06/21/2022				
Project/	Site: Atlantic Shores	State: NJ	County: Atlantic	;	
Applicant/Owner: Atlantic Shores, LLC					
Plant Co	ommunity#/Name: 37-W00	5A-1W			
Note: if Lakes B	a more detailed site descrip Bay situated adjacent to US	otion is necessar Route 322.	y, provide detail he	ere: Salt marsh commu	inity PEM connected to
Do norm	nal environmental conditior	is exist at the pla	nt community?		
Yes 🛛	No 🗆	(If no, explain)	Click or tap here	to enter text.	
Has the	vegetation, soils, and/or hy	/drology been sig	gnificantly disturbed	d?	
Yes⊡	No⊠	(If yes, explain)	Click or tap here	e to enter text.	
			VEGETATION		
	Dominant Plant Species	Perce	nt Cover	Indicator Status	Stratum
1.	Smooth Cordorass (Spart	ina alterniflora)	100	OBL	Herb
2.	Species Name	% Cover	STATUS	Stratum	
		No. 10		Charlen	
3.	Species Name	% Cover	STATUS	Stratum	
3. 4.	Species Name Species Name	_% Cover % Cover	STATUS STATUS	Stratum	
3. 4. 5.	Species Name Species Name Species Name	_% Cover _% Cover % Cover	STATUS STATUS STATUS	Stratum Stratum Stratum	
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3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. Percent	Species Name Species Name	_% Cover _% Cover _% Cover _% Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	

Rationale: The only species present is OBL.

Series/Phase: PstAt: Psammaquents, sulfidic substratum, 0 to 2 percent slopes Subgroup: Psami	maquents
Is the soil on the hydric soils list? Yes \Box No \Box Undetermined $igtrianglequence$	
Is the soil a Histosol? Yes □ No ⊠ Histic epidedon present? Yes □ No ⊠	
Is the soil: Mottled? Yes $oxtimes$ No \Box Gleyed? Yes \Box No $oxtimes$	
Matrix Color: 0-20" 10YR 4/1 (98%) Mottle Colors: 7.5YR 4/6	
Other hydric soil indicators: Depleted Matrix	
Is the hydric soil criterion met? Yes $oxtimes$ No \Box	
Rationale: Meets the Depleted Matrix hydric soil classification.	
HYDROLOGY	
Is the ground surface inundated? Yes \boxtimes No \square Surface water depth: 4" inches	
Is the soil saturated? Yes $oxtimes$ No \Box	
Depth to free-standing water in pit/soil probe hole: 0 inches	
List of other field evidence of surface inundation or soil saturation: Inundation visible on aerial imagery, geor position, FAC neutral test, drainage patterns, algal mat or crust, true aquatic plants, hydrogen sulfide odor, a fauna (amphibians, fiddler crabs).	norphic aquatic
Is the wetland hydrology criterion met? Yes $oxtimes$ No \Box	
Rationale: Multiple primary and secondary hydrology indicators present.	

Routine Onsite Determination Form

Field Investigators: HB, AL	Date: 06/21/202	2		
Project/Site: Atlantic Shores	State: NJ	County: Atlantic		
Applicant/Owner: Atlantic Sho	res, LLC			
Plant Community#/Name: 37-	N006-1U			
Note: if a more detailed site de	escription is necessary	, provide detail here: Area consists of mowed roadside.		
Do normal environmental cond	ditions exist at the plar	nt community?		
Yes \boxtimes No \square (If no, explain) <u>Click or tap here to enter text.</u>				
Has the vegetation, soils, and/or hydrology been significantly disturbed?				

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	s Pero	cent Cover	Indicator Status	Stratum
1.	Red Fescue (Festuca r	ubra)	60	FACU	Herb
2.	English Plantain (Planta	ago lanceolata)	20	FACU	Herb
З.	Virginia Creeper (Parth	enocissus quinqu	iefolia) 20	FACU	Herb
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 ⊠

Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slopes	Subgroup: Aura		
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box	Undetermined		
Is the soil a Histosol? Yes □ No ⊠ Histic e	oidedon present? Yes 🗌 No 🗵		
Is the soil: Mottled? Yes 🗆 No 🖾 Gleyed?	?Yes 🗆 No 🖂		
Matrix Color: 0-6" 7.5YR 3/3 (100%) Mottle Colors: N/A			
Other hydric soil indicators: None			
Is the hydric soil criterion met? Yes \Box No \boxtimes			
Rationale: This is a characteristic upland soil without any colors	s or hydric indicators.		
HYDROLOGY			
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: None		
Is the soil saturated? Yes \Box No \boxtimes			
Depth to free-standing water in pit/soil probe hole: None			
List of other field evidence of surface inundation or soil saturation: None	e		
Is the wetland hydrology criterion met? Yes \Box No \boxtimes			
Rationale: No primary or secondary wetland hydrology indicators exist.			

Routine Onsite Determination Form

Field Inv	Field Investigators: HB, AL Date: 06/21/2022				
Project/S	Site: Atlantic Shores	State: NJ	County: Atlantic	;	
Applicant/Owner: Atlantic Shores, LLC					
Plant Community#/Name: 37-W006-1W					
Lakes B	a more detailed site description and state and the second site and site an	Route 322.	y, provide detail ne	are. Sait marsh con	Imunity PEW connected to
Do norm	nal environmental condition	s exist at the pla	nt community?		
Yes 🛛	No 🗆	(If no, explain)	Click or tap here	to enter text.	
Has the	vegetation soils and/or by	(drology been si	nificantly disturbed	42	
rido trie	vegetation, solis, and/or hj	rarology been sig	grinicantiy distarbed	u :	
Yes□	No⊠	(If yes, explain)	Click or tap here	e to enter text.	
			VEGETATION		
	Dominant Plant Species	Perce	nt Cover	Indicator Status	Stratum
1.	Common Reed (Phragmit	es australis)	100	FACW	Herb
2.	Species Name	% Cover	STATUS	Stratum	,
З.	Species Name	% Cover	STATUS	Stratum	
4.	Species Name	% Cover	STATUS	Stratum	
5.	Species Name	% Covor	CTATUC	Charlenne	
	a parte a transme		STATUS	Stratum	
6.	Species Name	_% Cover _% Cover	STATUS STATUS	Stratum Stratum	
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6. 7. 8. 9. 10. 11. 12. 13. 14. 15. Percent	Species Name Species Name	_% Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS And/or FAC: 100%	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum	

Rationale: The only species present is FACW.

Series/Phase: PstAt: Psammaquents, sulfidic substratum	, 0 to 2 percent slopes Subgroup: Psammaquents				
Is the soil on the hydric soils list? Yes $\hfill \hfill No$	Undetermined 🖂				
Is the soil a Histosol? Yes □ No ⊠	Histic epidedon present? Yes 🗌 No 🛛				
Is the soil: Mottled? Yes ⊠ No □	Gleyed? Yes □ No ⊠				
Matrix Color: 0-10" 10YR 2/1 (100%); 10-12" 2.5Y 5/4 (95%)	Mottle Colors: 10-12" 7.5YR 6/6 (5%)				
Other hydric soil indicators: S7 Dark Surface					
Is the hydric soil criterion met? Yes \boxtimes No \square					
Rationale: Meets the Dark Surface hydric soil classification	ition.				
HYDROLO	DGY				
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: N/A				
Is the soil saturated? Yes □ No ⊠	Is the soil saturated? Yes □ No ⊠				
Depth to free-standing water in pit/soil probe hole: N/A					
boptinto noo otanaling watch in placon proportiolo. Twit					
List of other field evidence of surface inundation or soil saturat position, FAC neutral test, drainage patterns.	tion: Saturation visible on aerial imagery, geomorphic				
List of other field evidence of surface inundation or soil satural position, FAC neutral test, drainage patterns. Is the wetland hydrology criterion met? Yes 🖂	tion: Saturation visible on aerial imagery, geomorphic No \Box				

Routine Onsite Determination Form

Field Investigators: HB, AL	Date: 06/21/2022	
Project/Site: Atlantic Shores	State: NJ	County: Atlantic

Applicant/Owner: Atlantic Shores, LLC

Plant Community#/Name: 37-W007-1U

Note: if a more detailed site description is necessary, provide detail here: Area consists of mowed roadside.

Do normal environmental conditions exist at the plant community?

Yes 🛛 No 🗌 (If no, explain) <u>Click or tap here to enter text.</u>

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 Specie	es Perc	cent Cover	Indicator Status	Stratum
1.	Red Fescue (Festuca	rubra)	60	FACU	Herb
2.	English Plantain (Plan	tago lanceolata)	20	FACU	Herb
3.	Virginia Creeper (Part	henocissus quinqu	efolia) 20	FACU	Herb
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 ⊠

Series/Phase: AugaA: Aura sandy loam, 0 to 2 percent slopes	Subgroup: Aura		
Is the soil on the hydric soils list? Yes $oxtimes$ No \Box	Undetermined		
Is the soil a Histosol? Yes □ No ⊠ Histic e	oidedon present? Yes 🗌 No 🗵		
Is the soil: Mottled? Yes 🗆 No 🖾 Gleyed?	?Yes 🗆 No 🖂		
Matrix Color: 0-6" 7.5YR 3/3 (100%) Mottle Colors: N/A			
Other hydric soil indicators: None			
Is the hydric soil criterion met? Yes \Box No \boxtimes			
Rationale: This is a characteristic upland soil without any colors	s or hydric indicators.		
HYDROLOGY			
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: None		
Is the soil saturated? Yes \Box No \boxtimes			
Depth to free-standing water in pit/soil probe hole: None			
List of other field evidence of surface inundation or soil saturation: None	e		
Is the wetland hydrology criterion met? Yes \Box No \boxtimes			
Rationale: No primary or secondary wetland hydrology indicators exist.			

Routine Onsite Determination Form

Field Inv	eld Investigators: HB, AL Date: 06/21/2022										
Project/Site: Atlantic Shores		State: NJ	County: Atlantic								
Applicant/Owner: Atlantic Shores, LLC											
Plant Community#/Name: 37-W007-1W											
Note: if a more detailed site description is necessary, provide detail here: Salt marsh community PEM connected to Lakes Bay situated adjacent to US Route 322.											
Do normal environmental conditions exist at the plant community?											
Yes 🛛 No 🗆		(If no, explain) <u>Click or tap here to enter text.</u>									
Has the	Has the vegetation, soils, and/or hydrology been significantly disturbed?										
Yes⊡	Yes \square No \boxtimes (If yes, explain) <u>Click or tap here to enter text.</u>										
VEGETATION											
	Dominant Plant Species	Percent Cover		Indicator St	atus	Stratum					
1.	Common Reed (Phragmit	es australis)	100	FA	CW	Herb					
2.	Species Name	% Cover	STATUS	Stratum							
3.	Species Name	% Cover	STATUS	Stratum							
3. 4.	Species Name Species Name	_% Cover _% Cover	STATUS STATUS	Stratum Stratum							
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3. 4. 5. 6. 7. 8. 9. 10.	Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name	_% Cover _% Cover _% Cover _% Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum							
3. 4. 5. 6. 7. 8. 9. 10. 11.	Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name	_% Cover _% Cover _% Cover _% Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum							
3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name Species Name	_% Cover _% Cover _% Cover _% Cover % Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum							
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13.	Species Name Species Name	_% Cover _% Cover _% Cover _% Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum							
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.	Species Name Species Name	% Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum							
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.	Species Name Species Name	_% Cover _% Cover _% Cover _% Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum							
3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. Percent	Species Name Species Name	_% Cover _% Cover _% Cover _% Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover % Cover	STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS STATUS	Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum Stratum							

Rationale: The only species present is FACW.

Series/Phase: PstAt: Psammaquents, sulfidic substratum, 0 to 2 percent slopes Subgroup: Psammaquents									
Is the soil on the hydric soils list? Yes \Box No \Box Undetermined $igtriangle$									
Is the soil a Histosol? Yes \Box No \boxtimes H	Histic epidedon present? Yes 🔲 No 🖾								
Is the soil: Mottled? Yes $oxtimes$ No \Box C	Gleyed? Yes 🗆 No 🖾								
Matrix Color: 0-10" 10YR 2/1 (100%); 10-12" 2.5Y 5/4 (95%)	Mottle Colors: 10-12" 7.5YR 6/6 (5%)								
Other hydric soil indicators: S7 Dark Surface									
Is the hydric soil criterion met? Yes $oxtimes$ No \Box									
Rationale: Meets the Dark Surface hydric soil classification.									
HYDROLOGY									
Is the ground surface inundated? Yes \Box No \boxtimes	Surface water depth: N/A								
Is the soil saturated? Yes \Box No \boxtimes									
Depth to free-standing water in pit/soil probe hole: N/A									
Depth to free-standing water in plusoil probe hole. WA									
List of other field evidence of surface inundation or soil saturatio position, FAC neutral test, drainage patterns.	n: Saturation visible on aerial imagery, geomorphic								
List of other field evidence of surface inundation or soil saturatio position, FAC neutral test, drainage patterns. Is the wetland hydrology criterion met? Yes 🖂 N	on: Saturation visible on aerial imagery, geomorphic No □								

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	COP South Cardiff	City/Cour	nty: Absecon, Atlanti	ic County, NJ	Sampling Date: 02/08/2023	
Applicant/Owner:	AS	SOW	5	State: New Jersey	Sampling Point: 26-W001-1U	
Investigator(s):	TCAL	Section,	Township, Range:	Absecon, A	tlantic County, NJ	
Landform (hillslope, terrace, etc):	Hillslope	Local relief (conc	ave, convex, none):	convex	Slope (%): 5-10	
Subregion (LRR or MLRA):	LRR S	Lat: 39.0	36682467 Long:	-74.4713795	Datum: WGS 1984	
Soil Map Unit Name: Psami	maquents, sulfidic substratu	um, 0 to 2 percent slop	es, frequently flooded	NWI classification	1	
Are climatic / hydrologic conditions c	on the site typical for this tim	ne of year? Yes	X (lfno	o, explain in Remarks	.)	
Are Vegetation, Soil	, or Hydrology	significantly disturbed	d? Are "Normal C	ircumstances" presen	t? Yes <u>X</u> No	
Are Vegetation, Soil	, or Hydrology	naturally problematic	? (If needed, exp	olain any answers in F	(emarks.)	
SUMMARY OF FINDINGS -	Attach site map show	wing sampling p	oint locations, transe	ects, important f	eatures, etc.	
Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area			
Hydric Soil Present?	Yes	No X	within a Wetland?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland S	ite ID:	0	
		ii ii i			1	
Remarks: (Explain alternati∨e pro	cedures here or in a separa	te report.)				
HYDROLOGY						
Wetland Hydrology Indicatory						
Primary Indicators (minimum of or	a required: check all that a	nnlw)		Secondary Indicat	ors (minimum of two required)	
Surface Water (A1)	In required, check all that a	(ater-Stained Leaves (B0)	Surface Soil (Cracke (B6)	
High Water Table (A2)	— "	quatic Fauna (B13)	55)	- Drainage Pat	terns (B10)	
High vivater lable (A2) Aquatic Faun Saturation (A3) Marl Denosity				Mose Trim Lines (B16)		
Water Marks (B1)	m	vdrogen Sulfide Odor	(C1)	Drv-Season \	Nater Table (C2)	
Sediment Deposits (B2)	— "	vidized Rhizospheres	on Living Roots (C3)	Cravfish Burr	ows (C8)	
Drift Deposits (B3)	— °	resence of Reduced Ir	on (C4)	Saturation Vie	sible on Aerial Imagen((C9)	
Algal Mat or Crust (B4)	—	ecent Iron Reduction i	n Tilled Soils (C6)	Stunted or St	ressed Plants (D1)	
Iron Denosits (B5)	— "	hin Muck Surface (C7)		Geomorphic	Position (D2)	
Inundation Visible on Aerial II	magery (B7) 0	ther (Explain in Rema	rks)	Shallow Aquit	tard (D3)	
Sparsely Vegetated Concave	Surface (B8)		11(5)	Microtopogra	nhic Relief (D4)	
				EAC-Neutral	Test (D5)	
Field Observations:						
Surface Water Present?	Yes NoX	Depth (inches):				
Water Table Present?	Yes NoX	Depth (inches):				
Saturation Present?	Yes NoX	Depth (inches):	Wetland Hy	drology Present?	Yes No X	
(includes capillary fringe)						
Describe Descrided Data (stores)						
Describe Recorded Data (stream	gauge, monitoring well, aer	iai photos, previous in	spections), if available:			
Remarks:						
Sampling Point: _____26-W001-1U

				Dominance Test worksheet:
				That Are OBL_EACW or EAC: 1 (A)
	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: <u>30 Feet</u>)	% Cover	Species?	Status	Total Number of Dominant
1. Juniperus virginiana / Eastern red-cedar	25	Yes	FACU	Species Across All Strata: 5 (B)
2. <i>Pinus rigida I</i> Pitch pine	15	Yes	FACU	
3. <i>Betula I</i> Birch	10	Yes	NI	Percent of Dominant Species
4				That Are OBL_EACW/ or EAC' 20.0 (A/B)
5		0.4		
6			<u></u>	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	50	= Total Cove	er	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15 Feet)				FACW species 5 x 2 = 10
1	_			FAC species 0 x 3 = 0
2.				FACU species 45 x 4 = 180
3				UPL species 10 x 5 = 50
4	- 3	19 9		Column Totals: 60 (A) 240 (B)
5		<u></u>	· <u> </u>	
7.		- Contraction of the Contraction		Prevalence Index = B/A = <u>4.0</u>
	0	= Total Cove	er	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)		— 66		1 - Rapid Test for Hydrophytic Vegetation
1. Phragmites australis / Common reed	5	Yes	FACW	2 - Dominance Test is >50%
2. Lonicera japonica / Japanese honeysuckle	5	Yes	FACU	3 - Prevalence Index ≤3.0¹
3.	1.12			4 - Morphological Adaptations ¹ (Provide supporting
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.	900	2000 2000	1945 1942	
6.	1007	teres	00ea 01e0	¹ Indicators of hydric soil and wetland hydrology must
7.		2.2		be present, unless disturbed or problematic.
8.	(m)			
9.				Definitions of Vegetation Strata
10.	100			
11.				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at
12.				breast height (DBH), regardless of height.
	10	= Total Cove	er	Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Woody Vine Stratum (Plot size: 30 Feet)				Herb - All herbaceous (non-woody) plants, regardless of
1	-			size, and woody plants less than 3.28 ft tall.
2	- 0-	-		Woody vines - All woody vines greater than 3 28 ft in
3.				height.
4				
	U	= 1 otal Cove	er	Hydrophytic
				Vegetation
				Present? Yes No X
Remarks: (Explain alternative procedures here or in a separat	e report.)			

~	-	
~	~	_

Profile Desc Depth	ription: (Describe to th Matrix	ne depth need	Redox	Features	or commit	the abser		.,	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-4	10YR 2/2	100		- CI			Sandy Loam		15
4-12	10YR 6/8	75	10YR 5/1	25	С	М	Sandy Loam		
				-			5		
	: . .	10		-					
-	·			•			()		
8	i i i i i i i i i i i i i i i i i i i			· 8				5 2	
-	· ·				<u> </u>		· · · · · · · · · · · · · · · · · · ·		
÷	· · · · · · · · · · · · · · · · · · ·	10 <u>00</u> 0		- X	<u> </u>				
-	·								-
	• •			- 3 			a <u> </u>		C
		·······		- 8	:		·		5
	• •	······································		- 3	· ·		a <u> </u>		15
¹ Type: C=Co		n RM=Reduc	ed Matrix_MS=Mask	ed Sand Gr	ains .		2l ocat	ion: PI = Pore Lining M=Matrix	
		1, 1111–116440		Co Cano On	unis.			ion. T E-T ore Emilig, M-Matrix.	
Hydric Soil I	ndicators:						Indicators	for Problematic Hydric Soils ³ :	
<u> </u>	(A1)	<u>-</u>	Polyvalue Below	V Surface (St	B) (LRR R,	MLRA 149	9 B) 2 cm M	/luck (A10) (LRR K, L, MLRA 149B)	
Histic Ep	oipedon (A2)		Thin Dark Surfa	ce (S9) (LR	R R, MLRA	(149B)	Coast	Prairie Redox (A16) (LRR K, L, R)	
Black Hi	stic (A3)		Loamy Mucky N	lineral (F1)	(LRR K, L)		5 cm M	/lucky Peat or Peat (S3) (LRR K, L, F	२)
Hydroge	en Sulfide (A4)	_	Loamy Gleyed N	/atrix (F2)			Dark S	Surface (S7) (LRR K, L)	
Stratifie	d Layers (A5)		Depleted Matrix	(F3)			Polyva	lue Below Surface (S8) (LRR K, L)	
Deplete	d Below Dark Surface (A	A11)	Redox Dark Sur	face (F6)			Thin D	ark Surface (S9) (LRR K, L)	
Thick Da	ark Surface (A12)	20	Depleted Dark S	Surface (F7)			Iron-M	anganese Masses (F12) (LRR K, L,	R)
Sandy N	/lucky Mineral (S1)		Redox Depressi	ons (F8)			 Piedm	ont Floodplain Soils (F19) (MLRA 14	9B)
Sandy G	Bleyed Matrix (S4)						Mesic	Spodic (TA6) (MLRA 144A, 145, 14	9B)
 Sandy F	Redox (S5)						Red P	arent Material (F21)	
Stripped	Matrix (S6)						Very S	hallow Dark Surface (TF12)	
Dark Su	rface (S7) (LRR R. ML	RA 149B)					Other	(Explain in Remarks)	
								x 1	
³ Indicators of	hydrophytic vegetation	and wetland h	ydrology must be p	resent, unles	s disturbed	or probler	natic.		
Restrictive L	.ayer (if observed):								
Туре:									
Depth (in	ches):						Hydric Soil Pr	esent? Yes No _>	(
Remarks:								4.3 (1) (2.	
riomanio.	Root refusal at 12 inche	s.							

Project/Site:	COP South Cardiff	City/County: A	bsecon, Atlantic	County, NJ	Sampling Date:	02/08/2023
Applicant/Owner:	ASOW		St	ate: New Jersey	Sampling Point:	26-W001-1W
Investigator(s):	TCAL	Section, Township, Ra	inge:	Absecon,	Atlantic County, N	J
Landform (hillslope, terrace, etc):	Depressional shore Local r	elief (concave, convex,	none):	concave	Slope	e (%): 0-3
Subregion (LRR or MLRA):	LRR S Lat:	39.36682083	Long:	-74.471307	83 Datu	m: WGS 1984
Soil Map Unit Name: Psamm	naquents, sulfidic substratum, 0 to 2 p	ercent slopes, frequentl	y flooded	NWI classificati	on:	
Are climatic / hydrologic conditions c	on the site typical for this time of year?	Yes <u>X</u> No	(lf no,	explain in Remark	(s.)	
Are Vegetation, Soil	, or Hydrologysignificant	ly disturbed?	Are "Normal Circ	cumstances" prese	ent? Yes	XNo
Are Vegetation, Soil	, or Hydrologynaturally p	vroblematic?	(If needed, expla	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS	Attach site map showing sam	npling point locati	ons, transec	ts, important:	features, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sarr	pled Area			
Hydric Soil Present?	Yes X No	— within a W	etland?	Yes X	No	
Wetland Hydrology Present?	Yes X No	If yes, optic	onal Wetland Site	a ID:		-
, ,,	3			3.		
Remarks: (Explain alternative proc	cedures here or in a separate report.)					
Wetland Hydrology Indicators:				0	- f	
Primary Indicators (minimum of or	ie required; check all that apply)			Secondary Indic	ators (minimum of	two required)
		d Leaves (B9)			II Cracks (B6)	
X High Water Table (A2)	Aquatic Faur	1a (B13)		Drainage Pa	atterns (B10)	
Saturation (A3)		S (BID)			Lines (Bib)	
Vvater Marks (DT)		Illide Odor (CT)	-1- (00)	Dry-Season	Water Table (C_2)	
		Zospheres on Living Ro	ots (C3)	Crayfish Bu	irrows (C8)	(20)
Drift Deposits (B3)	Presence of	Reduced Iron (C4)		Saturation v	Visible on Aeriai im	agery (C9)
Algal Mat or Crust (B4)		Reduction in Tilled Soils	(C6)	Stunted or :	Stressed Plants (D	1)
X Iron Deposits (B5)	Thin Muck St	urface (C7)		Geomorphic	c Position (D2)	
Inundation Visible on Aerial II	magery (B7) Other (Explai	in in Remarks)		Shallow Aq	uitard (D3)	
Sparsely Vegetated Concave	Surface (B8)			Microtopogr	raphic Relief (D4)	
				X FAC-Neutra	al Test (D5)	
Field Observations:						
Surface Water Present?	Yes X No Depth (inch	1ec): 3				
Water Table Present?	Yes X No Depth (inch	1es): 0				
Saturation Present?	Yes X No Depth (inch	103): <u> </u>	Wetland Hvd	rology Present?	Yes X	No
(includes canillary fringe)		les). <u> </u>	Wollandinga	rology resolution.		
(includes depinery minger						
Describe Recorded Data (stream	gauge, monitoring well, aerial photos, ı	previous inspections), if	a∨ailable:			
Remarks:						

Sampling Point: 26-W001-1W

	Absolute	Dominant	Indicator	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Tree Stratum (Plot size:	% Cover	Species?	<u>Status</u>	Total Number of Dominant Species Across All Strata:2 (B)
3. 4. 5.		· <u> </u>		Percent of Dominant Species That Are OBL, FACW, or FAC:100.0 (A/B)
6. 7.				Prevalence Index worksheet: Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15 Feet)	0	- Total Cove	er	OBL species 0 x 1 = 0 FACW species 95 x 2 = 190
I. Iva frutescens / Jesuit's-bark	5	Yes	FACW	FAC species 0 x 3 = 0 FACU species 0 x 4 = 0
3. 4. 5.				UPL species 0 x 5 = 0 Column Totals: 95 (A) 190 (B)
6		-		Prevalence Index = B/A =2.0
Herb Stratum (Plot size: 5 Feet)	5	= Total Cov	er	Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation
1. Spartina patens / Salt meadow cord grass, Salt-meadow cor	80	Yes	FACW	X 2 - Dominance Test is >50%
2. Phragmites australis / Common reed	10	No	FACW	X 3 - Prevalence Index ≤3.0¹
3		5		4 - Morphological Adaptations ¹ (Provide supporting
4	6	0		
5	0	internet in the second s		Indicators of bydric soil and wetland bydrology must
7.				be present, unless disturbed or problematic.
8.				F
9.	~			Definitions of Vegetation Strata
10				
11				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height
12	90	= Total Cov	er	Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3 28 ft (1 m) tall
Woody Vine Stratum (Plot size: 30 Feet) 1				Herb - All herbaceous (non-woody) plants, regardless of
2	2 2			Woody vines - All woody vines greater than 3.28 ft in
3.				height.
4	0	= Total Cov	er	Hydrophytic
				Vegetation Present? Yes X No
Remarks: (Explain alternative procedures here or in a separate r	eport.)			•

SOIL

Profile Desc	ription: (Describe to t Matrix	he depth ne	eded to document t Redo	he indicator	or confirm	the absen	ce of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
		• /03. 			· · · · · · · · · · · · · · · · · · ·			
2			10 12					
		···		_				
-	-							
			-TA					10
¹ Type: C=Co	ncentration, D=Depletic	on, RM=Redu	ced Matrix, MS=Mas	ked Sand G	rains.		² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil I	Indicators:						Indicators for	Problematic Hydric Soils ³ :
Histosol	l (A1)		Polyvalue Belo	w Surface (S	8) (LRR R,	MLRA 149	B) 2 cm Muc	k (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		Thin Dark Surfa	ace (S9) (LF	RR R, MLRA	A 149B)	Coast Pra	irie Redox (A16) (LRR K, L, R)
Black H	istic (A3)		Loamy Mucky	Mineral (F1)	(LRR K, L)		5 cm Muc	ky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Gleved	Matrix (F2)			Dark Surf	ace (S7) (LRR K, L)
Stratifie	d Lavers (A5)		Depleted Matrix	(F3)			Polyvalue	Below Surface (S8) (LRR K, L)
 Deplete	d Below Dark Surface (A11)	Redox Dark Su	rface (F6)			Thin Dark	Surface (S9) (LRR K, L)
Thick D	ark Surface (A12)	Ś	Depleted Dark	Surface (F7)			Iron-Mano	anese Masses (F12) (LRR K, L, R)
 Sandv N	Mucky Mineral (S1)		Redox Depress	sions (F8)			Piedmont	Floodplain Soils (F19) (MLRA 149B)
Sandy (Gleved Matrix (S4)						Mesic Spo	odic (TA6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)						Red Pare	nt Material (F21)
Stripped	d Matrix (S6)						Werv Shal	low Dark Surface (TF12)
Dark Su	Inface (S7) (LRR R. MI	LRA 149B)					Other (Ex	plain in Remarks)
								,
³ Indicators of	f hydrophytic ∨egetatior	and wetland	hydrology must be p	present, unle	ss disturbed	l or problem	natic.	
Restrictive I	Laver (if observed):							
Type:	,							
Depth (in	iches):						Hydric Soil Prese	ent? Yes X No
							,	
Remarks:	Soil could not be colled	tod duo to ct	anding water and coi	Lourfago cat	uration Soil	complex fo	ll anart when pulling	augur out
	Soli could flot be collec		anung water and sor	i sunace sau	uration. Son	samples le	an apart when pulling	augu out.

Project/Site:	COP South Cardiff	City/County: Al	osecon, Atlantic	County, NJ	Sampling Date:	02/08/2023
Applicant/Owner:	ASOW		St	ate: New Jersey	Sampling Point:	26-W001-2U
Investigator(s):	TCAL	Section, Township, Ra	nge:	Absecon,	Atlantic County, N	J
Landform (hillslope, terrace, etc):	Hillslope Local r	elief (concave, convex, i	none):	con∨ex	Slop	e (%): 15-20
Subregion (LRR or MLRA):	LRR S Lat:	39.368204	Long:	-74.472362	2 Datu	m: WGS 1984
Soil Map Unit Name: Psamm	naquents, sulfidic substratum, 0 to 2 p	ercent slopes, frequently	y flooded	NWI classificatio	on:	
Are climatic / hydrologic conditions c	on the site typical for this time of year?	Yes <u>X</u> No	(lf no,	explain in Remark	.s.)	
Are Vegetation, Soil	, or Hydrologysignificant	ly disturbed?	Are "Normal Cire	cumstances" prese	nt? Yes	X No
Are Vegetation, Soil	, or Hydrologynaturally p	roblematic?	(If needed, expla	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing sam	npling point locati	ons, transec	ts, important:	features, etc.	
Hydrophytic Vegetation Present?	Yes No X	Is the Sam	pled Area			
Hydric Soil Present?	Yes No X	— within a W	etland?	Yes	No X	
Wetland Hydrology Present?	Yes No X	- If yes, optic	nal Wetland Site	a ID:		_
				3		
Remarks: (Explain alternative proc	cedures here or in a separate report.)					
Wetland Hydrology Indicators:				o		9 · N
Primary Indicators (minimum of or	ie required; check all that apply)	BAN		Secondary Indica	ators (minimum of	two required)
		d Leaves (B9)		Surface Soll	I Cracks (Bb)	
High Water Table (A2)	Aquatic Faur	ia (B13)		Drainage Pa	atterns (B10)	
Saturation (A3)		s (B15)			Ines (B16)	
VVater Iviarks (DT)	Dvidized Phi	linde Odor (CT)	/02	Dry-Season		
		Zospheres on Living Not	ots (U3)	Crayiisii Dui	frows (co)	
Driπ Deposits (D3) Also Matter Crust (B4)	Presence of Recent Iron I	Reduced from (C4)	(06)	Saturation v	/ISIble on Aeria in Plants (F	Tagery (US)
I Argan Mat Or Crusi (D4)		(eduction in Tilleu Solis	(00)	Stunted of 3	Desition (D2)	(1)
I - Investion Visible on Aerial II	macory (B7) Other (Expla	in in Remarke)			itard (D3)	
Sparsely Vegetated Concave	Surface (B8)	in in Keinarks)		Microtopogr	ranhic Relief (D4)	
				EAC-Neutra	I Test (D5)	
Field Observations:						
Surface Water Present?	Yes NoX Depth (inch	ies):				
Water Table Present?	Yes NoX Depth (inch	ies):				
Saturation Present?	Yes NoX Depth (inch	ies):	Wetland Hyd	rology Present?	Yes	No X
(includes capillary fringe)		26 of 10	····			
Describe Recorded Data (stream	gauge, monitoring well, aerial photos, p	previous inspections), if a	a∨ailable:			
Remarks:						
Remarks.						

Sampling Point: _____26-W001-2U

				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: <u>30 Feet</u>)	% Cover	Species?	Status	Total Number of Dominant
1. Juniperus virginiana / Eastern red-cedar	25	- Yes	FACU	Species Across All Strata: 5 (B)
2. Pinus rigida / Pitch pine	15	Yes	FACU	Charlone menane any economical solution of the second solution of th
3. Betula / Birch	10	Yes	<u>NI</u>	Percent of Dominant Species
4			<u> </u>	That Are OBL, FACW, or FAC: 20.0 (A/B)
5		-77-4	· ·	
6	150	-0.		Prevalence Index worksheet:
7		20. 22 61 5425		Total % Cover of: Multiply by:
	50	_ = Total Cove	er	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15 Feet)				FACW species 5 x 2 = 10
1				FAC species 0 x 3 = 0
2.	-			FACU species 45 x 4 = 180
3				UPL species 10 x 5 = 50
4			10 	Column Totals: 60 (A) 240 (B)
5				
6 7			- 1 <u></u>	Prevalence Index = B/A =
	0	= Total Cove	er	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)		- îe		1 - Rapid Test for Hydrophytic Vegetation
1 Phragmites australis / Common reed	5	Yes	FAC\A/	2 - Dominance Test is >50%
2. Lonicera japonica Llananese honevsuckle	5	Yes	FACU	$3 - \text{Prevalence Index } < 30^{1}$
3			17,00	4 - Morphological Adaptations ¹ (Provide supporting
4	<u>.</u>		0.	Problematic Hydrophytic Vegetation ¹ (Explain)
5				
5)))		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Indicators of hydric soil and wetland hydrology must
7	-	<u>199</u>	<u>.</u>	he present upless disturbed or problematic
·	- 19 E	28	0.92	be present, unless disturbed or problematic.
8	0.7	-01é		Definitions of Vegetation Strata
9		- 1	07.00	
10	-	-0-	- (Tree - Woody plants 3 in (7.6 cm) or more in diameter at
11	1010		- <u></u>	breast height (DBH), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in DBH and
	10	= lotal Cove	er	greater than or equal to 3.28 ft (1 m) tall.
Woody Vine Stratum (Plot size: 30 Feet)				Herb - All berbaceous (non-woody) plants, regardless of
1	- () .	-		size, and woody plants less than 3.28 ft tall.
2			·	Woody vines - All woody vines greater than 3.29 ft in
3				height.
4	<u></u>	22	2 S.	
	0	_ = Total Cove	er	Hydrophytic
				Vegetation
				Present? Yes No X
Remarks: (Explain alternative procedures here or in a separate	e report.)			

~	-	
~	~	_

Profile Desc Depth	ription: (Describe to th Matrix	ne depth need	Redox	Features	or commit	the abser		.,	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-4	10YR 2/2	100		- CI			Sandy Loam		15
4-12	10YR 6/8	75	10YR 5/1	25	С	М	Sandy Loam		
				-			5		
	: . .	10		-					
-	·			•			()		
8	i i i i i i i i i i i i i i i i i i i			· 8				5 2	
	· ·				<u> </u>		· · · · · · · · · · · · · · · · · · ·		
÷	· · · · · · · · · · · · · · · · · · ·	10 <u>00</u> 0		- X	<u> </u>				
-	·								-
	• •			- 3 			a <u> </u>		c
		·······		- 8	:		·		5
	• •	······································		- 3	· ·		a <u> </u>		15
¹ Type: C=Co		n RM=Reduc	ed Matrix_MS=Mask	ed Sand Gr	ains .		2l ocat	ion: PI = Pore Lining M=Matrix	
		1, 1111–116440		Co Cano On	unis.			ion. T E-T ore Emilig, M-Matrix.	
Hydric Soil I	ndicators:						Indicators	for Problematic Hydric Soils ³ :	
— Histosol	(A1)	<u>-</u>	Polyvalue Below	V Surface (St	B) (LRR R,	MLRA 149	9 B) 2 cm M	/luck (A10) (LRR K, L, MLRA 149B)	
Histic Ep	oipedon (A2)		Thin Dark Surfa	ce (S9) (LR	R R, MLRA	(149B)	Coast	Prairie Redox (A16) (LRR K, L, R)	
Black Hi	stic (A3)		Loamy Mucky N	lineral (F1)	(LRR K, L)		5 cm M	/lucky Peat or Peat (S3) (LRR K, L, F	२)
Hydroge	en Sulfide (A4)	_	Loamy Gleyed N	/atrix (F2)			Dark S	Surface (S7) (LRR K, L)	
Stratifie	d Layers (A5)		Depleted Matrix	(F3)			Polyva	lue Below Surface (S8) (LRR K, L)	
Deplete	d Below Dark Surface (A	A11)	Redox Dark Sur	face (F6)			Thin D	ark Surface (S9) (LRR K, L)	
Thick Da	ark Surface (A12)	20	Depleted Dark S	Surface (F7)			Iron-M	anganese Masses (F12) (LRR K, L,	R)
Sandy N	/lucky Mineral (S1)		Redox Depressi	ons (F8)			 Piedm	ont Floodplain Soils (F19) (MLRA 14	9B)
Sandy G	Bleyed Matrix (S4)						Mesic	Spodic (TA6) (MLRA 144A, 145, 14	9B)
 Sandy F	Redox (S5)						Red P	arent Material (F21)	
Stripped	Matrix (S6)							hallow Dark Surface (TF12)	
Dark Su	rface (S7) (LRR R. ML	RA 149B)					Other	(Explain in Remarks)	
								x 1	
³ Indicators of	hydrophytic vegetation	and wetland h	ydrology must be p	resent, unles	s disturbed	or probler	natic.		
Restrictive L	.ayer (if observed):								
Туре:									
Depth (in	ches):						Hydric Soil Pr	esent? Yes No _>	(
Remarks:								4.3 (1) (2.	
riomanio.	Root refusal at 12 inche	s.							

Project/Site:	COP South Cardiff	City/County: A	bsecon, Atlantic	County, NJ	Sampling Date:	02/08/2023
Applicant/Owner:	ASOW		St	ate: New Jersey	Sampling Point:	26-W001-2W
Investigator(s):	TCAL	Section, Township, R	ange:	Absecon,	Atlantic County, N	1]
Landform (hillslope, terrace, etc):	Water Local r	elief (concave, convex,	none):	concave	Slop	e (%): 0-3
Subregion (LRR or MLRA):	LRR S Lat:	39.3683765	Long:	-74.472430	67 Datu	im: WGS 1984
Soil Map Unit Name:	Water, saline	9	2009	NWI classificatio	on:	
Are climatic / hydrologic conditions of	n the site typical for this time of year?	Yes <u>X</u> Nc	(lf no,	explain in Remark	(s.)	
Are Vegetation, Soil	, or Hydrologysignificant	ly disturbed?	Are "Normal Cire	cumstances" prese	ent? Yes	X No
Are Vegetation, Soil	, or Hydrologynaturally p	oroblematic?	(If needed, expla	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS - /	Attach site map showing sar	npling point locat	ions, transec	ts, important:	features, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the San	nled Area			
Hydric Soil Present?	Yes X No	— within a V	Jetland?	Yes X	No	
Wetland Hydrology Present?	Yes X No	- If ves. opti	onal Wetland Site	e ID'	26-\//001-2\//	
Weitana Hyarolegy			Siler voterne c		20 11001 21.	C.
Remarks: (Explain alternati∨e proc	edures here or in a separate report.)					
26 26 an						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of on	e required; check all that apply)			Secondary Indica	ators (minimum of	two required)
X Surface Water (A1)	Water-Staine	d Leaves (B9)		Surface Soi	l Cracks (B6)	
X High Water Table (A2)	Aquatic Faur	าa (B13)		Drainage Pa	atterns (B10)	
X Saturation (A3)	Marl Deposit	s (B15)		Moss Trim L	_ines (B16)	
Water Marks (B1)	Hydrogen Su	ılfide Odor (C1)		Dry-Season	ı Water Table (C2))
Sediment Deposits (B2)	Oxidized Rhi	zospheres on Living Ro	oots (C3)	Crayfish Bu	rrows (C8)	
Drift Deposits (B3)	Presence of	Reduced Iron (C4)		X Saturation \	/isible on Aerial In	nagery (C9)
Algal Mat or Crust (B4)	Recent Iron	Reduction in Tilled Soils	3 (C6)	Stunted or S	Stressed Plants (C	01)
Iron Deposits (B5)	Thin Muck S	urface (C7)		Geomorphic	c Position (D2)	
Inundation Visible on Aerial In	nagery (B7) Other (Expla	in in Remarks)		Shallow Ag	uitard (D3)	
Sparsely Vegetated Concave	Surface (B8)	·····/		Microtopogr	raphic Relief (D4)	
				X FAC-Neutra	al Test (D5)	
			7	<u> </u>	()	
Field Observations:						
Surface Water Present?	Yes X No Depth (inch	ies): <u>12+</u>				
Water Table Present?	Yes X No Depth (inch	ies): 0				
Saturation Present?	Yes X No Depth (inch	ies): 0	Wetland Hyd	rology Present?	Yes X	No
(includes capillary fringe)					~	
Describe Recorded Data (stream g	jauge, monitoring well, aerial photos, j	previous inspections), if	available:			
Dementres						
Remarks.						

Sampling Point: 26-W001-2W

Tree Stratum (Plot size: <u>30 Feet</u>) 1	Absolute <u>% Cover</u>	Dominant Indicator Species? Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 1 Total Number of Dominant Species Across All Strata: 1 (B)
2. 3. 4. 5.	·		Percent of Dominant Species That Are OBL, FACW, or FAC:100.0 (A/B)
6 7 Sapling/Shrub Stratum (Plot size:15 Feet) 1 2	0	= Total Cover	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species 30 $x 1 = 30$ FACW species 0 $x 2 = 0$ FAC species 0 $x 3 = 0$ FACU species 0 $x 4 = 0$
3 4 5 6	· <u> </u>		UPL species 0 x 5 = 0 Column Totals: 30 (A) 30 (B) Prevalence Index = B/A = 1.0 1.0 1.0
7.	<u> 0 </u>	= Total Cover Yes OBL	Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% X 3 - Prevalence Index ≤3.01 4 - Morphological Adaptations¹ (Provide supporting Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
89 9 10 11			Definitions of Vegetation Strata Tree - Woody plants 3 in. (7.6 cm) or more in diameter at
12	30	= Total Cover	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
2. 3. 4.			size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
	0	_ = Total Cover	Hydrophytic Vegetation Present? Yes <u>X</u> No
Remarks: (Explain alternative procedures here or in a separate	report.)		

SOIL

Profile Desc	ription: (Describe to t	he depth need	led to document t	he indicator	or confirm	the abser	nce of indicat	ors.)		
Depth			Redo Option (monist)	x Features	T	12	T		Demeder	
	Color (moist)	<u> </u>	Color (moist)	%	Type.	LOC	Texture	- a	Remarks	
							2			
		sva								
	-				·					
	. <u>.</u>									
	-	·			· · ·					
					. <u> </u>					
<u>.</u>	· ·			- 12	. <u></u> .					
	·				· · · · · · · · ·			_ :		
		<u></u>		- 3	· · · · · · · ·		3	_ =		17
				- 3	· · · · · · · · · · ·					
		······································			· · · · · · · · · · · ·					
-										
¹ Type: C=Cor	ncentration, D=Depletio	n, RM=Reduce	ed Matrix, MS=Mas	ked Sand Gr	rains.		²Lo	cation: PL=Po	ore Lining, M=Ma	trix.
Hydric Soil I	ndicators:						Indicato	ors for Proble	ematic Hydric Se	oils ^a :
Histosol	(A1)		Polyvalue Belov	M Surface (S	8) (I RR R I	MI RA 149	IB) 2 c	m Muck (A10)		RA 149B)
Histic Fr	vinedon (A2)	100 200	- Thin Dark Surfa			1/19R)	, — ²	ast Prairie Re	dov (A16) (I RR	K I R)
Black Hi	stic (A3)	<u> </u>	- Loamy Mucky N	/ineral (E1)		(1456)	— ⁶⁰	m Mucky Pea	tor Pest (S3) (I	PPKIP)
Diack Th	sic(A0)		Loamy Gloved	Motrix (E2)			De	rk Surfage (S		KK K, E, K)
Hydroge Stratificy			Doploted Matrix	$(\Box 2)$				waluo Bolow		
Stratilieu	i Layers (AD) I Balaw Dark Surface (A 11)	 Depleted Waths Bodov Dork Su 	rfann (EG)				p Dark Surface		KK K, L)
- Depieted			- Redux Dark Su	Пасе (го) Силбара (Е7)					(39) (LKK K,	
- Thick Da	ark Surface (A12)	-	- Depleted Dark	Surface (F7)				I-Manganese	Iviasses (F12)	LKK K, L, K)
Sandy IV	lucky Mineral (ST)		_ Redox Depress	ions (F8)				amont Flooap	Main Solis (F 19) (WILKA 149B)
Sandy G	ledev (CE)						^{IVIE}	sic Spoaic (17 d Devent Mete	40) (IVILKA 144. miel (E21)	A, 145, 1496)
Sandy R	Matrix (SS)							u Parent Mate	riai (F21) sk Susfees (TE12	n
- Surpped		D. 440D)					— ver	y Shanow Da	R Surface (IFI2	.)
Dark Su	nace (S7) (LRR R, IVIL	.RA 149B)					Otr	ner (Explain in	Remarks)	
³ Indicators of	hydrophytic vegetation	and wetland h	ydrology must be p	resent, unle	ss disturbed	or problem	natic.			
Restrictive L	.aver (if observed):									
Type:										
Depth (in	ches):		_				Hydric Soil	Present?	Yes X	No
										(
Remarks:										
8	Water, soil unable to be	collected.								

Project/Site:	COP South Cardiff	City/County:	Absecon, Atlantic	County, NJ	Sampling Date:	02/08/2023
Applicant/Owner:	ASOW		St	tate: New Jersey	Sampling Point:	26-W002-1U
Investigator(s):	TCAL	Section, Township, F	Range:	Absecon,	Atlantic County, N	IJ
Landform (hillslope, terrace, etc):	Roadside Loca	al relief (concave, conve)	k, none):	con∨ex	Slop	e (%): 0-2
Subregion (LRR or MLRA):	LRR S Lat:	39.37198117	Long:	-74.4786703	33 Datu	m: WGS 1984
Soil Map Unit Name: Psamr	naquents, sulfidic substratum, 0 to 2	percent slopes, frequer	ntly flooded	NWI classification	on:	
Are climatic / hydrologic conditions o	n the site typical for this time of yea	r? Yes <u>X</u> N	lo (lf no	, explain in Remark	(s.)	
Are Vegetation, Soil	, or Hydrologysignifica	intly disturbed?	Are "Normal Cir	rcumstances" prese	ent? Yes	X No
Are Vegetation, Soil	, or Hydrologynaturall	y problematic?	(If needed, expl	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing s	ampling point loca	tions, transe	cts, important	features, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sa	moled Area			
Hydric Soil Present?	Yes No)	within a	Wetland?	Yes	No X	
Wetland Hydrology Present?	Yes No)	lfves op	tional Wetland Sit	re ID:		
				· ···		ič.
Remarks: (Explain alternative proc	cedures here or in a separate report	.)				
24 24						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of on	e required; check all that apply)			Secondary Indica	ators (minimum of	two required)
Surface Water (A1)	Water-Stai	ned Leaves (B9)		— Surface Soil	l Cracks (B6)	
High Water Table (A2)	Aquatic Fa	una (B13)		Drainage Pa	atterns (B10)	
Saturation (A3)	Marl Depo	sits (B15)		Moss Trim L	_ines (B16)	
Water Marks (B1)	Hydrogen	Sulfide Odor (C1)	s a <u>altran</u> t	Dry-Season	Water Table (C2))
Sediment Deposits (B2)	Oxidized F	thizospheres on Living R	Roots (C3)	— Crayfish Bui	rrows (C8)	
Drift Deposits (B3)	Presence	of Reduced Iron (C4)		Saturation V	/isible on Aerial In	nagery (C9)
Algal Mat or Crust (B4)	Recent Iro	n Reduction in Tilled Soi	ls (C6)	Stunted or S	Stressed Plants (D	01)
Iron Deposits (B5)	Thin Muck	Surface (C7)		Geomorphic	c Position (D2)	
Inundation Visible on Aerial Ir	nagery (B7) Other (Exp	lain in Remarks)		Shallow Aqu	uitard (D3)	
Sparsely Vegetated Concave	Surface (B8)			Microtopogr	aphic Relief (D4)	
47				FAC-Neutra	ll Test (D5)	
				8.7 4V		
Field Observations:	Mar Na V Donth /in	010-12A:				
Surface Water Present?	Yes No X Depth (in	ches):	5			
Water Table Present?	Yes No X Depth (in	ches):			×7	N
Saturation Present?	Yes No X Depth (In	ches):	Wetland Hyd	Irology Present r	Yes	No X
(includes capillary tringe)						
Describe Recorded Data (stream (gauge monitoring well aerial photo	s previous inspections)	if available:			
Describe Recorded Data (stream)	Jauge, montoning wen, achai photo.	s, previous inspections),	n available.			
Remarks:						
1						

Sampling Point: _____26-W002-1U

				Dominance Test worksheet:
				Number of Dominant Species
	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:30 Feet)	% Cover	Species?	Status	Tetel Number of Device of
1				Total Number of Dominant
2.			199 199	Species Across All Strata:2 (B)
3.				
4.				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC:
6.				Provalence Index workshoet:
7.		0.04		Total % Cover of: Multiply by:
	0	= Total Cove	er	
Sapling/Shrub Stratum (Plot size: 15 Feet)		-8		$\frac{OBL species}{20}$ $\frac{20}{x^2 - 40}$
1.				FAC or species 20 $x^2 = 40$
2.			5	FAC species $0 \times 3 = 0$
3.		-0.8	· · · · · · · · · · · · · · · · · · ·	$\frac{10}{10} \times 5 = 50$
4.		- 0.		$\begin{array}{c c} OFL \text{ species} & IU & X D - & DU \\ Column Totale: & 20 & (A) & 00 & (D) \end{array}$
5.	-	- 19	-	Column lotais: <u>50</u> (A) <u>90</u> (B)
6.		-212	·····	Providence index = P/A = 2.0
7.				
		= Total Cove	er	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)		-	-	1 - Rapid Test for Hydrophytic Vegetation
1 Pbragmites australis / Common reed	20	Yes	FACW	2 - Dominance Test is > 50%
2 Artemisia vulgaris / Common wormwood	<u> </u>	Yes		X 3 - Prevalence Index <3.01
3				4 - Morphological Adaptations ¹ (Provide supporting
3	_			Problematic Hydrophytic Vegetation ¹ (Evplain)
T	- 3-			
		ar said Baile		Indicators of hydric coil and wotland hydrology must
0			-	he present unless disturbed or problematic
·			295 ⁻	be present, diffess disturbed or problematic.
8		00 H		Definitions of Vegetation Strata
9		- 11 d		
10				Tree - Woody plants 3 in (7.6 cm) or more in diameter at
10		-0 -0		breast height (DBH), regardless of height.
12			. <u> </u>	Sapling/shrub - Woody plants less than 3 in DBH and
			er	greater than or equal to 3.28 ft (1 m) tall.
Voody Vine Stratum (Plot size: 30 Feet)				Herb - All berbaceous (non-woody) plants, regardless of
		- ()	. <u> </u>	size, and woody plants less than 3.28 ft tall.
2	- 2	-		Woody vines - All woody vines greater than 3 28 ft in
3	-		. <u></u>	height.
4				
	0	= lotal Cove	er	Hydrophytic
				Vegetation
				Present? Yes X No
Remarks: (Explain alternative procedures here or in a separat	e report.)			

SOIL

(inchor)	Matrix		Redo	x Features				
(incries)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
					<u> </u>			
		···		_ :			·	
· .		en <u> </u>		_ 11				
					s <u>a s</u> s			
		(a) (<u> </u>	· · · · · · · ·			
			8	- 0	. .			
			8		. .			
	107 1990 1899 1998 and 1998		10 to out of the telephone time of the			:		
Type: C=Conce	entration, D=Depletic	n, RM=Redu	iced Matrix, MS=Mas	ked Sand Gr	ains.		² Location	n: PL=Pore Lining, M=Matrix.
Ivdric Soil Inc	licators:						Indicators fo	r Problematic Hvdric Soils³:
Histosol (A	.1)		Polyvalue Belo	w Surface (S	8) (LRR R.	MLRA 1491	B) 2 cm Mu	ck (A10) (LRR K. L. MLRA 149B)
Histic Epip	edon (A2)		Thin Dark Surfa	ace (S9) (LF	R R. MLRA	(149B)	Coast Pr	rairie Redox (A16) (LRR K. L. R)
Black Histi	c (A3)		Loamy Mucky M	Mineral (F1)	(LRR K. L)		5 cm Mu	cky Peat or Peat (S3) (LRR K. L. R)
Hydrogen	Sulfide (A4)		Loamy Gleved	Matrix (E2)	(, _ <i>,</i>		Dark Su	face (S7) (IRB K I)
Stratified I	avers (A5)		Depleted Matrix	(E3)			Polyvalu	e Below Surface (S8) (LRR K L)
Depleted F	Below Dark Surface (A11)	Redox Dark Su	rface (E6)			Thin Dar	k Surface (S9) (LRR K. L)
Thick Dark	Surface (A12)	,	Depleted Dark	Surface (F7)			Iron-Mar	nganese Masses (F12) (LRR K. L. R)
Sandy Mu	cky Mineral (S1)		Redox Depress	ions (F8)			Piedmon	t Floodplain Soils (F19) (MLRA 149B)
Sandy Gle	ved Matrix (S4)						Mesic St	odic (TA6) (MLRA 144A, 145, 149B
Sandy Red	dox (S5)						Red Par	ent Material (F21)
Stripped IV	latrix (S6)							allow Dark Surface (TF12)
Dark Surfa	ice (S7) (LRR R. MI	RA 149B)					Other (E	xplain in Remarks)
								, , ,
³ Indicators of hy	/drophytic ∨egetation	and wetland	l hydrology must be p	present, unles	s disturbed	or problem	atic.	
	10 10 10 10 10 10 10 10 10 10 10 10 10 1		18 927582 95	997		22		
Restrictive Lay	/er (if observed):							
Restrictive Lay	/er (if observed):							
Restrictive Lay Type: Depth (inch	ver (if observed):		_				Hydric Soil Pres	sent? Yes No <u>X</u>
Restrictive Lay Type: Depth (inch Remarks:	ver (if observed): es):						Hydric Soil Pres	sent? Yes NoX
Restrictive Lay Type: Depth (inch Remarks: Ur	/er (if observed): es):	pland along t	he roadside due to b	uried high pr	essure pipe	line running	Hydric Soil Pres	ent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed): es): nable to take soil in u land of the wetland a	pland along t area associat	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	cent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t area associat	the roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres undemeath the Re	cent? Yes No <u>X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t area associat	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the uj	essure pipe Jand was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes No <u>X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t rrea associat	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe pland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t rea associat	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres undemeath the Re	eent? Yes <u>No X</u>
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t rea associat	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe oland was a	line running paved park	Hydric Soil Pres	eent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t area associat	the roadside due to b ed with flag 26-W002	uried high pr -11 as the u	essure pipe bland was a	line running paved park	Hydric Soil Pres	eent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t	the roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u>
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t	the roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe oland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u>
Restrictive Lay Type: Depth (inch Remarks: Ur up	ver (if observed):	pland along t	the roadside due to b ed with flag 26-W002	uried high pr 2-11 as the uj	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u>
Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	the roadside due to b ed with flag 26-W002	uried high pr 2-11 as the uj	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u>
Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	the roadside due to b ed with flag 26-W002	uried high pr 2-11 as the uj	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u>
Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u>
Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u> OW. Soil was also unable to be obtain
Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	he roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running pa∨ed park	Hydric Soil Pres	eent? Yes <u>No X</u> OW. Soil was also unable to be obtain
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Restrictive Lay Type: Depth (inch Remarks: Ur up	/er (if observed):	pland along t	the roadside due to b ed with flag 26-W002	uried high pr 2-11 as the u	essure pipe bland was a	line running paved park	Hydric Soil Pres	eent? Yes <u>No X</u>

i Tojecuone.	COP South Cardiff	City/County: A	Absecon, Atlantic County, NJ Sampling Date: 02/08/2023			
Applicant/Owner:	ASOW		Sta	ate: New Jersey	Sampling Point:	26-W002-1W
Investigator(s):	TCAL	Section, Township, Ra	inge:	Absecon,	Atlantic County, N	J
Landform (hillslope, terrace, etc):	depressional marsh Local I	relief (concave, convex,	none):	conca∨e	Slope	e (%):0-2
Subregion (LRR or MLRA):	LRR S Lat:	39.372018	Long:	-74.47858	7 Datur	n: WGS 1984
Soil Map Unit Name: Psamm	naquents, sulfidic substratum, 0 to 2 p	ercent slopes, frequent	y flooded	NWI classificati	on:	
Are climatic / hydrologic conditions of	n the site typical for this time of year?	Yes X No	(lf no,	explain in Remark	(s.)	
Are Vegetation, Soil	, or Hydrologysignificant	ly disturbed?	Are "Normal Circ	cumstances" prese	ent? Yes	X No
Are Vegetation, Soil	, or Hydrologynaturally p	problematic?	(If needed, expla	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing sar	npling point locati	ons, transec	ts, important	features, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sarr	pled Area			
Hydric Soil Present?	Yes X No	within a W	etland?	Yes X	No	
Wetland Hydrology Present?	Yes X No	If yes, optic	onal Wetland Site	e ID:	26-W002-1W	_
	- 1. 			-		-
Remarks: (Explain alternative proc	edures here or in a separate report.)					
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of on	e required; check all that apply)			Secondary Indic	ators (minimum of	two required)
X Surface Water (A1)	Water-Staine	ed Leaves (B9)		Surface Soi	I Cracks (B6)	
X High Water Table (A2)	Aquatic Fau	na (B13)		Drainage Pa	atterns (B10)	
X Saturation (A3)	Marl Deposit	:s (B15)		Moss Trim I	Lines (B16)	
Water Marks (B1)	X Hydrogen Su	ulfide Odor (C1)		Dry-Seasor	water Table (C2)	
Sediment Deposits (B2)	Oxidized Rh	izospheres on Living Ro	ots (C3)	Crayfish Bu	rrows (C8)	
Drift Deposits (B3)	Presence of	Reduced Iron (C4)		Saturation \	/isible on Aerial Im	agery (C9)
Algal Mat or Crust (B4)	Recent Iron	Reduction in Tilled Soils	(C6)	Stunted or S	Stressed Plants (D	1)
Iron Deposits (B5)	Thin Muck S	urface (C7)		Geomorphic	c Position (D2)	
Inundation Visible on Aerial Ir	nagery (B7) Other (Expla	iin in Remarks)		Shallow Aq	uitard (D3)	
Sparsely Vegetated Conca∨e	Surface (B8)			Microtopogr	raphic Relief (D4)	
				X FAC-Neutra	al Test (D5)	
			7	20		
Field Obermustiener						
Field Observations:	Vani V. Nai Danth (inch	101				
Field Observations: Surface Water Present?	Yes X No Depth (inch	nes): <u>12+</u>				
Field Observations: Surface Water Present? Water Table Present?	Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch	nes): <u>12+</u> nes): <u>12</u>	184-41-11-11-11-1		V V	NI
Field Observations: Surface Water Present? Water Table Present? Saturation Present?	Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u>	Wetland Hyd	rology Present?	Yes X	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes X No Depth (incr Yes X No Depth (incr Yes X No Depth (incr	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u>	Wetland Hyd	rology Present?	Yes X	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g	Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch Yes x No Depth (inch	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream s	Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch Yes x No Depth (inch gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd available:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g	Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch Yes x No Depth (inch jauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch Yes x No Depth (inch jauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Yes X No Depth (inch Yes X No Depth (inch Yes X No Depth (inch yauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream s Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc yauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd a∨ailable:	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>0</u> previous inspections), if	Wetland Hyd	rology Present?	Yes <u>X</u>	No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes X No Depth (inc Yes X No Depth (inc Yes X No Depth (inc gauge, monitoring well, aerial photos,	nes): <u>12+</u> nes): <u>12</u> nes): <u>0</u> previous inspections), if	Wetland Hyd	rology Present?	Yes <u>X</u>	No

Sampling Point: <u>26-W002-1W</u>

Tree Stratum (Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) Total Number of Dominant Species Across All Strata: 2 Percent of Dominant Species
5		814		That Are OBL, FACW, or FAC:(A/B)
6. 7	0	= Total Cove	er	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species40 $x 1 = 40$ FACW species60 $x 2 = 120$ FAC species0 $x 3 = 0$ FACU species0 $x 4 = 0$
3	-	. <u>.</u>		UPL species $0 \times 5 = 0$
5.		· ·	·	Column lotais: 100 (A) 160 (B)
6 7.				Prevalence Index = B/A =1.6
	0	= Total Cove	er	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: > Feet)	50	Vec	EA CIA/	X 1 - Rapid lest for Hydrophytic Vegetation
Spartina patens / Sait meadow cord grass, Sait-meadow cord Spartina alterniflora / Sait water cord grass, Sait-water cord (25	Yes	OBL	X 3 - Prevalence Index <3 0 ¹
 Salicornia depressa / Virginia glasswort 	15	No	OBL	4 - Morphological Adaptations ¹ (Provide supporting
4. Phragmites australis / Common reed	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5.	2 	•	0	
6		0	-	¹ Indicators of hydric soil and wetland hydrology must
7 8		<u></u>	<u></u>	be present, unless disturbed or problematic.
9.	-			Definitions of Vegetation Strata
10 11	0 			Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12	100	= Total Cove	er	Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				greater than or equal to 3.28 it (1 m) tail. Herb - All herbaceous (non-woody) plants, regardless of
2.				size, and woody plants less than 3.28 ft tall.
3.				Woody vines - All woody vines greater than 3.28 ft in height
4		2 C		nogh.
	0	_ = Total Cove	er	Hydrophytic Vegetation Present? Yes X No
Remarks: (Explain alternative procedures here or in a separate	report.)			

~	-	
~	~	_

Profile Descr	iption: (Describe to tl Matrix	ne depth neede	d to document the	e indicator	or confirm	the abser	nce of indicat	ors.)	
(inchae)	Color (moiet)		Color (moist)	0/	Turo 1	1002	Texture		Remarks
				-70		LUC		2	Remarks
	101R 2/1							<u> </u>	
6-18	10YR 3/1	100					Muck	- 2	
							2		
	<u>v</u>	·					-	8	
n n							2 2		
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<u> </u>	·	······································		7 <u></u> 7	<u> </u>		11 <u></u>	_ :	
	· <u> </u>	· · · · · · · · · · · · · · · · · · ·		S			S .	- 5	
							0		
		······································		. <u> </u>			a .		
							-		
¹ Type: C=Con	centration, D=Depletio	n, RM=Reduced	d Matrix, MS=Mask	ed Sand Gra	ains.		²Lo	cation: PL=F	Pore Lining, M=Matrix.
Hydric Soil Ir X Histosol Histic Ep Black His Hydroge	ndicators: (A1) ipedon (A2) stic (A3) n Sulfide (A4)	-	Polyvalue Below Thin Dark Surfac Loamy Mucky Mi Loamy Gleyed M	Surface (S& e (S9) (LR ineral (F1) (latrix (F2)	3) (LRR R, R R, MLRA (LRR K, L)	MLRA 149 \ 149B)	Indicato 98)2 co 5 co 5 co 5 co	ors for Probl m Muck (A10 ast Prairie Ro m Mucky Pe rk Surface (S	lematic Hydric Soils ^a : 0) (LRR K, L, MLRA 149B) edox (A16) (LRR K, L, R) at or Peat (S3) (LRR K, L, R) 57) (LRR K, L)
Stratified	Layers (A5)		Depleted Matrix ((F3)			Pol	yvalue Belov	W SUFFACE (S8) (LRR K, L)
Depleted	Below Dark Surface (/	A11)	- Redox Dark Surf	ace (F6)			— ^{Thi}	n Dark Surfa	ace (S9) (LRR K, L)
Thick Da	rk Surface (A12)		_ Depleted Dark S	urface (F7)			Iror	n-Manganese	e Masses (F12) (LRR K, L, R)
Sandy M	ucky Mineral (S1)		Redox Depression	ons (F8)			Pie	dmont Flood	Iplain Soils (F19) (MLRA 149B)
Sandy G	leyed Matrix (S4)						Me	sic Spodic (T	ГАб) (MLRA 144A, 145, 149B)
Sandy R	edox (S5)						Red	d Parent Mat	terial (F21)
Stripped	Matrix (S6)							v Shallow Da	ark Surface (TF12)
Dark Sur	face (S7) (I RR R MI	RA 149B)						er (Explain i	in Remarks)
							_ 0.		in Keinakey
³ Indicators of	hydrophytic ∨egetation	and wetland hy	drology must be pr	esent, unles	s disturbed	or problem	natic.		
Restrictive L	ayer (if observed):								
Type:									
Denth (in	ches):						Hydric Soil	Present?	Yes X No
Doptil (ill							Try and boin	110301101	
Remarks:									

Project/Site:	COP South Cardiff City/County:		.nty: Abs∉	Absecon, Atlantic County, NJ Sampling Date: 02/09/2023					
Applicant/Owner:	AS	ow		Sta	ate: New Jersey	Sampling Point:	26-W005-1U		
Investigator(s):	TCAL	Section,	Township, Rang	je:	Absecon,	Atlantic County, N	J		
Landform (hillslope, terrace, etc):	Hillslope	Local relief (conca	ave, convex, no	ne):	convex	Slope	e (%): 0-10		
Subregion (LRR or MLRA):	LRR S	Lat:39.4	40377233	Long:	-74.567032	25 Datur	m: WGS 1984		
Soil Map Unit Name:	Atsion sand, 0 to 2 percer	nt slopes, Northern Tig	idewater Area		NWI classification	on:			
Are climatic / hydrologic conditions of	on the site typical for this time	e of year? Yes <u>></u>	<u>X No</u>	(lf no,	explain in Remark	(s.)			
Are Vegetation, Soil	, or Hydrology	significantly disturbed	d? Are	e "Normal Circ	umstances" prese	ent? Yes	XNo		
Are Vegetation, Soil	, or Hydrology	naturally problematic	;? (lf	needed, expla	ain any answers in	Remarks.)			
SUMMARY OF FINDINGS -	Attach site map show	ing sampling po	oint location	ns, transec	ts, important	features, etc.			
Hydrophytic Vegetation Present?	Yes N	lo X	Is the Sample	ed Area					
Hydric Soil Present?	Yes N	lo X	within a Wetl	and?	Yes	No X			
Wetland Hydrology Present?	Yes N	lo X	If yes, optiona	al Wetland Site) ID:				
Remarks: (Explain alternative pro	edures here or in a separat	e report.)							
HYDROLOGY									
Wetland Hydrology Indicators:									
Primary Indicators (minimum of or	ne required; check all that ap	ply)			Secondary Indica	ators (minimum of	two required)		
Surface Water (A1)	Wa	ater-Stained Leaves ((B9)		Surface Soi	l Cracks (B6)	<u></u> 2		
High Water Table (A2)	Aq	uatic Fauna (B13)			Drainage Pa	atterns (B10)			
Saturation (A3)	Ma	arl Deposits (B15)			Moss Trim Lines (B16)				
Water Marks (B1)	Hy	drogen Sulfide Odor ((C1)		Dry-Season	ı Water Table (C2)			
Sediment Deposits (B2)	^{Ox}	idized Rhizospheres	on Living Roots	s (C3)	Crayfish Bu	rrows (C8)			
Drift Deposits (B3)	Pre	esence of Reduced In	ron (C4)		Saturation \	/isible on Aerial Im	agery (C9)		
Algal Mat or Crust (B4)	Re	cent Iron Reduction in	in Tilled Soils (C	;6)	Stunted or S	Stressed Plants (D	1)		
Iron Deposits (B5)	In	in Muck Surface (C/))		Geomorphic	Position (D2)			
Inundation Visible on Aerial II	magery (B7) Ott	her (Explain in Remar	irks)		Shallow Aqu	ultard (D3)			
Sparsely Vegetated Concave	Surface (B8)				IVIIcrotopogr	aphic Relief (D4)			
					FAC-Neutra	il lest (D5)			
Field Observations:			-, t¢						
Surface Water Present?	Yes No X D)epth (inches):							
Water Table Present?	Yes No X C)epth (inches):							
Saturation Present?	Yes No X C)epth (inches):		Wetland Hydi	rology Present?	Yes	No <u>X</u>		
(includes capillary fringe)	. <u> </u>	17250 Jan ka Ku				8			
	at 10 12 12	10 01 W W	events the materia	Dr. ed. bess					
Describe Recorded Data (stream	gauge, monitoring well, aeria	al photos, previous ins	spections), if av	ailable:					
Remarks:									
Remarks.									

Sampling Point: 26-W005-1U

	Absolute	Dominant	Indicator	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Tree Stratum (Plot size:30 Feet)	% Cover	Species?	Status	Total Number of Dominant
1. Acer rubrum / Red maple	30	Yes	FAC	Species Across All Strata: 4 (B)
2. Quercus rubra / Northern red oak	10	Yes	FACU	
3				Percent of Dominant Species
4		<u></u>		That Are OBL_EACW/ or EAC 25.0 (A/B)
5				
6				Prevalence Index worksheet:
7	_			Total % Cover of: Multiply by:
	40	= lotal Cove	er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 Feet)	10	Vee	FACU	FACW species 0 x 2 = 0
1. Juniperus virginiana / Eastern red-cedar	10	- Tes	FACU	FAC species 30 x 3 =90
2		· · · · · · · · · · · · · · · · · · ·		FACU species x 4 =100
3				UPL species x 5 =
4	- 6	0		Column Totals: <u>55</u> (A) <u>190</u> (B)
5				
0 7			~ <u>~</u>	Prevalence Index = B/A =3.45
···		= Total Cove		Hydronhytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)		-		1 - Rapid Test for Hydrophytic Vegetation
1. Lonicera iaponica Liananese honevsuckle	5	Yes	FACU	2 - Dominance Test is >50%
2				$3 - \text{Prevalence Index } < 3.0^{1}$
3	(i) .			4 - Morphological Adaptations ¹ (Provide supporting
4	_			Problematic Hydrophytic Vegetation ¹ (Explain)
5	-)-	-		
6	- 3.	2004 (200	Contraction of the Contraction o	¹ Indicators of hydric soil and wetland hydrology must
7.				be present, unless disturbed or problematic.
8.				
9.				Definitions of Vegetation Strata
10.	-			
11.		-		Tree - Woody plants 3 in. (7.6 cm) or more in diameter at
12.			- 	breast height (DBH), regardless of height.
Woody Vine Stratum (Plot size: 30 Feet)	5	= Total Cove	er	Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
1				Herb - All herbaceous (non-woody) plants, regardless of
2	-	-		size, and woody plants less than 3.28 ft tall.
3.				Woody vines - All woody vines greater than 3.28 ft in
4.				height.
		= Total Cove	er	
		- 7		Hydrophytic
				Vegetation
				Present? Yes <u>No X</u>
Remarks: (Explain alternative procedures here or in a separat	e report)			

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		_	-

Profile Desci	iption: (Describe to t	he depth neede	d to document th	e indicator	or confirm	the abser	nce of indicators.)	Y.		
Depth	Matrix		Redox	Features	145 e.3					
(inches)	Color (moist)		Color (moist)		Type1	Loc ²	Texture		Remarks	12
0-6	10YR 2/1						Fine Sand			
6-12	10YR 2/2						Fine Sand			
	1.5	su 								
	8				—		i <u> </u>			
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	а <u>.</u>	<u> </u>					· ··			
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		·····		S			·			15
				· 3 1 3			a			
¹ Type: C=Cor	centration, D=Depletio	n, RM=Reduced	d Matrix, MS=Mask	ed Sand Gra	ains.		² Locatio	on: PL=Por	re Lining, M=Mati	rix.
Hydric Soil I	adicatore:						Indicators fr	or Probler	matic Hydric Soi	1c ^{3,}
Histosol	(A1)		Polyvalue Relow	Surface (S)		MI RA 140	(B) 2 cm M		(IRRK I MIP	Δ 149B)
	inedon (A2)	<u>.</u>	Thin Dark Surfac			1/10R)	Coast F	uck (ATO) Prairie Red	ov (A16) (IRRI	(R)
Black His	stic (A3)	- <u></u>	- Loamy Mucky M	ineral (E1)		1456)	5 cm M	ucky Peat	or Peat (S3) (LR	
Hydroge	n Sulfide (A4)		- Loamy Gleved M	Aatrix (E2)	(=====, =)		- Dark St	uface (S7)		, _,,
Stratified	Lavers (A5)		Depleted Matrix	(F3)			Polyvali	ue Below S	Surface (S8) (LR	RK.L
Depleted	Below Dark Surface (A11) —	Redox Dark Sur	face (F6)			Thin Da	irk Surface	(S9) (LRR K. L	.)
Thick Da	rk Surface (A12)		- Depleted Dark S	urface (F7)			Iron-Ma	Inganese N	Masses (F12) (L	, .RR K, L, R)
Sandy M	lucky Mineral (S1)		- Redox Depressio	ons (F8)				nt Floodpla	ain Soils (F19) (N	/LRA 149B)
Sandy G	leyed Matrix (S4)	5	-3				Mesic S	Spodic (TA	6) (MLRA 144A	, 145, 149B)
Sandy R	edox (S5)						Red Pa	rent Mater	ial (F21)	
Stripped	Matrix (S6)						Very Sh	allow Dark	k Surface (TF12)	
Dark Sur	face (S7) (LRR R, ML	.RA 149B)					Other (I	Explain in I	Remarks)	
3la dia atawa af		and wattend by			المعارية فالمعا					
		and wettand ny	arology must be pr	esent, unles	s uistuibeu					
Restrictive L	ayer (if observed):									
Type:			_					10		N. Y
Depth (in	cnes):		_				Hydric Soll Pre	sent?	Yes	No <u>X</u>
Remarks:										

Project/Site:	COP South Cardiff	City/Cou	unty: Ab	secon, Atlantic	County, NJ	Sampling Date:	02/08/2023
Applicant/Owner:	A	sow		St	ate: New Jersey	Sampling Point:	26-W005-1W
Investigator(s):	TCAL	Section,	Township, Rar	nge:	Absecon,	Atlantic County, N	IJ
Landform (hillslope, terrace, etc):	Depressional area	Local relief (conc	ave, convex, r	ione):	conca∨e	Slop	e (%): 0-5
Subregion (LRR or MLRA):	LRR S	Lat: 39.4	.40380117	Long:	-74.5670903	33 Datu	im: WGS 1984
Soil Map Unit Name:	Atsion sand, 0 to 2 perce	ent slopes, Northern Ti	idewater Area	2	NWI classification	on:	
Are climatic / hydrologic conditions o	n the site typical for this tin	ne of year? Yes	<u>X No</u>	(lf no	, explain in Remark	.s.)	
Are Vegetation, Soil	, or Hydrology	_significantly disturbe	d? A	Are "Normal Cir	cumstances" prese	nt? Yes	X No
Are Vegetation, Soil	, or Hydrology	_naturally problematic	ঃ? (lf needed, expl	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map sho	wing sampling p	oint locatio	ons, transe	cts, important	features, etc.	1
Hydrophytic Vegetation Present?	Yes X	No	Is the Sam	oled Area			
Hydric Soil Present?	Yes X	No	within a We	atland?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If ves, option	nal Wetland Sit	e ID:	26-W005-1W	_
		·····					
Remarks: (Explain alternati∨e proc	edures here or in a separa	ate report.)					
40 62 EA							
Wetland Hydrology Indicators:							
Primary Indicators (minimum of on	e required; check all that a	apply)			Secondary Indica	ators (minimum of	two required)
X Surface Water (A1)	— ^v	Vater-Stained Leaves ((B9)		— Surface Soil	Cracks (B6)	
X High Water Table (A2)	A	quatic Fauna (B13)			Drainage Pa	atterns (B10)	
X Saturation (A3)	N	/larl Deposits (B15)			Moss Trim L	.ines (B16)	
Water Marks (B1)	— ^H	lydrogen Sulfide Odor	· (C1)	16 ani 20080	Dry-Season	Water Table (C2))
Sediment Deposits (B2)	_ c	xidized Rhizospheres	on Living Roo	its (C3)	Crayfish Bur	rrows (C8)	
Drift Deposits (B3)	P	resence of Reduced Ir	ron (C4)		Saturation V	/isible on Aerial In	nagery (C9)
Algal Mat or Crust (B4)	R	tecent Iron Reduction i	in Tilled Soils ((C6)	Stunted or S	Stressed Plants (E	01)
Iron Deposits (B5)	т	hin Muck Surface (C7))		Geomorphic	Position (D2)	
Inundation Visible on Aerial Ir	nagery (B7) C)ther (Explain in Rema	arks)		Shallow Aqu	uitard (D3)	
Sparsely Vegetated Conca∨e	Surface (B8)				Microtopogr	aphic Relief (D4)	
					X FAC-Neutra	l Test (D5)	
Field Observations:							
Surface Water Present?	Yes X No	Depth (inches):					
Water Table Present?	Yes X No	Depth (inches):				8723 <u>2</u> .5	6222
Saturation Present?	Yes X No	Depth (inches):	0	Wetland Hyd	Irology Present?	Yes X	No
(includes capillary fringe)							
Departing Reported Data (stream (- مالمهام			
Describe Recorded Data (stream (jauge, monitoring well, aer	nal photos, previous in	ispections), in a	(Vallable:			
l							
Pemarke [.]							
Remarks.							

Sampling Point: 26-W005-1W

Tree Stratum (Plot size: 30 Feet)	Absolute % Cover	Dominant	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
1/				Total Number of Dominant Species Across All Strata: 1 (B)
3 4 5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6 7		= Total Cove		Prevalence Index worksheet: Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15 Feet) 1 2 3				OBL species0 $x T =$ 0FACW species50 $x 2 =$ 100FAC species0 $x 3 =$ 0FACU species5 $x 4 =$ 20UPL species0 $x 5 =$ 0
4567				Column Totals: 55 (A) 120 (B) Prevalence Index = B/A = 2.18
Herb Stratum (Plot size: 5 Feet) 1. Phragmites australis / Common reed 2. Lonicera japonica / Japanese honeysuckle 3	0 50 5	= Total Cove	FACW FACU	Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% X 3 - Prevalence Index ≤3.01 4 - Morphological Adaptations1 (Provide supporting Problematic Hydrophytic Vegetation1 (Explain) 1Indicators of hydric soil and wetland hydrology must
78				be present, unless disturbed or problematic.
9 10 11 12.	_	-		Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Woody Vine Stratum (Plot size:30 Feet)	55	= Total Cove	er	Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
1. 2. 3.			_	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.
т	0	= Total Cove	er	Hydrophytic Vegetation Present? Yes <u>X</u> No
Remarks: (Explain alternative procedures here or in a separat	te report.)			

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Depth	Matrix	25	Redo:	Features	or commit	the abser	ice of indicators	.,		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-3	10YR 2/1	100		• 0 <u></u> 1			Sandy Loam		CONTRACTORY AND A CONTRACTORY	16
3-12	10YR 5/1	98	10YR 6/6	2	С	PL	Sandy Loam			
	· · · · · · · · · · · · · · · · · · ·			8 <u></u>				6 6		
¹ Type: C=Cor	ncentration, D=Depletion	, RM=Reduc	ed Matrix, MS=Mas	ked Sand Gra	ains.		² Locat	ion: PL=Por	re Lining, M=Mat	rix.
Hydric Soil I	ndicators:						Indicators	for Probler	matic Hydric So	ls³:
Histosol	(A1)	<u>-</u>	Polyvalue Belov	v Surface (S&	B) (LRR R,I	MLRA 149	B) 2 cm №	Muck (A10)	(LRR K, L, MLR	A 149B)
Histic Ep	pipedon (A2)	2	Thin Dark Surfa	ce (S9) (LR	R R, MLRA	149B)	Coast	Prairie Red	lox (A16) (LRR	K, L, R)
Black Hi	stic (A3)		Loamy Mucky N	lineral (F1)	(LRR K, L)		5 cm M	Mucky Peat	or Peat (S3) (LI	R K, L, R)
Hydroge	n Sulfide (A4)	_	Loamy Gleyed I	Matrix (F2)			Dark \$	Surface (S7)) (LRR K, L)	
Stratified	l Layers (A5)	-	X Depleted Matrix	(F3)			Polyva	alue Below \$	Surface (S8) (LI	RR K, L)
Depleted	d Below Dark Surface (A	11)	Redox Dark Sur	face (F6)			Thin D	ark Surface	e (S9) (LRR K, I	.)
Thick Da	ark Surface (A12)	-	Depleted Dark S	Surface (F7)			Iron-M	langanese N	Masses (F12) (I	.RR K, L, R)
Sandy M	lucky Mineral (S1)	-	Redox Depress	ions (F8)			Piedm	ont Floodpl	ain Soils (F19) (I	/ILRA 149B)
Sandy G	leyed Matrix (S4)						Mesic	Spodic (TA	6) (MLRA 1444	, 145, 149B)
Sandy R	edox (S5)						Red P	arent Mater	ial (F21)	
Stripped	Matrix (S6)						Very S	Shallow Dark	k Surface (TF12)	
Dark Su	rface (S7) (LRR R, MLF	RA 149B)					Other	(Explain in l	Remarks)	
³ Indicators of	hydrophytic ∨egetation a	nd wetland l	nydrology must be p	resent, unles	s disturbed	or probler	natic.			
Restrictive I	aver (if observed):			992						
Type	ayor (ir observed).									
Depth (in	ches):						Hydric Soil Pr	esent?	Yes X	No
tomoto a tomoto a tomo								2017-0-12-2017-0-2017-0-00	(<u> </u>	() () () () () () () () () () () () () (
N										
Remarks:	Gravel refusal at 12									
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Project/Site:	COP South Cardiff	City/County: A	bsecon, Atlantic	County, NJ	Sampling Date:	02/09/2023
Applicant/Owner:	ASOV		Sta	ate: New Jersey	Sampling Point:	26-W006-1U
Investigator(s):	TCAL	Section, Township, R	ange:	Absecon, A	Atlantic County, NJ	J
Landform (hillslope, terrace, etc):	Gentle slope	Local relief (concave, convex,	, none):	con∨ex	Slope	e (%): 0-3
Subregion (LRR or MLRA):	LRR S	Lat: 39.412889	Long:	-74.5961953	3 Datun	n: WGS 1984
Soil Map Unit Name:	Mullica sandy loam	, 0 to 2 percent slopes	2007	NWI classification	n:	-
Are climatic / hydrologic conditions c	on the site typical for this time of	fyear? Yes <u>X</u> No) (lf no,	explain in Remarks	s.)	
Are Vegetation, Soil	, or Hydrologysig	nificantly disturbed?	Are "Normal Circ	cumstances" preser	nt? Yes	<u>K</u> No
Are Vegetation, Soil	, or Hydrologynat	urally problematic?	(If needed, expla	ain any answers in F	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showin	ig sampling point locat	ions, transec	ts, important f	eatures, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sar	nnled Area			
Hydric Soil Present?	Yes No	X within a V	Vetland?	Yes	No	
Wetland Hydrology Present?	Yes No	X If ves. opti	onal Wetland Site	e ID:		-
for and the story of the story		1 1 2 2 C	Unter v conten			
Remarks: (Explain alternative proc	cedures here or in a separate re	eport.)				
24 24 24						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of or	e required; check all that apply)		Secondary Indicat	tors (minimum of t	wo required)
Surface Water (A1)	Water	-Stained Leaves (B9)		Surface Soil	Cracks (B6)	
High Water Table (A2)	Aquat	tic Fauna (B13)		Drainage Pat	tterns (B10)	
Saturation (A3)	Marl I	Deposits (B15)		Moss Trim Li	ines (B16)	
Water Marks (B1)	Hydro	gen Sulfide Odor (C1)		Dry-Season V	Water Table (C2)	
Sediment Deposits (B2)	Oxidiz	zed Rhizospheres on Living Ro	oots (C3)	Crayfish Burr	rows (C8)	
Drift Deposits (B3)	Prese	nce of Reduced Iron (C4)		Saturation Vi	isible on Aerial Ima	agery (C9)
Algal Mat or Crust (B4)	Recer	nt Iron Reduction in Tilled Soils	s (C6)	Stunted or St	tressed Plants (D1	1)
Iron Deposits (B5)	Thin M	Muck Surface (C7)		Geomorphic	Position (D2)	
Inundation Visible on Aerial I	magery (B7) Other	·(Explain in Remarks)		Shallow Aqui	itard (D3)	
Sparsely Vegetated Concave	Surface (B8)			Microtopogra	aphic Relief (D4)	
				FAC-Neutral	Test (D5)	
				2		
Field Observations:		and the second and the second states of				
Surface Water Present?	Yes No Dep	th (inches):				
Water Table Present?	Yes <u>No</u> Dep	th (inches):	1 and a 1 and 10	8 1 <u>2 22</u>	2/25	1921
Saturation Present?	Yes No Dep	th (inches):	Wetland Hyd	rology Present?	Yes	No
(includes capillary fringe)						
Departies Reported Data (stream	aguas menitering well, coriel n	hotoo provinuo inconcritiono) it	f av milable:			
Describe Recorded Data (stream)	gauge, monitoring well, aerial p	notos, previous inspections), il	avaliable.			
Remarks:						

Sampling Point:	26-W006-1U
	8

				Dominance lest worksheet:
				Number of Dominant Species
	Absolute	Dominant	Indicator	That Are OBL, FACW, or FAC: 2 (A)
True Object (Distribution 20 First)	Absolute	Dominant Orași - 2	Chature	
Tree Stratum (Plot size: 30 Feet)	% Cover	Species?	Status	Total Number of Dominant
1. Pinus rigida / Pitch pine	40	Yes	FAC	Species Across All Strata: 3 (B)
2.		104	200	
3.				
4				Percent of Dominant Species
5		- 001	<u></u>	That Are OBL, FACW, or FAC:66.6 (A/B)
5		-774		
b	10	-C.4		Prevalence Index worksheet:
<i>T.</i>	_			Total % Cover of: Multiply by:
	40	= Total Cov	er	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15 Feet)				EACW(encoder 25 x 2 = 50)
1 llex glabra / Inkherry	25	Yes	FAC\A/	PACVV species X 2
		Vee	NU	FAC species 40 $x_3 = 120$
		165		FACU species 0 x 4 = 0
3.			·	UPL species 10 x 5 = 50
4		100	19 <u>4</u>	Column Totals: 75 (A) 220 (B)
5.				
6	67 B	na e		Decombra de la decombre D (1
7		-	199 <u>0</u>	Prevalence Index = B/A = 2.93
<i>i.</i>				
	35	= Total Cov	er	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)				1 - Rapid Test for Hydrophytic Vegetation
1.				X 2 - Dominance Test is >50%
2			0.4	\overline{X} 3 - Prevalence Index <3.0 ¹
3	1. ()		1	4 - Morphological Adaptations ¹ (Provide supporting
3.		9. .		Problem tis block tis Manual (From the Supporting
4			·	Problematic Hydrophytic Vegetation' (Explain)
5		2000 1	1942	
6.				¹ Indicators of hydric soil and wetland hydrology must
7.				be present, unless disturbed or problematic.
8				E E
0		- 19		Definitions of Vegetation Strata
9	_	1 te	<u></u>	
10		-		
11				Iree - vvoody plants 3 in. (7.6 cm) or more in diameter at
12.	1.52			breast height (DBH), regardless of height.
		= Total Cov	er.	Sapling/shrub - Woody plants less than 3 in. DBH and
Mandu Mine Charles (Distaires 20 Feet)		-	- 1	greater than or equal to 3.28 ft (1 m) tall.
Woody vine Stratum (Plot size. 30 Peet)				Herb - All berbaceous (non-woody) plants, regardless of
1				size and woody plants less than 3 28 ft tall
2	-	-		
3				woody vines - All woody vines greater than 3.28 ft in
4.				neight.
		=	er	
		- 10tal 00V		Hydrophytic
				2 19 10 ¹⁰ 22 ¹⁰ 20 20 ¹⁰
				Vegetation
				Vegetation Present? Yes X No

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	v		_	
_	_	-		

Profile Descr	iption: (Describe to tl	ne depth needeo	to document th	e indicator	or confirm	the absen	nce of indicators	.)		
Depth (inches) 0-18	Matrix Color (moist) 10YR 4/1	% (100	Redox Color (moist)	Features %	Type ¹	Loc ²	Texture Very Fine Sanc		Remarks	
	5	×					·			
				_	_		:			
	·	** ·		\equiv	\equiv		·			
		0] <u> </u>				;				
¹ Type: C=Cor	centration, D=Depletio	n, RM=Reduced	Matrix, MS=Mask	ed Sand Gra	ains.		²Locati	ion: PL=Po	re Lining, M=N	1atrix.
Hydric Soil In Histosol Histic Ep Black His Hydroge Stratified Depletec Thick Da Sandy M Sandy G Sandy R Stripped Dark Sur	ndicators: (A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) I Below Dark Surface (A rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, ML hydrophytic vegetation	A(11)	Polyvalue Below Thin Dark Surfac Loamy Mucky Mi Loamy Gleyed M Depleted Matrix o Redox Dark Surf Depleted Dark S Redox Depressio	Surface (S8 se (S9) (LR ineral (F1) (fatrix (F2) (F3) face (F6) urface (F6) urface (F7) ons (F8) esent, unles	3) (LRR R,I R R, MLRA LRR K, L)	MLRA 149 149B) or problem	Indicators f B) 2 cm M Coast [5 cm M Dark S Polyva Thin D Iron-Ma Piedmo Red Pa Very S Other (matic.	for Proble Auck (A10) Prairie Rec Aucky Peat Surface (S7 Ilue Below ark Surface anganese I ont Floodpl Spodic (TA arent Mater hallow Dar (Explain in	matic Hydric S (LRR K, L, Mi or Peat (S3) () (LRR K, L) Surface (S8) (e (S9) (LRR K Masses (F12) (ain Soils (F19) 6) (MLRA 14 rial (F21) k Surface (TF1 Remarks)	Soils ^a : LRA 149B) R K, L, R) (LRR K, L, R) (LRR K, L) (LRR K, L, R) (LRR K, L, R)) (MLRA 149B) 4A, 145, 149B)
Restrictive L Type: Depth (inc	ayer (if observed): ches):		-				Hydric Soil Pre	esent?	Yes	No X
Remarks:						ļ				

Project/Site:	COP South Cardiff	City/Count	y: Absecon, At	lantic County, NJ	Sampling Date: 02/09/2023
Applicant/Owner:	T	CAL	• • • • • • • • • • • • • • • • • • •	State: New Jersey	Sampling Point: 26-W006-1W
Investigator(s):	TCAL	Section, Tr	ownship, Range:	Absecon, /	Atlantic County, NJ
Landform (hillslope, terrace, etc):	Depression	Local relief (conca	ve, convex, none):	concave	Slope (%): 0-3
Subregion (LRR or MLRA):	LRR S		1284067 Lon	g: -74.5963023	33 Datum: WGS 1984
Soil Map Unit Name:	Mullica sandy lo	bam, 0 to 2 percent slop	les	NWI classificatio	on:
Are climatic / hydrologic conditions or	n the site typical for this tim	ie of year? Yes X	No	(If no, explain in Remark	s.)
Are Vegetation , Soil	, or Hydrology	significantly disturbed	? Are "Norm	al Circumstances" prese	nt? Yes X No
Are Vegetation , Soil	, or Hydrology	naturally problematic?	(If needed	, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - /	Attach site map show	- wing sampling po	int locations, tra	nsects, important	features, etc.
Hydrophytic Vogotation Brocont?	Voc X	No	le the Sampled Area		•
Hydrophytic Vegetation Present?		No	within a Wotland?	Vac	No
Motional Hydrology Procent?		NO	If yoo, optional Wotlar		
Weitand Hydrology Present?		NO	in yes, optional vvetial		3.
Remarks: (Explain alternati∨e proc	edures here or in a separa	te report.)			
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of on	e required; check all that a	pply)		Secondary Indica	ators (minimum of two required)
Surface Water (A1)	N		.9)	Surface Soil	Cracks (B6)
X High Water Table (A2)	A	quatic Fauna (B13)		Drainage Pa	atterns (B10)
X Saturation (A3)	M	arl Deposits (B15)		Moss Trim L	ines (B16)
Water Marks (B1)	— н	vdrogen Sulfide Odor ((C1)	Dry-Season	Water Table (C2)
Sediment Deposits (B2)	— 。	xidized Rhizospheres c	n Living Roots (C3)	Cravfish Bur	rows (C8)
Drift Deposits (B3)		resence of Reduced Iro	n (C4)	Saturation V	(isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	—	ecent Iron Reduction in	Tilled Soils (C6)	Stunted or S	Stressed Plants (D1)
Iron Denosite (B5)	— ["]	oin Muck Surface (C7)		Geomorphic	Position (D2)
Inundation Visible on Aerial In		ther (Evolain in Remark		Shallow Age	uitard (D3)
Inditidation visible on Aenan in	Surface (P?)		(3)	Microtonogr	anbia Boliof (D4)
Sparsely vegetated concave	Surface (DO)			EAC-Neutral	L Test (D5)
					Trest (D3)
Field Observations:					
Surface Water Present?	Yes No X	Depth (inches):			
Water Table Present?	Yes X No	Depth (inches):	3		
Saturation Present?	Yes X No	Depth (inches):	0 Wetland	d Hydrology Present?	Yes X No
(includes capillary fringe)					
Describe Recorded Data (stream g	auge, monitoring well, aeri	al photos, previous ins	pections), if a∨ailable:		
Remarks:					

Sampling Point: 26-W006-1W

	Absolute	Dominant	Indicator	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Tree Stratum (Plot size: <u>30 Feet</u>) 1. <i>Acer rubrum I</i> Red maple	<u>% Cover</u> 60	Species? Yes	Status FAC	Total Number of Dominant Species Across All Strata: 4 (B)
2				Percent of Dominant Species
5			· <u>· · · · · · · · · · · · · · · · · · </u>	That Are OBL, FACW, or FAC:(A/B)
5 7				Prevalence Index worksheet: Total % Cover of:Multiply by:
	60	_ = Total Cove	er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 Feet) 1. <u>Unknown</u>	50	Yes	NI	FACW species 15 x 2 = 30 FAC species 60 x 3 = 180
2	_	-		FACU species 0 x 4 = 0
3		-		UPL species 50 x 5 = 250
4 5.		- <u>195</u>	0 1	Column Totals: <u>125</u> (A) <u>460</u> (B)
6.	(°			Prevalence Index = B/A =3.68
·	50	= Total Cove	er	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)		-00		1 - Rapid Test for Hydrophytic Vegetation
1. Carex / Sedge	10	Yes	FACW	X 2 - Dominance Test is >50%
2. Smilax rotundifolia / Horsebrier	5	Yes	FACW	3 - Pre∨alence Index ≤3.0¹
3				4 - Morphological Adaptations ¹ (Provide supporting
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				
6				¹ Indicators of hydric soil and wetland hydrology must
7			<u> </u>	be present, unless disturbed or problematic.
8		-01 ⁴	· ·	Definitions of Vegetation Strata
9		() (c) (c) (c) (c) (c) (c) (c) (c) (c) (Deminions of Vegetation of ata
10 11				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at
12		= Total Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:30 Feet)		-		greater than or equal to 3.28 ft (1 m) tall.
1		2010 	0 	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
3.			· <u> </u>	Woody vines - All woody vines greater than 3.28 ft in height.
4				
			er	Hydrophytic
				Vegetation
				Present? Yes X No
Remarks: (Explain alternati∨e procedures here or in a separa	te report.)			

~	-		
~	~		-

Profile Descr	iption: (Describe to th	ne depth nee	ded to document th	e indicator	or confirm	the abser	nce of indicators.)		
Depth (inches) 0-16	<u>Color (moist)</u> 10YR 2/1	<u>%</u> 100	Redox Color (moist)	Features %			Texture	Remar	ks
¹ Type: C=Con	centration, D=Depletio	n, RM=Reduc	ed Matrix, MS=Mask	ed Sand Gra			² Location	n: PL=Pore Lining, N	л=Matrix.
Histosol Histic Ep Black His Hydroge Stratified Depleted X Thick Da Sandy M Sandy G Sandy R Jark Sur ³ Indicators of	(A1) (A1) ipedon (A2) stic (A3) h Sulfide (A4) Layers (A5) Below Dark Surface (A rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, ML hydrophytic vegetation	- - - - - - - - - - - - - - - - - - -	Polyvalue Below Thin Dark Surfac Loamy Mucky M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	surface (S8 ce (S9) (LR ineral (F1) (latrix (F2) (F3) face (F6) turface (F6) turface (F7) ons (F8)	3) (LRR R, R R, MLRA (LRR K, L)	MLRA 149 149B) or problem	 B) 2 cm Muc Coast Pri- 5 cm Muc Dark Sur Polyvalue Thin Darl Iron-Man Piedmoni Mesic Sp Red Pare Very Sha Other (E) 	ck (A10) (LRR K, L airie Redox (A16) cky Peat or Peat (S face (S7) (LRR K, e Below Surface (S k Surface (S9) (LR ganese Masses (F ganese Masses (F t Floodplain Soils (F bodic (TA6) (MLRA ent Material (F21) illow Dark Surface (kplain in Remarks)	n, MLRA 149B) (LRR K, L, R) 3) (LRR K, L, R) b) (LRR K, L) R K, L) 12) (LRR K, L, R) 519) (MLRA 149B) 144A, 145, 149B) TF12)
Restrictive L Type: Depth (inc	ayer (if observed): hes):						Hydric Soil Pres	ent? Yes	X No
Remarks:									

Project/Site:	COP South Cardiff	City/County: A	bsecon, Atlantic Co	ounty, NJ	Sampling Date:	02/15/2023
Applicant/Owner:	ASOW	7.0	State	: New Jersey	Sampling Point:	26-W007-1U
Investigator(s):	TCAL	Section, Township, R	ange:	Absecon,	۔ Atlantic County, N	J
Landform (hillslope, terrace, etc):	Roadside hillslope	ocal relief (concave, convex,	none):	con∨ex	Slope	e (%):
Subregion (LRR or MLRA):	LRR S La	at: 39.37415633	Long:	-74.4820713	33 Datur	n: WGS 1984
Soil Map Unit Name: Psamm	naquents, sulfidic substratum, 0 t	o 2 percent slopes, frequent	ly flooded	NWI classification	on:	
Are climatic / hydrologic conditions o	n the site typical for this time of y	ear? Yes <u>X</u> No	(If no, e)	oplain in Remark	s.)	
Are Vegetation, Soil	, or Hydrologysignif	icantly disturbed?	Are "Normal Circu	mstances" prese	ent? Yes 🖸	X No
Are Vegetation, Soil	, or Hydrologynatur	ally problematic?	(If needed, explain	any answers in	Remarks.)	
SUMMARY OF FINDINGS - /	Attach site map showing	sampling point locat	ions, transects	s, important	features, etc.	
Hydrophytic Vegetation Present?	Yes No	X Is the San	npled Area			
Hydric Soil Present?	Yes No	X within a V	/etland?	Yes	No	
Wetland Hydrology Present?	Yes No	X If yes, opti	onal Wetland Site II	D:		_
Remarks: (Explain alternative proc	edures here or in a separate rep	ort.)				
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of on	e required: check all that apply)		ç	Secondary Indica	ators (minimum of t	wo required)
Surface Water (A1)	Water-S	Stained Leaves (B9)	2	Surface Soil	Cracks (B6)	<u></u>
High Water Table (A2)	Aquatic	Fauna (B13)	=	Drainage Pa	atterns (B10)	
Saturation (A3)	Marl De	posits (B15)	-	Moss Trim L	ines (B16)	
Water Marks (B1)	<u> </u>	en Sulfide Odor (C1)	-	Drv-Season	Water Table (C2)	
Sediment Deposits (B2)	Oxidize	d Rhizospheres on Living Ro	oots (C3)	Crayfish Bu	rrows (C8)	
Drift Deposits (B3)	Presence	ce of Reduced Iron (C4)		Saturation V	isible on Aerial Im	agery (C9)
Algal Mat or Crust (B4)	 Recent	Iron Reduction in Tilled Soils	- (C6)	 Stunted or S	Stressed Plants (D	1)
		1 12 12 STATE	-			22
Iron Deposits (B5)	Thin Mu	ick Surface (C7)		Geomorphic	Position (D2)	
Iron Deposits (B5) Inundation Visible on Aerial Ir	nagery (B7) Thin Mu Other (E	ick Surface (C7) Explain in Remarks)	-	Geomorphic Shallow Aqu	Position (D2) uitard (D3)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Conca∨e	nagery (B7) Thin Mu Surface (B8)	ick Surface (C7) Explain in Remarks)	-	Geomorphic Shallow Aqu Microtopogr	Position (D2) uitard (D3) aphic Relief (D4)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave	nagery (B7) Thin Mu Surface (B8)	ick Surface (C7) Explain in Remarks)	-	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave	nagery (B7) Other (B Surface (B8)	ick Surface (C7) Explain in Remarks)	-	Geomorphic Shallow Aqu Microtopogr	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations:	magery (B7) Thin Mu Surface (B8)	ick Surface (C7) Explain in Remarks)		Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present?	Thin Mu Other (B Surface (B8) No <u>X</u> Depth	ick Surface (C7) Explain in Remarks) (inches):	-	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present?	Thin Mu magery (B7) Other (I Surface (B8) Yes NoX Depth Yes NoX Depth	ick Surface (C7) Explain in Remarks) (inches): (inches):	-	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (isolutes conjulated for a state for	magery (B7) Thin ML Surface (B8) Other (I Yes No X Yes No X Depth Yes No X Depth Yes No X Depth	ick Surface (C7) Explain in Remarks) (inches): (inches):	- - - - Wetland Hydro	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Thin Mu magery (B7) Other (I Surface (B8) Yes No X Depth Yes No X Depth Yes No X Depth	ick Surface (C7) Explain in Remarks) (inches): (inches):	- - - Wetland Hydro	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of	Thin Mu magery (B7) Other (B Surface (B8) Yes No X Depth Yes No X Depth Yes No X Depth Jauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g	Thin Mu magery (B7) Other (B Surface (B8) Yes No X Depth Yes No X Depth Yes No X Depth Jauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- Wetland Hydro	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g	Thin Mu magery (B7) Other (B Surface (B8) Yes No X Depth Yes No X Depth Yes No X Depth yauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) iitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Thin Mu Surface (B8) Yes NoX Depth Yes NoX Depth Yes NoX Depth Yes NoX Depth jauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	Wetland Hydro	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) iltard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Thin Mu Surface (B8) Yes No _X Depth Yes No _X Depth Yes No _X Depth Yes No _X Depth jauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	∙ Wetland Hydro	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Thin Mu Surface (B8) Yes No _X Depth Yes No _X Depth Yes No _X Depth Yes No _X Depth yauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): tos, previous inspections), if	₩etland Hydro	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Thin Mu magery (B7) Other (I Surface (B8) Yes No _X Depth Yes No _X Depth Yes No _X Depth yauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): tos, previous inspections), if	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Thin Mu magery (B7) Other (I Surface (B8) Yes No _X Depth Yes No _X Depth Yes No _X Depth gauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): tos, previous inspections), if	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu magery (B7) Other (I Surface (B8) Yes No _X Depth Yes No _X Depth yes No _X Depth jauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu magery (B7) Other (I Surface (B8) Yes No _X Depth Yes No _X Depth Jauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu Magery (B7) Other (B Surface (B8) Yes NoX Depth Yes NoX Depth Jauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu Magery (B7) Other (B Surface (B8) Yes NoX Depth Yes NoX Depth yauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu Magery (B7) Other (B Surface (B8) Yes NoX Depth Yes NoX Depth Yes NoX Depth gauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): tos, previous inspections), if	- Wetland Hydro	Geomorphic Shallow Aqu Microtopogr FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g	Thin Mu Magery (B7) Other (B Surface (B8) Yes No X Depth Yes No X Depth Yes No X Depth gauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	vWetland Hydro	Geomorphic Shallow Aqu FAC-Neutra	: Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generated stream genera	Thin Mu magery (B7) Other (B Surface (B8) Yes No X Depth Yes No X Depth Yes No X Depth gauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches): tos, previous inspections), if	Wetland Hydro	Geomorphic Shallow Aqu FAC-Neutra	: Position (D2) iitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu magery (B7) Other (I Surface (B8) Yes No _X Depth Yes No _X Depth Yes No _X Depth gauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): (inches):	- Wetland Hydro	Geomorphic Shallow Aqu FAC-Neutra	Position (D2) iitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu magery (B7) Other (I Surface (B8) Yes No _X Depth Yes No _X Depth Yes No _X Depth gauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches):	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu FAC-Neutra	Position (D2) iitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Mu magery (B7) Other (I Surface (B8) Yes No _X Depth Yes No _X Depth yes No _X Depth gauge, monitoring well, aerial pho	ick Surface (C7) Explain in Remarks) (inches): (inches): tos, previous inspections), if	- - - - - - - - - - - - - - - - - - -	Geomorphic Shallow Aqu FAC-Neutra	Position (D2) uitard (D3) aphic Relief (D4) I Test (D5) Yes	No <u>X</u>

Sampling Point: 26-W007-1U

				Dominance Test worksheet:		
				Number of Dominant Species	0	(A)
	Absolute	Dominant	Indicator	That Are OBL, FACVV, or FAC:	0	- ^(A)
Tree Stratum (Plot size:30 Feet)	% Cover	Species?	Status	Total Number of Dominant		
1				Species Acress All Strate:	2	(B)
2			1997	Species Across Air Strata.		- (")
3		- 10		Percent of Dominant Species		
4				That Are OBL EACIA/ or EAC	0.0	(A/B)
5		- ⁰¹			0.0	- (^/)
6	- 3		6. .	Prevalence Index worksheet:		0
7	_			Total % Cover of: N	lultiply by:	
	0	= Total Cov	er	OBL species 0 x 1 =	0	
Sapling/Shrub Stratum (Plot size:15 Feet)				FACW species 0 x 2 =	0	
1. Juniperus virginiana / Eastern red-cedar	10	Yes	FACU	FAC species 0 x 3 =	0	
2			· · · · · · · · · · · · · · · · · · ·	FACU species 15 x 4 =	60	
3		-		UPL species 0 x 5 =	0	
4		19 <u>0</u>	· <u> </u>	Column Totals: 15 (A)	60	(B)
5		-26	··			
6	- C.	- CE	- 1 <u></u> -	Prevalence Index = B/A =	4.0	
<i>n</i>	10	= Total Cov	er	Hydrophytic Vegetation Indicators:		
Herb Stratum (Plot size: 5 Feet)				1 - Rapid Test for Hydrophytic Vege	etation	
1. Lonicera japonica / Japanese honeysuckle	5	Yes	FACU	2 - Dominance Test is >50%		
2.				3 - Prevalence Index ≤3.0 ¹		
3.				4 - Morphological Adaptations ¹ (Pro	vide suppor	ting
4.			55 55	Problematic Hydrophytic Vegetation	n¹ (Explain)	
5.		alea Anto	ana ana			
6		1949 1947	1995 1995	¹ Indicators of hydric soil and wetland hy	drology mus	t
7				be present, unless disturbed or problem	atic.	
8						
9	-0		6 .	Definitions of Vegetation Strata		
10		1.6	£		7. P.	
11	-	-08		hreast height (DBH), regardless of heigh	ore in diamei	terat
12		-		Sopling/ohrub Moody plants loss that		- n d
Mandu Mine Strature (Distaire) 20 Feet	5	= Total Cov	er	greater than or equal to 3.28 ft (1 m) tall	тэш. обна I.	anu
(Plot size. <u>30 Feet</u>)				Herb - All herbaceous (non-woody) plar	nts, regardle:	ss of
1				size, and woody plants less than 3.28 ft	tall.	923V02021233
2	- 0-	-0		Woody vines - All woody vines greater	than 3.28 ft	in
4	-	- ()		height.		
T		= Total Cov	er			
		- 10101 000		Hydrophytic		
				Vegetation		
				Present? Yes N	o <u>X</u>	
Remarke: (Evolution alternative procedures here or in a constant	a report)					
Remarks. (Explain alternative procedures here of in a separate	e report.)					

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		_	-

Profile Desc	ription: (Describe to the Matrix	ne depth need	ed to document th	ne indicator	or confirm	the absen	nce of indicato	rs.)		
(inches)	Color (moist)		Color (moist)	%	Type1	Loc ²	Texture		Romark	5
	10VR 2/1	100					Sand	- 0 	Kennark	3
6-18	10YR 3/2	75	10YR 5/4	25	· <u> </u>	М	Sand	Redox co	lor is actually	broken rocks and st
2 2					:		- 			2
1 <u>000</u> 000	- * <u>-</u>	······································			· ·	· ·		· · · · · · · · · · · · · · · · · · ·		
		1 T		- a	· <u> </u>		· <u>-</u>			
	·	·		- »	· ·			· · · · · · · · · · · · · · · · · · ·		
e		······		- 0	· — _ ·			• :		
¹ Type: C=Cor	ncentration, D=Depletio	n, RM=Reduce	d Matrix, MS=Masł	ked Sand Gr	ains.		2Loci	ation: PL=P	ore Lining, M	=Matrix.
Hydric Soil I Histosol Histic Ep Black Hi Hydroge Stratified Depleted Sandy M Sandy M Sandy G Sandy R Jark Su	ndicators: (A1) bipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface (A ark Surface (A12) Mucky Mineral (S1) Bleyed Matrix (S4) Redox (S5) I Matrix (S6) rface (S7) (LRR R, ML bydrophytic vegetation	A11)	Polyvalue Below Thin Dark Surfa Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	v Surface (S ce (S9) (LR lineral (F1) /latrix (F2) (F3) face (F6) Surface (F7) ons (F8) resent, unlea	8) (LRR R, R R, MLRA (LRR K, L)	MLRA 149 (149B) or problem	Indicator B) 2 cm Coas 5 cm Dark Poly Thin Iron- Pied Red Very Othe matic.	s for Proble Muck (A10 st Prairie Re Mucky Pea Surface (S value Below Dark Surfac Manganese mont Floodp c Spodic (T, Parent Mate Shallow Da r (Explain ir	ematic Hydri) (LRR K, L, edox (A16) (L at or Peat (S3 7) (LRR K, L / Surface (S8) (C (S9) (LRF Masses (F12 plain Soils (F12 plain Soils (F12 plain Soils (F12 plain Soils (F12 plain Soils (F12) ark Surface (T n Remarks)	c Soils ⁹ : MLRA 149B) .RR K, L, R)) (LRR K, L, R)) (LRR K, L) R K, L) 2) (LRR K, L, R) 19) (MLRA 149B) 144A, 145, 149B)
Restrictive L Type:	.ayer (if observed):									
Depth (in	ches):		_				Hydric Soil F	Present?	Yes	No X
Remarks:						μ.				

Project/Site:	COP South Cardiff	City/County: At	osecon, Atlantic	County, NJ	Sampling Date:	02/15/2023
Applicant/Owner:	ASOW		Sta	ate: New Jersey	Sampling Point:	26-W007-1W
Investigator(s):	TCAL	Section, Township, Ra	.nge:	Absecon, A	Atlantic County, N	J
Landform (hillslope, terrace, etc):	Bowl shaped depression Local	- relief (concave, convex, r	none):	concave	Slope	∋(%): 0-5
Subregion (LRR or MLRA):	LRR S Lat:	39.37415417	Long:	-74.4820738	3 Datu	m: WGS 1984
Soil Map Unit Name: Psam	maquents, sulfidic substratum, 0 to 2 p	ercent slopes, frequently	y flooded	NWI classificatio	n:	
Are climatic / hydrologic conditions of	on the site typical for this time of year?	Yes <u>X</u> No	(lf no,	explain in Remarks	s.)	
Are Vegetation, Soil	, or Hydrologysignificant	tly disturbed?	Are "Normal Circ	cumstances" prese	nt? Yes	X No
Are Vegetation, Soil	, or Hydrologynaturally	problematic?	(If needed, expla	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing sar	mpling point location	ons, transec	ts, important f	features, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sam	pled Area			
Hydric Soil Present?	Yes X No	within a We	etland?	Yes	No	
Wetland Hydrology Present?	Yes No	If ves. optio	nal Wetland Site	e ID:		-
						13
Remarks: (Explain alternative pro-	cedures here or in a separate report.)					
An (21 - 25						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of or	te required; check all that apply)			Secondary Indica	tors (minimum of	two required)
Surface Water (A1)	X Water-Staine	ed Leaves (B9)		— Surface Soil	Cracks (B6)	
X High Water Table (A2)	Aquatic Fau	na (B13)		Drainage Pa	tterns (B10)	
X Saturation (A3)	Marl Deposit	.s (B15)		Moss Trim L	ines (B16)	
Water Marks (B1)	Hydrogen St	ulfide Odor (C1)	1. <u>11.</u> 111	Dry-Season	Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rh	izospheres on Living Roo	ots (C3)	— Crayfish Bur	rows (C8)	100000
Drift Deposits (B3)	Presence of	Reduced Iron (C4)		Saturation V	isible on Aerial Im	iagery (C9)
Algal Mat or Crust (B4)	Recent Iron	Reduction in Tilled Soils	(C6)	Stunted or S	tressed Plants (D	1)
Iron Deposits (B5)	Thin Muck S	urface (C7)		Geomorphic	Position (D2)	
Inundation Visible on Aerial I	magery (B7) Other (Expla	iin in Remarks)		Shallow Aqu	itard (D3)	
Sparsely Vegetated Concave	surface (B8)			Microtopogra	aphic Relief (D4)	
0.1				X FAC-Neutral	Test (D5)	
Estd of			1			
Field Observations:	Vee Ne V Death (incl		l			
Surface Water Present?	Yes No X Depth (Incr	1es):				
vvater Table Present?	Yes X No Depth (Incr	1es): <u> </u>	346 41		¥	
Saturation Present?	res X No Depth (Incr	ies): <u> </u>	vvetiand Hyd	rology Present?	res	
(Includes capillary fringe)						
Describe Recorded Data (stream	gauge monitoring well aerial photos	previous inspections) if:	available:			
	53-,	p. == =p = =),				
Remarks:						

Sampling Point: 26-W007-1W

	Absolute	Dominant Indicator	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Tree Stratum (Plot size:	<u>% Cover</u>	Species? Status	Total Number of Dominant Species Across All Strata: 1 (B)
3 4 5			Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)
6 7 Sanling/Shrub Stratum (Plot size: 15 Feet)	0	= Total Cover	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Outputting of the output The output 1.			FACW species100 $x 2 =$ 200FAC species0 $x 3 =$ 0FACU species0 $x 4 =$ 0UPL species0 $x 5 =$ 0Column Totals:100(A)200(B)
5 6 7.			Prevalence Index = B/A =2.0
Herb Stratum (Plot size: <u>5 Feet</u>) 1. <i>Phragmites australis I</i> Common reed 2. 3. 4.	0	= Total Cover Yes FACW	Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% X 3 - Prevalence Index ≤3.01 4 - Morphological Adaptations1 (Provide supporting Problematic Hydrophytic Vegetation1 (Explain)
5. 6. 7. 8. 9.			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Vegetation Strata
10			Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Woody Vine Stratum (Plot size: <u>30 Feet</u>) 1	100	= Total Cover	 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.
2. 3. 4.			Woody vines - All woody vines greater than 3.28 ft in height.
	0	_ = Total Cover	Hydrophytic Vegetation Present? Yes X No
Remarks: (Explain alternative procedures here or in a separa	te report.)		

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Profile Desc	ription: (Describe to t Matrix	he depth nee	ded to document t	he indicator	or confirm	the abser	nce of indicato	rs.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/1	100			<u></u>		Sandy Loam	
4-6	10YR 5/2	100					Sand	Gravel present
	index Constitutions Steed			- 2	a a <u>n a</u> a			
				-			2 	
		() <u> </u>		-			2	
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-	·	· · · · · · ·		- 0	· · · · · · · · · · · ·		3	
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			2		· ·		а .	
	·		2		· · · · · · · ·		a 	
¹ Type: C=Co	ncentration, D=Depletic	n, RM=Reduc	ced Matrix, MS=Mas	ked Sand Gr	ains.		2Loca	ation: PL=Pore Lining, M=Matrix.
Hudria Cail I	ndiastara						Indiactor	a far Brahlamatia Uudria Saila%
Hydric Soli I	ndicators:		Delession Deles	C		MI DA 444		S TOP Problematic Hydric Solis":
- Histosol	(A1)	÷	Polyvalue Belo	w Surface (S	8) (LRR R,	WLRA 149	3B) <u>2 cm</u>	Muck (A10) (LRR K, L, WILRA 149B)
Histic El	pipedon (A2)	-	Thin Dark Surfa	ace (S9) (LR	R R, MLRA	4 149B)	Coas	st Prairie Redox (A16) (LRR K, L, R)
Black H	istic (A3)	-	Loamy Mucky	Vineral (F1)	(LRR K, L)		5 cm	Mucky Peat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)	-	Loamy Gleyed	Matrix (F2)			Dark	Surface (S7) (LRR K, L)
Stratifie	d Layers (A5)		X Depleted Matrix	k (F3)				value Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface (A11) .	Redox Dark Su	rface (F6)			— ^{Thin}	Dark Surface (S9) (LRR K, L)
Thick Di	ark Surface (A12)		Depleted Dark	Surface (F7)			Iron-	Manganese Masses (F12) (LRR K, L, R)
Sandy N	/lucky Mineral (S1)		Redox Depress	sions (F8)			Pied	mont Floodplain Soils (F19) (MLRA 149B)
Sandy G	Bleyed Matrix (S4)						Mesi	c Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)						Red	Parent Material (F21)
Stripped	l Matrix (S6)						Very	Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, MI	_RA 149B)					Othe	r (Explain in Remarks)
21 I' I I	• Landa (
"Indicators of	nydropnytic vegetation	and wetland	nyarology must be p	present, unies	ss disturbed	l or probler	natic.	
Restrictive I	.ayer (if observed):							
Type:								
Depth (in	iches):						Hydric Soil F	resent? Yes X No
Remarks:								
	Water prevents soil coll	lection past 6	inches.					

Project/Site:	COP South Cardiff	City/County: At	lantic City, Atlantic	c County, NJ	Sampling Date:	02/15/2023
Applicant/Owner:	ASOW		State	e: New Jersey	Sampling Point:	37-W007A-1U
Investigator(s):	TCAL	Section, Township, Ra	nge:	Atlantic Cit	ty, Atlantic Count	y, NJ
Landform (hillslope, terrace, etc):	Roadside hillslope Local	relief (concave, convex, ı	none):	con∨ex	Slop	oe (%): 0-5
Subregion (LRR or MLRA):	LRR S Lat:	39.373461	Long:	-74.4818296	57 Datu	um: WGS 1984
Soil Map Unit Name: Psamr	naquents, sulfidic substratum, 0 to 2	percent slopes, frequently	y flooded	NWI classificatio	on:	
Are climatic / hydrologic conditions o	n the site typical for this time of year?	Yes <u>X</u> No	(If no, e	xplain in Remark	s.)	
Are Vegetation, Soil	, or Hydrologysignificar	ntly disturbed?	Are "Normal Circu	mstances" prese	nt? Yes	X No
Are Vegetation, Soil	, or Hydrologynaturally	problematic?	(If needed, explair	n any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing sa	mpling point location	ons, transect	s, important f	features, etc.	7
Hydrophytic Vegetation Present?	Yes No X	Is the Sam	pled Area			
Hydric Soil Present?	Yes No X	within a W	etland?	Yes	No X	
Wetland Hydrology Present?	Yes No X	If yes, optic	nal Wetland Site I	D:	- M	_
				3.		
Remarks: (Explain alternati∨e proc	edures here or in a separate report.)					
Wetland Hydrology Indicators:				o		.
Primary Indicators (minimum of on	e required; check all that apply)			Secondary Indica	ators (minimum of	f two required)
	- vvater-Stain	ed Leaves (B9)	1		Cracks (B6)	
High Water Table (A2)	Aquatic Fau	ina (B13)		Drainage Pa	atterns (B10)	
Saturation (A3)		its (B15) Sulfide Orden (O1)			Ines (B16)	`
Vvater Iviarks (DT)	Hydrogen 3	ulfiae Odor (CT)		Dry-Season)
$ = \frac{\text{Sediment Deposits (D2)}}{\text{Deposits (P2)}} $		120spheres on Living Not	ots (U3)	Craylish Dui	rows (co) Geible en Aprial In	
Driπ Deposits (B3) Also Matter Crust (B4)	Presence u	Reduced from (C4)	(00)	Saturation v	ISIDIE ON Aeriai in Manada Plante (F	nagery (Ca)
		Reduction in Tilleu Solis	(06)	Stunted of 3		(17
Iron Deposite (B5)	Thin Muck 9					
Iron Deposits (B5)	nadery (B7) Other (Eval	ain in Remarks)		Geomorphic	itard (D3)	
Iron Deposits (B5) Inundation Visible on Aerial Ir	magery (B7) Other (Expl Surface (B8)	ain in Remarks)		Shallow Aqu	itard (D3)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave	nagery (B7) Other (Expl Surface (B8)	ain in Remarks)		Shallow Aqu Microtopogra	itard (D3) aphic Relief (D4)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave	nagery (B7) Other (Expl Surface (B8)	ain in Remarks)		Geomorphic Shallow Aqu Microtopogra FAC-Neutral	itard (D3) aphic Relief (D4) Test (D5)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations:	nagery (B7) Other (Expl Surface (B8)	ain in Remarks)	, , ,	Shallow Aqu Microtopogr FAC-Neutral	itard (D3) aphic Relief (D4) I Test (D5)	
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present?	nagery (B7) Thin Muck : Surface (B8) Other (Expl	hes):		Shallow Aqu Microtopogr FAC-Neutral	itard (D3) aphic Relief (D4) I Test (D5)	
Field Observations: Surface Water Table Present?	magery (B7) Thin Muck : Surface (B8) Other (Expl Yes NoX Depth (inc Yes NoX Depth (inc	hes):		Shallow Aqu Microtopogr FAC-Neutral	itard (D3) aphic Relief (D4) I Test (D5)	
Field Observations: Water Table Present? Saturation Present?	Magery (B7) Thin Muck 3 Surface (B8) Other (Expl Yes No X	hes):		Shallow Aqu Microtopogr FAC-Neutral	Yes	NoX
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Magery (B7) Thin Muck 3 Surface (B8) Other (Expl Yes No X Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc	hes):	Wetland Hydro	Shallow Aqu Microtopogr FAC-Neutral	Yes	NoX
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Thin Muck ! magery (B7) Other (Expl Surface (B8) Yes No Yes No Yes No Yes No Yes No X Depth (inc Yes No Yes No	hes):	Wetland Hydro	Shallow Aqu Microtopogr FAC-Neutral	Yes	No
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation)	Thin Muck 3 magery (B7) Other (Expl Surface (B8) Yes No X Yes No X Depth (inc yauge, monitoring well, aerial photos, Yes Yes	thes):	Wetland Hydro available:	Shallow Aqu Microtopogra FAC-Neutral	Yes	NoX
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of	Thin Muck ! magery (B7) Surface (B8) Yes No X Yes No Yes Yes Yes Yes <td>thes):</td> <td>Wetland Hydro available:</td> <td>Shallow Aqu Microtopogra FAC-Neutral</td> <td>Yes</td> <td>_ No <u>X</u></td>	thes):	Wetland Hydro available:	Shallow Aqu Microtopogra FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g	Thin Muck ! magery (B7) Other (Expl Surface (B8) Yes No X Yes No X Depth (inc	thes):	Wetland Hydro available:	Shallow Aqu Microtopogra FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes No X Depth (inc	hes):	Wetland Hydro available:	Shallow Aqu Microtopogra FAC-Neutral	Yes	No
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc	thes):	Wetland Hydro	Shallow Aqu Microtopogr FAC-Neutral	Yes	No
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc	thes):	Wetland Hydro available:	Shallow Aqu Microtopogr FAC-Neutral	Yes	No <u></u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Muck : magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc yauge, monitoring well, aerial photos,	thes):	Wetland Hydro available:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc Yes No _X Depth (inc yauge, monitoring well, aerial photos,	thes):	Wetland Hydro available:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	Thin Muck : magery (B7) Other (Expl Surface (B8) Yes No X Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc yauge, monitoring well, aerial photos,	thes):	Wetland Hydro available:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	Thin Muck : magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc yauge, monitoring well, aerial photos,	hes):	Wetland Hydro available:	Shallow Aqu Microtopogr FAC-Neutral	Yes	No <u></u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	Thin Muck : magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc yauge, monitoring well, aerial photos,	hes):	Wetland Hydro a∨ailable:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u> _
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream generation) Remarks:	Thin Muck : magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc gauge, monitoring well, aerial photos,	hes):	Wetland Hydro a∨ailable:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Thin Muck : magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc gauge, monitoring well, aerial photos, Depth (inc	thes):	Wetland Hydro a∨ailable:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream of Remarks:	Thin Muck : magery (B7) Other (Expl • Surface (B8) Yes No X Depth (inc gauge, monitoring well, aerial photos,	thes):	Wetland Hydro available:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u> _
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Muck 3 Magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc gauge, monitoring well, aerial photos,	thes):	Wetland Hydro available:	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Muck 3 Magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc gauge, monitoring well, aerial photos,	thes):	Wetland Hydro	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Muck 3 Magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc gauge, monitoring well, aerial photos,	thes):	Wetland Hydro	Shallow Aqu Microtopogr FAC-Neutral	Yes	_ No <u>X</u>
Iron Deposits (B5) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g Remarks:	Thin Muck 3 Magery (B7) Other (Expl Surface (B8) Yes No X Depth (inc Yes No X Depth (inc Yes No X Depth (inc gauge, monitoring well, aerial photos,	ches):	Wetland Hydro	Shallow Aqu Microtopogri FAC-Neutral	Yes	_ No <u>X</u>
VEGETATION - Use scientific names of plants.

Sampling Point: _____37-W007A-1U

Tree Stratum (Plot size:30 Feet)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
1. <i>Pinus rigida I</i> Pitch pine	10	Yes	FACU	Iotal Number of Dominant
2. Juniperus virginiana / Eastern red-cedar	10	Yes	FACU	
3				Percent of Dominant Species
4	<u></u>	<u></u>		That Are OBL, FACW, or FAC: 25.0 (A/B)
5			<u> </u>	Esternetischendenden der Inderservene verderetiste
7	-			Prevalence Index worksheet:
	20	= Total Cove	r	
Sapling/Shrub Stratum (Plot size:15 Feet)	-			FACW species $10 \times 2 = 20$
T				FAC species $0 \times 3 = 0$
2				FACU species 30 x 4 = 120
3				UPL species 0 x 5 = 0
4	<u></u>			Column Totals: 40 (A) 140 (B)
5.				
67			-	Prevalence Index = B/A =3.5
···.	0	= Total Cove		Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)	-	-0		1 - Rapid Test for Hydrophytic Vegetation
1. Lonicera japonica / Japanese honeysuckle	10	Yes	FACU	2 - Dominance Test is >50%
2. Phragmites australis / Common reed	10	Yes	FACW	3 - Prevalence Index ≤3.0 ¹
3.	20.2.	105TF		4 - Morphological Adaptations ¹ (Provide supporting
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5	- 090- 	240 240		_
6	(9)) (9))	660 674	12	¹ Indicators of hydric soil and wetland hydrology must
7				be present, unless disturbed or problematic.
8	- (C)		·	B. S. William (M. S. Martin)
9	-			Definitions of vegetation Strata
10			-	Tree Meedy plants 2 in (7.6 am) or more in diameter at
11	-(. <u></u>			breast height (DBH), regardless of height.
12		- T-1-1 O		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30 Feet)			۲ .	greater than or equal to 3.28 ft (1 m) tall.
1				Herb - All herbaceous (non-woody) plants, regardless of
2.		-		size, and woody plants less than 3.28 ft tall.
3.	-0-			Woody vines - All woody vines greater than 3.28 ft in
4.				height.
	0	= Total Cove	r	Hydrophytic
				Vegetation
				Present? Yes No X
Remarks: (Explain alternative procedures here or in a separate	e report.)			

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Profile Desc	ription: (Describe to th	ne depth neede	d to document the	indicator	or confirm	the abser	nce of ind	icators.)		
Depth	Matrix		Redox	Features					-	
(inches)	Color (moist)	<u> </u>	Color (moist)		lype ¹	Loc	lextu	re	Remarks	
	10YR 2/2		10YR 5/4	25			San	<u>a</u>		
5-18	10YR 4/2						San	a		
		na					2			
		—— —			—					
-	<u>}</u>	·								
<u> </u>	- <u>1</u>	100 <u></u> 7 1 <u>0</u>					3 <u></u>			
		20 <u>-</u> 20- <u>20-</u>		· · · · · ·		C	3 <u></u>			
	·	17. <u></u>		· <u> </u>	·		8			
				s s			3	- 3.		
		10) 0. -0		(.)		·	8	2		
	,T	······································		(. 			8	- G		
¹ Type: C=Cor	centration, D=Depletio	n, RM=Reduced	Matrix, MS=Maske	ed Sand Gra	ains.			² Location: PL=P	ore Lining, M=	Matrix.
Hydric Soil I	ndicators:						Indi	cators for Proble	ematic Hydric	Soile ³
Histosol	(A1)		Polyvalue Below	Surface (S)		MI RA 1/0	ara Bi	2 cm Muck (A10		MI RA 1/98)
Histic Er	vinedon (A2)	10 	Thin Dark Surface			1/10R)	, <u> </u>	Coast Prairie Re	dox(A16) (I	RRKIR)
Black Hi	stic (A3)	- <u></u>	Loamy Mucky Mi	oeral (E1) ((1456)		5 cm Mucky Pea	t or Peat (S3)	
Hydroge	n Sulfide (A4)		Loamy Gleved M	atrix (E2)	(=, =)			Dark Surface (S)
Stratified	LL avers (A5)		Depleted Matrix (E3)			· ···· ··	Polyvalue Below	Surface (S8)	(IRRKI)
Depleted	Below Dark Surface (/	A11) —	Redox Dark Surfa	ace (F6)				Thin Dark Surfa	ce (S9) (LRR	(, _,
Thick Da	rk Surface (A12)		Depleted Dark Su	urface (F7)			·	Iron-Manganese	Masses (F12) (LRR K. L. R)
Sandy N	lucky Mineral (S1)		Redox Depressio	ns (F8)				Piedmont Flood	olain Soils (F1	9) (MLRA 149B)
Sandy G	leyed Matrix (S4)		0					Mesic Spodic (T	A6) (MLRA 1	44A, 145, 149B)
Sandy R	edox (S5)							Red Parent Mate	erial (F21)	
Stripped	Matrix (S6)							Very Shallow Da	rk Surface (TI	-12)
Dark Su	face (S7) (LRR R, ML	.RA 149B)					_	Other (Explain in	Remarks)	6 () () () ()
		•					·			
³ Indicators of	hydrophytic ∨egetation	and wetland hyo	drology must be pre	esent, unles	s disturbed	or problem	natic.			
Restrictive L	ayer (if observed):									
Туре:	Un and Allen		_							
Depth (in	ches):						Hydric	Soil Present?	Yes	<u>No X</u>
Remarks:						-94-				

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	COP South Cardiff	City/County:	Atlantic City, Atlar	ntic County, NJ	Sampling Date:	02/15/2023
Applicant/Owner:	ASOW		St	tate: New Jersey	Sampling Point:	37-W007A-1W
Investigator(s):	ASOW	Section, Township, I	Range:	Atlantic Ci	ity, Atlantic Count	y, NJ
Landform (hillslope, terrace, etc):	Salt flat Loc:	al relief (concave, conve)	k, none):	none	Slop	be (%): 0-2
Subregion (LRR or MLRA):	LRR S Lat:	39.373411	Long:	-74.48181	2 Datı	um: WGS 1984
Soil Map Unit Name:	Transquaking peat, 0 to 1 percent s	opes, very frequently flo	oded	NWI classification	on:	
Are climatic / hydrologic conditions	on the site typical for this time of yea	r?Yes <u>X</u> N	io (lf no	, explain in Remark	(s.)	
Are Vegetation, Soil	, or Hydrologysignifica	antly disturbed?	Are "Normal Cir	rcumstances" prese	ent? Yes _	X No
Are Vegetation, Soil	, or Hydrologynaturall	y problematic?	(If needed, expl	ain any answers in	Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing s	ampling point loca	tions, transed	cts, important	features, etc.	
Hydrophytic Vegetation Present?	Yes X No	Is the Sa	moled Area			
Hydric Soil Present?			Wetland?	Yes X	No	
Wetland Hydrology Present?	Yes X No	If yes on	tional Wetland Sit	(e ID:	37-W/007A-1V	<u></u>
Vienand Hydrology Present?				сю		
Remarks: (Explain alternati∨e pro	ocedures here or in a separate report	.)				
26 16 16 16 16 16 16 16 16 16 16 16 16 16						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of o	ne required; check all that apply)			Secondary Indica	ators (minimum o	f two required)
X Surface Water (A1)	Water-Sta	ined Leaves (B9)		Surface Soi	l Cracks (B6)	
X High Water Table (A2)	Aquatic Fa	auna (B13)		Drainage Pa	atterns (B10)	
X Saturation (A3)	Marl Depo	/sits (B15)		Moss Trim L	_ines (B16)	
Water Marks (B1)	X Hydrogen	Sulfide Odor (C1)		Dry-Season	i Water Table (C2)
Sediment Deposits (B2)	Oxidized F	≀hizospheres on Living F	≀oots (C3)	Crayfish Bu	rrows (C8)	
Drift Deposits (B3)	Presence	of Reduced Iron (C4)		Saturation \	/isible on Aerial Ir	nagery (C9)
Algal Mat or Crust (B4)	Recent Irc	n Reduction in Tilled Soi	lls (C6)	Stunted or S	Stressed Plants ([21)
Iron Deposits (B5)	Thin Muck	Surface (C7)		Geomorphic	c Position (D2)	
Inundation Visible on Aerial	Imagery (B7) Other (Exp	olain in Remarks)		Shallow Aq	uitard (D3)	
Sparsely Vegetated Concave	e Surface (B8)			Microtopogr	raphic Relief (D4)	
	Generalden Scheller Australia (St. 📢 Traile) 🔹			X FAC-Neutra	al Test (D5)	
Field Observations:						
Surface Water Present?	Yes X No Depth (ir	iches): 0-3	3			
Water Table Present?	Yes X No Depth (ir	iches): <u>3</u>				
Saturation Present?	Yes X No Depth (ir	iches): 0	Wetland Hyd	drology Present?	Yes X	No
(includes capillary fringe)						
Describe Recorded Data (stream	gauge, monitoring well, aerial photo	s, previous inspections),	if available:			
Remarks:						
Keinarka.						

VEGETATION - Use scientific names of plants.

Sampling Point: 37-W007A-1W

	Absolute	Dominant	Indicator	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Tree Stratum (Plot size:30 Feet) 1.	% Cover	Species?	<u>Status</u>	Total Number of Dominant Species Across All Strata: 1 (B)
3 4 5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
67 7 <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 Feet</u>) 1	0	= Total Co∨	er	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species1 $x 1 = 1$ FACW species75 $x 2 = 150$ FAC species0 $x 3 = 0$
2. 3. 4. 5. 2		: :		FACU species0 $x 4 =$ 0UPL species0 $x 5 =$ 0Column Totals:76(A)151
6 7		- 11 <u> </u>	<u></u>	Prevalence Index = B/A =1.99
Herb Stratum (Plot size: 5 Feet)	0	= Total Cov	er EA CIA(Hydrophytic Vegetation Indicators: \underline{X} 1 - Rapid Test for Hydrophytic Vegetation \underline{X} 2 - Dominance Test is >50%
Spating patents / Salt meadow cord grass, Salt-meadow cord Limonium carolinianum / Carolina sea-lavender	1 	No	OBL	X 3 - Prevalence Index ≤3.01 4 - Morphological Adaptations1 (Provide supporting Problematic Hydrophytic Vegetation1 (Explain)
5 6 7 8.		· <u></u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9 10				Definitions of Vegetation Strata Tree - Woody plants 3 in. (7.6 cm) or more in diameter at
12				breast height (DBH), regardless of height.
<u>Woody Vine Stratum</u> (Plot size: <u>30 Feet</u>) 1	76	= Total Co∨ -	er	greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of
2		0. 0. 1.	· · · · · · · · · · · · · · · · · · ·	size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height
4	0	= Total Cov	er	Hydrophytic Vegetation Present? Yes X No
Remarks: (Explain alternative procedures here or in a separate	report.)			

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Profile Descr	iption: (Describe to t	he depth ne	eded to document th	e indicator	or confirm	the abser	nce of indicators.)		
Ueptn (inchoo)		0/	Color (maint)	reatures	Tune1	1002	Toyturo	Domostic	
		<u> </u>	Color (moist)	<u> %</u>	ype'	LOC		Remarks	
	10YR 2/1	100							
10-12	1018 5/1						Fine Sand		
	1			-			a <u></u> a		
	10	- <u> </u>	8- 10-	(—			i		
	10 10	· · <u> </u>	2	()			·		
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			•	a 			o		
	·							Moren 1004 1020022025 (arbit) Madda WM	
¹ Type: C=Con	centration, D=Depletio	on, RM=Redu	ced Matrix, MS=Mask	ed Sand Gra	ains.		² Locatior	n: PL=Pore Lining, M=Matrix.	
Hydric Soil Ir	ndicators:						Indicators fo	r Problematic Hydric Soils ³ :	
Histosol ((A1)		Polyvalue Below	Surface (S8	3) (LRR R.I	MLRA 149	B) 2 cm Mu	ck (A10) (LRR K. L. MLRA 14	49B)
Histic En	inedon (A2)		Thin Dark Surfac	e (S9) (LR		149B)	Coast Pr	airie Redox (A16) (LRRK L	
Black His	stic (A3)		Loamy Mucky M	ineral (E1)	(LRR K. L)	,	5 cm Mu	cky Peat or Peat (S3) (LRR K	(.L.R)
Hydroge	n Sulfide (A4)		Loamy Gleved M	latrix (E2)	, _,		Dark Sur	face (S7) (LRR K. L)	., _,,
Stratified	Lavers (A5)		X Depleted Matrix	(F3)			Polyvalu	e Below Surface (S8) (LRR K	(. L)
	Below Dark Surface (A11)	Redox Dark Sur	face (F6)				k Surface (S9) (LRR K. L)	
Thick Da	rk Surface (A12)		Depleted Dark S	urface (F7)			Iron-Man	ganese Masses (F12) (LRR	K. L. R)
 Sandv M	ucky Mineral (S1)		Redox Depression	ons (F8)			Piedmon	t Floodplain Soils (F19) (MLR	A 149B)
Sandy G	leved Matrix (S4)			· · ·			Mesic Sr	odic (TA6) (MLRA 144A, 14	5, 149B)
Sandy R	edox (S5)						Red Pare	ent Material (F21)	1999 - Harrison II.
Stripped	Matrix (S6)						Very Sha	llow Dark Surface (TF12)	
Dark Sur	face (S7) (LRR R. M	LRA 149B)					Other (E	xplain in Remarks)	
								1 /	
³ Indicators of	hydrophytic vegetation	and wetland	hydrology must be pr	esent, unles	s disturbed	or problem	natic.		
Bestrictive L	over (if abcorved)								
Type:	ayer (n observeu).								
Type.							Undein Chil Denn	anto Van V Na	
Depth (Inc	cnes):						Hydric Soli Pres		. <u> </u>
Remarks:									
١	Nater levels prevent so	oil from being	extracted past 12 incl	nes.					

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	COP South Cardiff	City/County: /	Atlantic City, Atlar	ntic County, NJ	Sampling Date:	02/16/2023	
Applicant/Owner:	ASOW		St	ate: New Jersey	Sampling Point:	26-W008-1U	
Investigator(s):	TCAL	Section, Township, R	tange:	Atlantic City	, Atlantic County	, NJ	
Landform (hillslope, terrace, etc):	Flat Loc	al relief (concave, convex	(, none):	convex	Slope	e (%): 0-2	
Subregion (LRR or MLRA):	LRR S Lat	: 39.376304	Long:	-74.429014	Datur	n: WGS 1984	
Soil Map Unit Name:				NWI classification	۱:		
Are climatic / hydrologic conditions c	n the site typical for this time of yea	ar? Yes <u>X</u> No	o (lf no,	, explain in Remarks.	.)		
Are Vegetation, Soil	, or Hydrologysignific	antly disturbed?	Are "Normal Cir	cumstances" presen	it? Yes	XNo	
Are Vegetation, Soil	, or Hydrologynatura	lly problematic?	(If needed, expla	ain any answers in R	≀emarks.)		
SUMMARY OF FINDINGS -	Attach site map showing s	ampling point locat	tions, transec	sts, important fe	eatures, etc.		
Hydrophytic Vegetation Present?	Yes No	X Is the Sar	mpled Area				
Hydric Soil Present?	Yes No	X within a V	Wetland?	Yes	No X		
Wetland Hydrology Present?	Yes No	X If ves. opt	tional Wetland Sit	e ID:		_	
		··· , ··· , ··· ,					
Remarks: (Explain alternati∨e proc	edures here or in a separate repor	t.)					
10 ² 1 2 11							
Wetland Hydrology Indicators:				-			
Primary Indicators (minimum of or	re required; check all that apply)			Secondary Indicate	ors (minimum of t	two required)	
Surface Water (A1)	Water-Sta	ained Leaves (B9)		Surface Soil C	Cracks (B6)		
High Water Table (A2)	Aquatic F	auna (B13)		Drainage Patt	terns (B10)		
Saturation (A3)	Marl Dep	Marl Deposits (B15) Moss Trim Lines (B16)					
VVater Marks (B1)		Sulfide Odor (C1)		Dry-Season v	Mater Table (C2)		
Sediment Deposits (B2)	Oxiaizea	Rhizospheres on Living K	oots (C3)	Crayfish Burro	ows (C8)		
Drift Deposits (B3)	Presence	of Reduced Iron (C4)		Saturation Vis	sible on Aerial Im	agery (C9)	
Algal Mat or Crust (B4)	Recent In	on Reduction in Tilled Soil	ls (C6)	Stunted or Sti	ressed Plants (D	1)	
Iron Deposits (B5)	Thin Muc	k Surface (C7)		Geomorphic F	Position (D2)		
Inundation Visible on Aerial II	magery (B7) Other (Ex	plain in Remarks)		Shallow Aquit	tard (D3)		
Sparsely Vegetated Concave	Surface (B8)			<u> </u>	phic Relief (D4)		
				FAC-Neutral	Test (D5)		
Field Observations:							
Surface Water Dresent?	Voc No X Depth (i	inchae).					
Mater Table Dreent?	Voc No X Depth (i	inches):					
Valer rapie riesent:	Yes No X Depth (i	inches).	Wetland Hyd	Index Present?	Vac	No Y	
(includes expillery frings)		nches).	vvetiand Hyd	rology Present?	res		
(includes capillary ininge)							
Describe Recorded Data (stream	auge, monitoring well, aerial photo	os, previous inspections), i	if available:				
	5 5 7 1 1	////					
Remarks:							

EGETATION - Use scientific names of plants.				4	Sam	pling Poin	nt: <u>26-</u>	W008-
	Absolute	Dominant	Indicator	Dominance Test Number of Domina That Are OBL, FA	worksheet: ant Species CW, or FAC:		0	(A)
Tree Stratum (Plot size: 30 Feet) 1.	% Cover	Species?	Status	Total Number of D Species Across A	ominant Il Strata:		1	(B)
3. 4. 5.			~ <u> </u>	Percent of Domina That Are OBL, FA	ant Species CW, or FAC:		0.0	(A/I
6				Prevalence Index Total % Cove	worksheet: er of:	Mu	ultiply by:	
	0	_ = Total Cove	er	OBL species	0	x 1 =	0	
Sapling/Shrub Stratum (Plot size: 15 Feet)				FACW species	0	x 2 =	0	
1		-0	9 	FAC species	0	x 3 = _	0	
2.				FACU species	30	- × 4 = _	120	
3		-0-		UPL species	0	- × 5 = _	0	
5.				Column Totals:	30	- ^(A) -	120	(
6				Prevalence	Index = B/A =		4.0	
Herb Stratum (Plot size: 5 Feet)	0	= Total Cov	er	Hydrophytic Veg 1 - Rapid Tes	etation Indic t for Hydroph	ators: ytic Veget	tation	
1. Poa pratensis / Kentucky blue grass	30	Yes	FACU	2 - Dominand	e Test is >50	%		
2				3 - Prevalence	e Index ≤3.0¹			
3				4 - Morpholog	gical Adaptati	ons¹ (Prov	vide supp	orting
4			· <u> </u>	Problematic H	Hydrophytic V	egetation	1 (Explain)
6.		ene ene		¹ Indicators of hydr	ic soil and we	etland hyd	rology mu	ust
7.			200	be present, unless	s disturbed or	problema	itic.	
8	<u> </u>			Definitions of Ve	getation Stra	ita		
10								
11		-		Tree - Woody plar breast height (DBł	nts 3 in. (7.6 d H), regardless	m) or moi s of height	re in diam t.	ieter at
Voody Vine Stratum (Plot size: 30 Feet)	30	= Total Cov	er	Sapling/shrub - V greater than or eq	Woody plants ual to 3.28 ft	less than (1 m) tall.	3 in. DB⊢	and
1			. <u> </u>	Herb - All herbace size, and woody p	eous (non-wo	ody) plant n 3.28 ft t	s, regardl all.	less of
3				Woody vines - Al height.	l woody vines	s greater t	han 3.28 [.]	ft in

= Total Cover

Hydrophytic Vegetation Present?

Yes _____

No X

0

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

4.

26-W008-1U

(A/B)

(B)

SOIL

Profile Desc	ription: (Describe to th	ne depth nee	ded to document th	he indicator	or confirm	the absen	ce of indicators.)	
Depth	Matrix		Redo:	x reatures	T	1 2	T	Demondon
(inches)	Color (moist)		Color (moist)					Kemarks
				- 0				
		·			<u> </u>			
				- :		:		
		· · · · · · · · · · · · · · · · · · ·				6		
¹ Type: C=Cor	centration, D=Depletio	n, RM=Reduc	ed Matrix, MS=Mas	ked Sand Gr	ains.		² Locatio	on: PL=Pore Lining, M=Matrix.
Hydric Soil I Histosol Histic Ep Black Hi Hydroge Depleted Thick Da Sandy M Sandy M Sandy G Sandy R Dark Su	ndicators: (A1) ipedon (A2) stic (A3) I Layers (A5) I Below Dark Surface (A Irk Surface (A12) lucky Mineral (S1) ileyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, ML hydrophytic vegetation	- - - - - - - - - - - - - - - - - - -	Polyvalue Below Thin Dark Surfa Loamy Mucky M Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	w Surface (S ace (S9) (LF Mineral (F1) Matrix (F2) ((F3) rface (F6) Surface (F6) Surface (F7) sions (F8)	8) (LRR R, R R, MLRA (LRR K, L)	MLRA 1491 149B) or problem	Indicators for B) 2 cm Mi Coast F 5 cm Mi Dark Su Polyvalu Thin Da Iron-Ma Piedmo Nesic S Red Pau Very Sh Other (for Indicators for Net State Other (for Indicators for Net State Other (for Indicators for Net State Other (for Indicators for Indicators for 	or Problematic Hydric Soils ³ : uck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L) ue Below Surface (S8) (LRR K, L) urk Surface (S9) (LRR K, L) inganese Masses (F12) (LRR K, L, R) int Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) rent Material (F21) nallow Dark Surface (TF12) Explain in Remarks)
Restrictive L	ayer (if observed):							
Depth (in	ches):						Hydric Soil Pre	sent? Yes No X
itemarts.	No soils able to be colle	ected due to a	sphalt, stone revetm	nent, and ope	en water.			

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	COP South Cardiff	City/County:	Atlantic City, Atla	antic County, NJ	Sampling Date:	02/15/2023
Applicant/Owner:	ASC	oww	S	tate: New Jersey	Sampling Point:	26-W008-1W
Investigator(s):	TCAL	Section, Towns	hip, Range:	Atlantic Ci	ty, Atlantic County	/, NJ
Landform (hillslope, terrace, etc):	Water	Local relief (concave, co	onvex, none):	conca∨e	Slop	e (%): 0-10
Subregion (LRR or MLRA):	LRR S	 Lat: 39.37628	33 Long:	-74.42899:	3 Datu	m: WGS 1984
Soil Map Unit Name:			ANDE	NWI classificatio	on:	
Are climatic / hydrologic conditions of	n the site typical for this time	of year? Yes X	No (If no	, explain in Remark	s.)	
Are Vegetation, Soil	, or Hydrologys	significantly disturbed?	Are "Normal Cir	rcumstances" prese	nt? Yes	X No
Are Vegetation, Soil	, or Hydrologyr	naturally problematic?	(If needed, exp	lain any answers in	Remarks.)	
SUMMARY OF FINDINGS - /	Attach site map show	ing sampling point l	ocations, transe	cts, important	features, etc.	
Hydrophytic Vegetation Present?	Yes X N	o lsth	e Sampled Area			
Hydric Soil Present?	Yes X N	o with	in a Wetland?	Yes X	No	
Wetland Hydrology Present?	Yes X N	0	e optional Wetland Si	to ID:	26-10/08-11/	
Weitand Hydrology Fresents		<u> </u>		le ID.	20-100-100	
Remarks: (Explain alternati∨e proc	edures here or in a separate	e report.)				
· · · · · · · · · · · · · · · · · · ·	25	30 23				
HTDROLOGT						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of on	e required; check all that app	oly)		Secondary Indica	ators (minimum of	two required)
X Surface Water (A1)	Wa	ter-Stained Leaves (B9)		Surface Soil	l Cracks (B6)	
High Water Table (A2)	Aqu	uatic Fauna (B13)		Drainage Pa	atterns (B10)	
Saturation (A3)	Ma	rl Deposits (B15)		Moss Trim L	ines (B16)	
Water Marks (B1)	Hyd	drogen Sulfide Odor (C1)		Dry-Season	Water Table (C2)	
Sediment Deposits (B2)	Oxi	dized Rhizospheres on Liv	ing Roots (C3)	Crayfish Bu	rrows (C8)	
Drift Deposits (B3)	Pre	sence of Reduced Iron (C4	4)	Saturation V	/isible on Aerial Im	agery (C9)
Algal Mat or Crust (B4)	Red	cent Iron Reduction in Tilled	d Soils (C6)	Stunted or S	Stressed Plants (D	1)
Iron Deposits (B5)	Thi	n Muck Surface (C7)		Geomorphic	Position (D2)	
Inundation Visible on Aerial In	nagery (B7) Oth	ıer (Explain in Remarks)		Shallow Aqu	uitard (D3)	
Sparsely Vegetated Conca∨e	Surface (B8)			Microtopogr	aphic Relief (D4)	
				X FAC-Neutra	l Test (D5)	
Field Observations:						
Surface Water Present?		epth (inches): <u>12+</u>				
Water Table Present?		epth (inches):	— I	a		1597.
Saturation Present?	Yes No X D	epth (inches):	Wetland Hyd	drology Present?	Yes <u>X</u>	No
(includes capillary fringe)						
Describe Recorded Data (stream o	auria monitoring well aeria	Inhotos, previous inspectio	ons) if available:			
	Jauge, mornering tren, acta	r prioros, proviodo mopular	///5/, // dva//ds/5.			
Remarks:						
 All All Control And Andrews Control of Con						

VEGETATION - Use scientific names of plants.

Sampling Point: 26-W008-1W

			Dominance Test worksheet:
	Absolute	Dominant Indicator	That Are OBL, FACW, or FAC: (A)
Tree Stratum (Plot size:30 Feet)	% Cover	Species? Status	
1			Iotal Number of Dominant Species Across All Strata: 1 (B)
2			-
4.	-		 Percent of Dominant Species
5.			 That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)
6.			Prevalence Index worksheet:
<i>L</i>		= Total Cover	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:15 Feet)			FACW species $25 \times 2 = 50$
1		-51 0 510	_ FAC species x 3 =
2			FACU species 0 x 4 = 0
3 4.			
5.			
6.		·	Prevalence Index = B/A =2.0
<i>.</i>	0	= Total Cover	- Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5 Feet)	10001004		X 1 - Rapid Test for Hydrophytic Vegetation
1. Phragmites australis / Common reed	25	Yes FACW	X 2 - Dominance Test is >50%
2	1		X_ 3 - Prevalence Index ≤3.0 ⁴
4.			Problematic Hydrophytic Vegetation ¹ (Explain)
5.		ten ten	
6		ton ton	¹ Indicators of hydric soil and wetland hydrology must
7		29 <u>2</u> -292	 be present, unless disturbed or problematic.
9.			- Definitions of Vegetation Strata
10			
11			 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 30 Feet)	2		greater than or equal to 3.28 ft (1 m) tall.
<u> </u>		· · · · · ·	 Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
3.	-	0 .	Woody vines - All woody vines greater than 3.28 ft in
4	_		height.
	0	= Total Cover	Hydrophytic
			Vegetation
			Present? Yes X No
Remarks: (Explain alternative procedures here or in a separa	ate report.)		

SOIL

Profile Desci	iption: (Describe to th Matrix	e depth neede	d to document th Redo	ne indicator v Features	or confirm (he absen	ce of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
							: <u> </u>	
	n 				· <u> </u>		:	
¹ Type: C=Cor	centration, D=Depletion	n, RM=Reduced	d Matrix, MS=Mas	ked Sand Gr	ains.		² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil In Histosol Histic Ep Black His Hydroge Stratified Depletec Thick Da Sandy M Sandy G Sandy R Dark Sur	ndicators: (A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) Below Dark Surface (A rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, MLI hydrophytic vegetation a	.11) RA 149B)	Polyvalue Belov Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	w Surface (S8 ice (S9) (LR Alineral (F1) (Matrix (F2) (F3) rface (F6) Surface (F6) Surface (F7) ions (F8)	B) (LRR R,N R R, MLRA (LRR K, L)	fILRA 1491 149B) or problem	Indicators for B) 2 cm Muc Coast Pra 5 cm Muc Dark Surfa Polyvalue Thin Dark Iron-Mang Piedmont Mesic Spo Red Parel Very Shall Other (Exp atic.	Problematic Hydric Soils ³ : k (A10) (LRR K, L, MLRA 149B) irie Redox (A16) (LRR K, L, R) ky Peat or Peat (S3) (LRR K, L, R) ace (S7) (LRR K, L) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) ganese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B) odic (TA6) (MLRA 144A, 145, 149B) nt Material (F21) low Dark Surface (TF12) plain in Remarks)
Restrictive L	ayer (if observed):							
Type: Depth (in	ches):		_				Hydric Soil Prese	nt? Yes X No
Remarks:	No water was able to be	collected due	to water levels.					

Routine Onsite Determination Form

Field Investigators: Scott McBurney

Project/Site: Cardiff Wetland Delineation State: NJ

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: 99-W23-U1

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

Do normal environmental conditions exist at the plant community? Yes \square No \square (If no, please explain):

Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes⊠ No □

(If yes, explain): Soil is disturbed from previous grading, filling and compaction of existing utility roadway.

VEGETATION					
	Dominant Plant Species	Percent Cover	Indicator S	Status Stratum	
1.	Pitch pine (<i>Pinus rigida</i>)	10	FAC	Tree	
2.	Huckleberry (<i>Gaylussacia</i> sp.)	40	NI	Shrub	
3.	White oak (<i>Quercus alba</i>)	35	FACU	Tree, herbaceous	
4.	Lowbush blueberry (Vaccinium angustifolium)	1	FACU	Shrub	

Percent of Dominant Species that are OBL, FACW, and/or FAC	C: 1 <u>0%</u>
Is the hydrophytic vegetation criterion met? Yes $\ \square$	No 🕱
Rationale:	

	SOILS	
Series/Phase: Downer Loamy Sand Sul	ogroup:	
Is the soil on the hydric soils list? Yes \Box	No 🖂	Undetermined
Is the soil a Histosol? Yes \Box	No 🖾	Histic epipedon present? Yes \Box No \boxtimes
Is the soil: Mottled? Yes \Box	No 🖂	Gleyed? Yes 🗆 No 🛛
Matrix Color: 0-5" 10YR 4/3 sand; 5-10"+ 5	(5/5 sand	

Date: <u>9/26/2023</u>

County: Atlantic County

Mottle Colors: <u>N/A</u>					
Other hydric soil indicators: <u>N/A</u>					
Is the hydric soil criterion met?	Yes 🗆	No 🖂			
Rationale:					
	ł	IYDROLOGY			
Is the ground surface inundated?	Yes 🗆	No 🖂	Surface water depth: <u>N/A</u>		
Is the soil saturated? Yes \square	No 🖂				
Depth to free-standing water in pit/s	soil probe hole: <u>N</u>	<u>/A</u>			
List of other field evidence of surfac	ist of other field evidence of surface inundation or soil saturation: <u>N/A</u>				
Is the wetland hydrology criterion m	iet? Yes □] No 🛛			
Rationale:					

Routine Onsite Determination Form

Field Investigators: <u>Scott McBurney</u>	Date: <u>9</u>	/26/2023		
Project/Site: Cardiff Wetland Delineation	State: <u>NJ</u>	County: Atlantic County		
Applicant/Owner: Atlantic Shores Offshore Wind		Plant Community#/Name: 99-W23-1W		
Note: if a more detailed site description is necessary, provide detail here: Located within an existing, maintained a				
compacted utility roadway.				

Do normal environmental conditions exist at the plant community? Yes \square No \square (If no, please explain): Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes \square No \square (If yes, please explain): Soil is disturbed from previous grading, filling and compaction of existing utility roadway.

	VEGETATION			
	Dominant Plant Species	Percent Cover	Indicator Status	Stratum
1.	Watershield (<i>Brasenia schreberi</i>)	<u>2</u> 0	OBL	Herbaceous
2.	Rice cut grass (Leersia oryzoides)	25	OBL	<u>Herbaceous</u>
3.	Bur reed (Sparganium americanum)	15	OBL	Herbaceous
4.	Devil's beggartick (Bidens frondosa)	5	FACW	Herbaceous

Percent of Dominant Species that are OBL	, FACW, and/or FAC: <u>65%</u>	
Is the hydrophytic vegetation criterion met?	Yes ⊠ No 🗆	
Rationale:		

SO	ILS			
Series/Phase: Downer Loamy Sand Subgroup: Aquent	<u>s</u>			
Is the soil on the hydric soils list? Yes $old X$ No \Box	Undetermined			
Is the soil a Histosol? Yes \Box No \boxtimes	Histic epipedon present? Yes 🛛 No 🖾			
Is the soil: Mottled? Yes X No □	Gleyed? Yes □ No ⊠			
Matrix Color: 0-4" 5Y 4/4 sand; 4-7" 5Y 4/4 sand with 5Y	<u>4/2</u>			
concentrations in the matrix. Refusal at 7-8 inches.				
Mottle Colors: 5Y 4/2				
Other hydric soil indicators: Saturated soils				

Is the hydric soil criterion met? Yes □ No ⊠

Rationale: Soils are disturbed due to the creation of the utility roadway (grading, filling,

compaction) and consistent use and compaction from vehicles.

<u>y rain</u>

Routine Onsite Determination Form

Field Investigators: Scott McBurney

Project/Site: Cardiff Wetland Delineation State: NJ

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: 99-W24-U1

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

Do normal environmental conditions exist at the plant community? Yes \square No \square (If no, please explain):

Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes⊠ No □

(If yes, explain): Soil is disturbed from previous grading, filling and compaction of existing utility roadway.

VEGETAT	TION		
Dominant Plant Species	Percent Cove	r Indicator Status	Stratum
1. Eastern red cedar (<i>Juniperus virginiana</i>) 2.	40	FACU	Tree
Common reed (Phragmites australis)	20	FACW	Herbaceous
3. Longleaf pine (<i>Pinus palustris</i>)	5	FAC	Tree
4. Dogbane (<i>Apocynum</i> sp.)	3	NI	Herbaceous
5. Japanese honey suckle (Lonicera japonica)	15	FACU	Herbaceous
6. Chinese bush clover (<i>Lespedeza cuneata</i>)	5	UPL	Herbaceous
Is the hydrophytic vegetation criterion met? Yes □ Rationale:	No 🗷		
SOILS	5		
Series/Phase: Downer Loamy Sand Subgroup:			
Is the soil on the hydric soils list? Yes \Box No \boxtimes		Undetermined	
Is the soil a Histosol? Yes \Box No \boxtimes	Hi	stic epipedon present	?Yes 🗆 No 🖂
Is the soil: Mottled? Yes \Box No \boxtimes	G	leyed?Yes 🗆	No 🖂
Matrix Color: 0-6" 10YR 3/3 sandy loam; 5-13"+ 10YR 4/3 sa	nd		

Date: 9/26/2023

County: Atlantic County

Mottle Colors: <u>N/A</u>					
Other hydric soil indicators: <u>N/A</u>					
Is the hydric soil criterion met?	Yes 🗆	No 🖂			
Rationale:					
	ł	IYDROLOGY			
Is the ground surface inundated?	Yes 🗆	No 🖂	Surface water depth: <u>N/A</u>		
Is the soil saturated? Yes \square	No 🖂				
Depth to free-standing water in pit/s	soil probe hole: <u>N</u>	<u>/A</u>			
List of other field evidence of surfac	ist of other field evidence of surface inundation or soil saturation: <u>N/A</u>				
Is the wetland hydrology criterion m	iet? Yes □] No 🛛			
Rationale:					

Routine Onsite Determination Form

Field Investigators: Scott McBurney	Date: <u>9/26/</u>	2023		
Project/Site: Cardiff Wetland Delineation	State: <u>NJ</u>	County: Atlantic County		
Applicant/Owner: Atlantic Shores Offshore	Wind	Plant Community#/Name: <u>99-W24-1W</u>		
Note: if a more detailed site description is necessary, provide detail here: Located within an existing, maintained and				
compacted utility roadway.				
Do normal environmental conditions exist a	t the plant commu	nity? Yes 🗵 No 🗆 (If no, please explain):		

Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes \square No \square (If yes, please explain): Soil is disturbed from previous grading, filling and compaction of existing utility roadway.

VEGETATION								
	Dominant Plant Species	Percent Cover	Indicator Status	Stratum				
1.	Common reed (Phragmites australis)	60	OBL	Herbaceous				
2.	Rice cut grass (Leersia oryzoides)	20	OBL	Herbaceous				
3.	Black willow (sapling) (<i>Salix nigra</i>)	1	OBL	Shrub/Sapling				
4.	Canada goldenrod (Solidago canadensis)	3	FACU	Herbaceous				
5.	Narrowleaf cattail (Typha angustifolia)	2	OBL	Herbaceous				
6.	Three square (<i>Schoenoplectus pungens)</i>	5	OBL	Herbaceous				

Percent of Dominant Species that are OBL, FACW, and/or FAC: 88%						
Is the hydrophytic vegetation criterion met? Yes $oxtimes$ No \Box						
Rationale:						
	SOILS					
Series/Phase: Downer Loamy Sand Subgro	oup: <u>Aquents</u>					
Is the soil on the hydric soils list? Yes \mathbf{X} No		L	Indetermined			
Is the soil a Histosol? Yes □	No 🖂	Histic epip	edon present?	Yes 🗆 No 🖂		
Is the soil: Mottled? Yes □	No 🖂	Gleyed?	Yes 🗆	No 🖂		
Matrix Color: <u>0-5" 5Y 5/4 sand with gravel. Re</u>	efusal at 5 inches	<u>3.</u>				

Mottle Colors: <u>N/A</u>

Other hydric soil indicators: Saturated soils

Is the hydric soil criterion met? Yes □ No ⊠

Rationale: Soils are disturbed due to the creation of the utility roadway (grading, filling,

compaction) and consistent use and compaction from vehicles.

	H	(DROLOGY	
Is the ground surface inundated? Y	∕es ⊠	No 🗆	Surface water depth: <u>6"</u>
Is the soil saturated? Yes $ extsf{Yes}$	No 🗆		
Depth to free-standing water in pit/soi	il probe hole: <u>0"</u>		
List of other field evidence of surface	inundation or so	il saturation: <u>N/A</u>	
Is the wetland hydrology criterion met	t? Yes ⊠	No 🗆	
Rationale:			

Routine Onsite Determination Form

Date: <u>9/26/2023</u>

County: Atlantic County

Field Investigators: Scott McBurney

Project/Site: Cardiff Wetland Delineation State: NJ

Applicant/Owner: Atlantic Shores Offshore Wind

Plant Community#/Name: 99-W25-U1

Is the soil:

Mottled? Yes □

Matrix Color: 0-12" 5Y 6/3 with sandy clay with cobbles

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

Do normal environmental conditions exist at the plant community? Yes \square No \square (If no, please explain):

Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes⊠ No □

(If yes, explain): Soil is disturbed from previous grading, filling and compaction of existing utility roadway.

VEGETATION							
nant Plant Species	TEOE INT	Percent Cover	Indicator Status	Stratum			
ese bush clover (<i>Serica lespe</i>	edeza)	60	UPL	Herbaceous			
n Anne's Lace (<i>Daucus car</i>	ota)	5	UPL	Herbaceous			
fleabane (<i>Erigeron annuus</i>	;)	3	FACU	Herbaceous			
lora rose (<i>Rosa multiflora</i>)		<u>1</u> 0	FACU	<u>Herbaceous</u>			
hgrass (<i>Panicum virgatum</i>)		<u>1</u> 5	FAC	<u>Herbaceous</u>			
cinquefoil (<i>Potentilla recta</i>)	3	NI	Herbaceous			
Percent of Dominant Species that are OBL, FACW, and/or FAC: <u>15</u> Is the hydrophytic vegetation criterion met? Yes No Rationale:							
SOILS							
owner Loamy Sand Su	bgroup:						
Is the soil on the hydric soils list? Yes \square No \boxtimes Undetermined \square							
osol? Yes 🗆	No 🖂	Histi	c epipedon present	? Yes 🗆 No 🖂			
	inant Plant Species ese bush clover (<i>Serica lespe</i> en Anne's Lace (<i>Daucus car</i> y fleabane (<i>Erigeron annuus</i> flora rose (<i>Rosa multiflora</i>) chgrass (<i>Panicum virgatum</i>) r cinquefoil (<i>Potentilla recta</i>) inant Species that are OBL, tic vegetation criterion met? Downer Loamy Sand Sul e hydric soils list? Yes □ tosol? Yes □	VEGETATI inant Plant Species ese bush clover (Serica lespedeza) en Anne's Lace (Daucus carota) y fleabane (Erigeron annuus) flora rose (Rosa multiflora) chgrass (Panicum virgatum) r cinquefoil (Potentilla recta) inant Species that are OBL, FACW, and/or FA tic vegetation criterion met? Yes □ SOILS Downer Loamy Sand Subgroup: e hydric soils list? Yes □ No ⊠ tosol? Yes □ No ⊠	VEGETATION inant Plant Species Percent Cover ese bush clover (Serica lespedeza) 60 en Anne's Lace (Daucus carota) 5 y fleabane (Erigeron annuus) 3 flora rose (Rosa multiflora) 10 chgrass (Panicum virgatum) 15 in cinquefoil (Potentilla recta) 3 inant Species that are OBL, FACW, and/or FAC: 15 tic vegetation criterion met? Yes No ⊠ SOILS Downer Loamy Sand Subgroup: e hydric soils list? Yes No ⊠ tosol? Yes No ⊠	VEGETATION inant Plant Species Percent Cover Indicator Status ese bush clover (Serica lespedeza) 60 UPL en Anne's Lace (Daucus carota) 5 UPL y fleabane (Erigeron annuus) 3 FACU flora rose (Rosa multiflora) 10 FACU chgrass (Panicum virgatum) 15 FAC r cinquefoil (Potentilla recta) 3 NI inant Species that are OBL, FACW, and/or FAC: 15 tic vegetation criterion met? Yes No SOILS SoilLS SoilLS Undetermined 20wmer Loamy Sand Subgroup: Videtermined tosol? Yes No M			

Gleyed? Yes □

No 🖂

No 🖂

Mottle Colors: <u>N/A</u>						
Other hydric soil indicators: <u>N/A</u>						
Is the hydric soil criterion met?	Yes 🗆	No 🖂				
Rationale:						
	ł	IYDROLOGY				
Is the ground surface inundated?	Yes 🗆	No 🖂	Surface water depth: <u>N/A</u>			
Is the soil saturated? Yes \square	No 🖂					
Depth to free-standing water in pit/s	soil probe hole: <u>N</u>	<u>/A</u>				
List of other field evidence of surfac	List of other field evidence of surface inundation or soil saturation: <u>N/A</u>					
Is the wetland hydrology criterion m	iet? Yes □] No 🛛				
Rationale:						

Routine Onsite Determination Form

Field Investigators: <u>Scott McBurney</u> Date: <u>9/26</u>	/2023							
Project/Site: Cardiff Wetland Delineation State: NJ	County: <u>Atlantic</u>	County						
Applicant/Owner: Atlantic Shores Offshore Wind								
Plant Community#/Name: <u>99-W25-1W</u>								
Note: if a more detailed site description is necessary, provide	e detail here: <u>Locat</u>	ed within an existin	ig, maintained					
and compacted utility roadway.								
Do normal environmental conditions exist at the plant community? Yes ⊠ No □ (If no, please explain):								
Has the vegetation, soils, and/or hydrology been significantly	y disturbed? Yes⊠	No 🗆 (If yes, ple	ease explain): Soil is					
disturbed from previous grading, filling and compaction of ex	isting utility roadwa	ıy.						
VEGETATION								
Dominant Plant Species	Percent Cover	Indicator Status	Stratum					
1. Rice cut grass (<i>Leersia oryzoides</i>)	<u>8</u> 0	OBL	Herbaceous					
2. Narrowleaf cattail (<i>Typha angustifolia</i>)	3	<u>OB</u> L	<u>Herbaceous</u>					
3. Switchgrass (Panicum virgatum)	15	FAC	Herbaceous					
4. Canada goldenrod (Solidago canadensis)	1	FACU	Herbaceous					

Percent of Dominant Species that are OBL, FACW, and/or FAC: 88%							
Is the hydrophytic vegetation criterion met? Yes $oxtimes$ No \Box							
Rationale:							
SOILS							
Series/Phase: <u>Downer Loamy Sand</u> Subgroup: <u>Aquents</u>							
Is the soil on the hydric soils list? Yes $old X$ No \Box	Undetermined						
Is the soil a Histosol? Yes \Box No \boxtimes	Histic epipedon present? Yes 🛛 No 🛛						
Is the soil: Mottled? Yes 🐱 No 🗆	Gleyed? Yes 🗆 No 🖾						
Matrix Color: 0-6" 5Y 5/2 sandy clay; 6-11" 5Y 4/2 sand with 3	30%						
5Y 3/2 concentrations in the matrix							
Mottle Colors: 5Y 3/2							
Other hydric soil indicators: Saturated soils							

Is the hydric soil criterion met? Yes □ No ⊠

Rationale: Soils are disturbed due to the creation of the utility roadway (grading, filling,

compaction) and consistent use and compaction from vehicles.

	Н	YDROLOGY						
Is the ground surface inundated?	Yes 🛛	No 🗆	Surface water depth: <u>3"</u>					
Is the soil saturated? Yes	No 🗆							
Depth to free-standing water in pit/	Depth to free-standing water in pit/soil probe hole: 0"							
List of other field evidence of surface inundation or soil saturation: <u>N/A</u>								
Is the wetland hydrology criterion n	net? Yes 🛛	No 🗆						
Rationale:								

EDR Stream Determination Data Form

Project Name: <u>Ca</u>	ardiff Wet	land Delineation	Project N	umber: <u>2</u>	<u>0043</u>		
Survey Date: <u>9/1</u> /	4/2021						
Evaluators: <u>Heatl</u>	her Berry	<u>, Scott McBurney</u>					
Stream ID: <u>Water</u>	rcourse 3	_ Data Po	oint ID: <u>W</u>	<u>C - 3</u>			
Town: <u>Atlantic Ci</u>	t <u>v</u>	County: <u>Atlantic</u>	State: <u>N</u>	ew Jerse	Y		
Latitude: <u>39.378</u>	<u>191</u>	Longitude: -74.48	33255				
Stream ID: <u>Tidal</u>	creek ass	sociated with the C	Great Tho	rofare			
Previous Weathe	r:	Snow 🗆	Heavy R	lain 🗆	Rain 🗆	None 🗆	Unknown 🗆
Adjacent Landcov	ver: <u>Tidal</u>	emergent wetland	ds, develo	ped area	, abandoned dev	eloped are	ea, roadways
Ecological Comm	nunities: <u>ti</u>	idal emergent wet	lands and	l urban ha	abitat		
			Hydrolog	gic Chara	acteristics		
Perceptible Flow	?	Yes 🖂	No 🗆				
Flow Regime: R1-Tidal ⊠ R3-Upper Perennial □ R5-Unknown Perennial □			R2-Lower Perennial				
Flow Direction: <u>in</u>	fluenced	by tides from the	Great Tho	orofare			
Surface Water Pr	esent:	Yes 🗵	No 🗆				
Surface Water De	epth at Th	nalweg: 1 foot or g	reater				
Wetted (Stream) Width: <u>2 feet to 40 feet depending on location. (narrowest at highest elevation and widest at the mouth</u>							
		Ge	omorpho	ologic Ch	aracteristics		
Gradient:	Gentle (0-5 %) 🖂		Moderat	e (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:	<u>2 to 40 f</u>	eet					
Bank Height:	ranged f	rom 0.5 feet to 2 o	or more fe	e <u>et</u>			

Stream Conditions

			Additional Notes		
Is the stream a Drainage [Ditch:	Yes 🗆	No 🖂		
Channel Alteration:	Channe	lization ⊵	Channel Armoring	Impoundment 🗆 Other:	
Coarse Woody Debris:	Yes□	No⊠	Description:		
Deep Pools Present:	Yes⊠	No□	Description:		
Overhanging Vegetation:	Yes⊠	No□	Description:		
Undercut Banks:	Yes□	No⊠	Description:		

Channelization along roadways and culverts transport water under roads and bridges.

EDR Stream Determination Data Form

Project Name: <u>Ca</u>	ardiff Wet	land Delineation	Project N	umber: <u>2</u>	0043			
Survey Date: <u>6/22-6/24/2020</u>								
Evaluators: <u>Matt :</u>	Spadoni,	Jacqueline McMil	len					
Stream ID: <u>Water</u>	course 4	Data Po	oint ID: <u>WC</u>	C4 (Pre	eviously WC – 3)			
Town: <u>Atlantic Cit</u>	ty/Pleasa	ntville/Egg Harbo	r Townshi	<u>2</u>	County: <u>Atlantic</u>	State: <u>Ne</u>	ew Jersev	¥
Latitude: <u>39.378</u>	122	Longitude: -74.48	87429					
Stream ID: <u>Tidal (</u>	creek dire	ectly connected to	the Great	Thorofa	re			
Previous Weathe	r:	Snow 🗆	Heavy R	ain 🗆	Rain 🗆	None 🗆		Unknown 🗆
Adjacent Landcov	ver: <u>tidal v</u>	wetlands, urban d	levelop are	eas, road	<u>ways</u>			
Ecological Comm	iunities: <u>ti</u>	idal wetlands, urb	<u>an habitat</u>					
Hydrologic Characteristics								
Perceptible Flow	?	Yes 🖂	No 🗆					
Flow Regime: R1-Tidal ⊠ R3-Upper Perennial □ R5-Unknown Perennial □		nial 🗆 rennial 🗔	R2-Lower Perennial R4-Intermittent R6-Ephemeral					
Flow Direction: <u>in</u>	fluenced	by tide from the G	Great Thor	<u>ofare</u>				
Surface Water Pr	esent:	Yes 🖂	No 🗆					
Surface Water De	epth at Th	nalweg: inaccessil	ole due to	steep an	d often soft banks			
Wetted (Stream) Width: <u>4 to 80 feet depending on location, narrowest at furthest point from the Great Thorofare and widest at the mouth.</u>								
		Ge	eomorpho	ologic Ch	naracteristics			
Gradient:	Gentle (0-5 %) 🖂		Moderat	e (6-11 %) 🗆	Steep (>	12 %) 🗆	
Substrate:	Silt/Clay	(<0.062 mm) 🗌		Sand (0.	062–2 mm) 🗌		Gravel (2	2-64 mm) 🗆
	Cobble ((64-256 mm) 🗌		Boulder	(256-4096 mm) 🗆	ן	Bedrock	(>4096 mm) 🗌
Bankful Width:	<u>4 to 80 f</u>	<u>eet</u>						
Bank Height:	<u>2 to 4+ f</u>	eet, soft banks						

Stream Conditions

			Additional Notes		
Is the stream a Drainage I	Ditch:	Yes 🗆	No 🗆		
Channel Alteration:	Channe	lization ⊵	Channel Armoring	Impoundment 🗆 Other:	
Coarse Woody Debris:	Yes□	No⊠	Description:		
Deep Pools Present:	Yes⊠	No□	Description:		
Overhanging Vegetation:	Yes⊠	No□	Description:		
Undercut Banks:	Yes□	No⊠	Description:		

EDR Stream Determination Data Form

Project Name: Cardiff Wetland Delineation Project Number: 20043							
Survey Date: 6/2	2-6/24/20	<u>20</u>					
Evaluators: Matt	Spadoni,	Jacqueline McMill	len				
Stream ID: Water	rcourse 5	_ Data Po	int ID: <u>WC5</u>	5	(Previously WC	<u>– 4)</u>	
Town: <u>Egg Harbo</u>	<u>or</u>	County: <u>Atlantic</u>	State: <u>Nev</u>	w Jerse	Y		
Latitude: <u>39.417</u>	<u>936</u>	Longitude: -74.61	1167				
Stream ID: <u>Mill B</u>	ranch						
Previous Weathe	r:	Snow 🗌	Heavy Rai	in 🗆	Rain 🗆	None 🗆	Unknown 🗆
Adjacent Landco	ver: <u>youn</u>	g growth wooded :	area betwe	en road	lways and divided	by a bike	path
Ecological Comm	nunities: <u>y</u>	oung-growth fores	st/shrub hat	oitat, di	sturbed herbaceou	<u>us habitat</u>	
			Hydrologia	c Chara	acteristics		
Perceptible Flow	?	Yes 🗆	No 🖂				
Flow Regime: R1-Tidal □ R3-Upper Perenr R5-Unknown Per		nial 🗆 rennial 🗆		R2-Lower Perenr R4-Intermittent [R6-Ephemeral [2]	nial 🗆]]		
Flow Direction: n	orth to so	<u>uth</u>					
Surface Water Pr	esent:	Yes 🗆	No 🖂				
Surface Water De	epth at Th	nalweg: N/A					
Wetted (Stream)	Width: <u>N</u>	<u>'A</u>					
		Ge	omorpholo	ogic Ch	naracteristics		
Gradient:	Gentle (0-5 %) 🖂	N	/loderat	e (6-11 %) 🗆	Steep (>	12 %) 🗆
Substrate:	Silt/Clay	' (<0.062 mm) ⊠	S	Sand (0.062–2 mm) 🖂 Gravel (2-64 mm)		Gravel (2-64 mm) 🖂	
	Cobble ((64-256 mm) 🗌	B	Boulder	(256-4096 mm) 🗆		Bedrock (>4096 mm) 🗌

Bankful Width: <u>5 feet</u>

Bank Height: <u>3 – 4 feet</u>

Stream Conditions

Undercut Banks:	Yes□	No⊠	Description:		
Overhanging Vegetation:	Yes⊠	No□	Description:		
Deep Pools Present:	Yes□	No⊠	Description:		
Coarse Woody Debris:	Yes□	No⊠	Description:		
Channel Alteration:	Channe	lization 🗵	🛛 Channel Armoring 🖂	Impoundment 🗌 Other:	
Is the stream a Drainage I	Ditch:	Yes 🗆	No 🖂		
			Additional Notes		

A channelized swale that flows via culvert under a pedestrian bike path. Substrate consisted of sand, silt and gravel.

EDR Stream Determination Data Form

Project Name: Cardiff Wetland Delineation Project Number: 20043								
Survey Date: 6/22	2-6/24/20	20						
Evaluators: Matt s	Spadoni,	Jacqueline McMil	<u>len</u>					
Stream ID: Water	course 6	Data Point ID: <u>W</u>	C6 (F	Previous	lγ WC – 5)			
Town: <u>Egg Harbo</u>	<u>r_</u>	County: <u>Atlantic</u>	State: <u>Ne</u>	w Jerse	Y			
Latitude: <u>39.418</u>	963	Longitude: -74.61	14547					
Stream ID: <u>Unnar</u>	ned Tribı	utary to Mill Branc	<u>h</u>					
Previous Weathe	r:	Snow 🗌	Heavy Ra	ain 🗆	Rain 🗆	None 🗆] U	nknown 🗌
Adjacent Landcov	/er: <u>youn</u>	g growth wooded	area betwe	een road	lways and div	ided bγ a bike	e path	
Ecological Comm	unities: <u>y</u>	roung-growth fores	st/shrub ha	abitat, dis	sturbed herba	aceous habitat		
			Hydrolog	ic Chara	acteristics			
Perceptible Flow?	>	Yes 🗆	No 🖂					
Flow Regime:		R1-Tidal □ R3-Upper Perenr R5-Unknown Per	nial □ ^r ennial □		R2-Lower Pe R4-Intermitte R6-Ephemer	erennial □ ent □ ral ⊠		
Flow Direction: no	orth to so	<u>uth</u>						
Surface Water Pr	esent:	Yes 🗌	No 🖂					
Surface Water De	epth at Th	nalweg: N/A						
Wetted (Stream) Width: <u>N/A</u>								
		Ge	eomorphol	logic Ch	naracteristics	3		
Gradient:	Gentle (0-5 %) 🖂	1	Moderat	e (6-11 %) 🗆	l Steep (>	·12 %) 🗆	
Substrate:	Silt/Clay	r (<0.062 mm) 🖂	:	Sand (0.	062–2 mm) 🛛	X	Gravel (2-6	34 mm) 🖂

Boulder (256-4096 mm) □ Bedrock (>4096 mm) □

Bankful Width: 6 feet

Bank Height: <u>3 – 4 feet</u>

Cobble (64-256 mm)

Stream Conditions

Undercut Banks:	Yes□	No⊠	Description:		
Overhanging Vegetation:	Yes⊠	No□	Description:		
Deep Pools Present:	Yes□	No⊠	Description:		
Coarse Woody Debris:	Yes□	No⊠	Description:		
Channel Alteration:	Channe	lization 🗵	🛛 Channel Armoring 🖂	Impoundment 🗌 Other:	
Is the stream a Drainage I	Ditch:	Yes 🗆	No 🖂		
			Additional Notes		

A channelized swale that flows via culvert under a pedestrian bike path. Substrate consisted of sand, silt and gravel.

COP South Stream Scori	ng Form 1
Project	20043 Atlantic Shores COP South
ID	314730
Survey Date	02/09/2023
User	Andrew Leonardi
Stream ID:	26-ST01
Administrative 1	
Investigator(s)	TCAL
Latitude, Longitude	
Latitude	39.41041367
Longitude	-74.58851217
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	Moderate (6-11%)
Substrate	Gravel, Sand (Gritty feel)
OHWM width for stream reach (feet)	1-3
Geomorphology	
Continuity of channel bed and bank	2-Moderate
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	0-No

Channel	
Subtotal =	3.5
Hydrology	
Presence of Baseflow	0-Absent
Iron Oxidizing Bacteria	0-Absent
Leaf Litter	0.5-Moderate
Sediment on Plants or Debris	0-Absent
Organic Debris Lines or Piles	0-Absent
Soil-based evidence of high water table	0-No
Subtotal =	0.5
Biology	
Fibrous Roots in Streambed	0-Strong
Rooted Upland Plants in Streambed	1-Moderate
Aquatic Macroinvertebrates	0-Absent
Aquatic Mollusks	0-Absent
Fish	0-Absent
Crayfish	0-Absent
Amphibians	0-Absent
Algae	0-Absent
Wetland Plants in Streambed	0-Other
Subtotal =	1
Stream Type Determination	
Total Score	5
Stream Determination	Ephemeral (<19)
Notes	
Notes	

COP South Stream Scoring Form 1				
Project	20043 Atlantic Shores COP South			
ID	314749			
Survey Date	02/09/2023			
User	Andrew Leonardi			
Stream ID:	26-ST02			
Administrative 1				
Investigator(s)	TCAL			
Latitude, Longitude				
Latitude	39.413036			
Longitude	-74.596666			

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)	5
Stream Gradient	Gentle (0-5%)
Substrate	Sand (Gritty feel), Silt/Clay (No grit)
OHWM width for stream reach (feet)	6-8
Geomorphology	
Continuity of channel bed and bank	1-Weak
Sinuosity of channel along thalweg	2-Moderate
In Channel Structures	1-Weak
Particle Size of Stream Substrate	1-Weak
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 =	9.5
Hy dr ology	
Presence of Baseflow	2-Moderate
Iron Oxidizing Bacteria	3-Strong
Leaf Litter	1-Weak
Sediment on Plants or Debris	0.5-Weak
Organic Debris Lines or Piles	0-Absent
Soil-based evidence of high water table	3-Yes
Subtotal =	9.5
Biology	
Fibrous Roots in Streambed	3-Absent
Rooted Upland Plants in Streambed	3-Absent

Aquatic Macroinvertebrates	1-Weak
Aquatic Mollusks	1-Weak
Fish	0-Absent
Crayfish	0-Absent
Amphibians	1.5-Strong
Algae	1.5-Strong
Wetland Plants in Streambed	0.75-FACW
Subtotal =	11.75
Stream Type Determination	
Total Score	30.75
Stream Determination	Perennial (≥30)
Notes	
Notes	

COP South Stream Scor	ing Form 1
Project	20043 Atlantic Shores COP South
ID	315011
Survey Date	02/09/2023
User	Andrew Leonardi
Stream ID:	26-ST03
Administrative 1	
Investigator(s)	TCAL
Latitude, Longitude	
Latitude	39.41858005
Longitude	-74.61471983
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	Sand (Gritty feel), Silt/Clay (No grit)
OHWM width for stream reach (feet)	5
Geomorphology	
Continuity of channel bed and bank	3-Strong
Sinuosity of channel along	0-Absent

thalweg		
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-Absent	
Second or Greater Order Channel	0-No	
Subtotal =	4	
Hydrology		
Presence of Baseflow	0-Absent	
Iron Oxidizing Bacteria	0-Absent	
Leaf Litter	0-Strong	
Sediment on Plants or Debris	0-Absent	
Organic Debris Lines or Piles	0-Absent	
Soil-based evidence of high water table	0-No	
Subtotal =	0	
Biology		
Fibrous Roots in Streambed	0-Strong	
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 =	3	
Stream Type Determination		
Total Score	7	
Stream Determination	Ephemeral (<19)	
Notes		
Notes		
COP South Stream Scoring Form 1		
--	-------------------------------------	--
Project	20043 Atlantic Shores COP South	
ID	317589	
Survey Date	02/23/2023	
User	Andrew Leonardi	
Stream ID:	26-ST010	
Administrative 1		
Investigator(s)	TCAL	
Latitude, Longitude		
Latitude	39.417569	
Longitude	-74.611359	
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)	12+	
Stream Gradient	Gentle (0-5%)	
Substrate	Bedrock, Gravel, Sand (Gritty feel)	
OHWM width for stream reach (feet)	10-14	
Geomorphology		
Continuity of channel bed and bank	3-Strong	
Sinuosity of channel along thalweg	1-Weak	
In Channel Structures	1-Weak	
Particle Size of Stream Substrate	3-Strong	
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 =	8.5	
Hydrology		
Presence of Baseflow	3-Strong	

Iron Oxidizing Bacteria	2-Moderate
Leaf Litter	1.5-Absent
Sediment on Plants or Debris	0-Absent
Organic Debris Lines or Piles	0-Absent
Soil-based evidence of high water table	0-No
Subtotal =	6.5
Biology	
Fibrous Roots in Streambed	3-Absent
Rooted Upland Plants in Streambed	3-Absent
Aquatic Macroinvertebrates	1-Weak
Aquatic Mollusks	0-Absent
Fish	0-Absent
Crayfish	0-Absent
Amphibians	0-Absent
Algae	0.5-Weak
Wetland Plants in Streambed	0.75-FACW
Subtotal =	8.25
Stream Type Determination	
Total Score	23.25
Stream Determination	Intermittent (≥19)
Notes	
Notes	

APPENDIX C

Photo Documentation

Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Photo 2 Wetland 001 Drainage Basin

> Coordinates: 39.39242°, -74.55566°

Photo 1 Looking Northwest at Wetland 1

Coordinates: 39.362337°, -74.462562°

Sheet 1 of 13



Wetland and Stream Delineation Report





Wetland and Stream Delineation Report

EDR_____



Wetland 001A Man-Made Vernal Pool

Coordinates: 39.39249°, -74.5566°

Photo 4 Wetland 002 Drainage Basin

Coordinates: 39.39317°, -74.55721°

Sheet 2 of 13

Photo 3



Photo 5 Endwall feeding wetland 002

Coordinates: 39.39293°, -74.55695°

Photo 6

Outfall draining Wetland 002, feeding Wetland 001A

Coordinates: 39.39302°, -74.55653°

Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report

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Coordinates: 39.372883°, -74.479728°

> Photo 8 Looking West at Wetland 3

> > **Coordinates:** 39.4044°, -74.566825°

Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report

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Looking Southeast at Wetland 2

Photo 7

Photo 9 Wetland 003

Coordinates: 39.39251°, -74.54939°

Photo 10 Looking Northwest at Wetland 4

Coordinates: 39.412553°, -74.593636°



Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report

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Photo 11 Wetland 004

Coordinates: 39.38303°, -74.50156°

Photo 12 Looking West at Wetland 5

Coordinates: 39.413503°, -74.596572°

Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report





Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report



Wetland 005/005A(B) complex representative photo

Coordinates: 39.38109°, -74.49691°

Photo 14 Looking North at Wetland 6

Coordinates: 39.419075°, -74.61515°

Sheet 7 of 13

Photo 13





Photo 15 Wetland 006

Coordinates: 39.37924°, -74.49234°

Photo 16

Representative Photo of Hydric Soils in Tidal Wetlands

Coordinates: 39.363547°, -74.467408°



Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report

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Sheet 8 of 13





Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report





Photo 17

Representative Photo of Hydric Soils in Inland Wetlands

Coordinates: 39.404381°, -74.566772°

Photo 18 Watercourse 001

Coordinates: 39.35685°, -74.45344°

Photo 19

Looking Southwest at Watercourse 3

Coordinates: 39.372307°, -74.473078°

Photo 20

Looking Southwest at Watercourse 4

Coordinates: 39.377936°, -74.487183°

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

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Looking Southeast at Watercourse 5

Coordinates: 39.417931°, -74.611244°

Photo 22 Watercourse 6

Coordinates: 39.41793°, -74.61124°

Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report



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Photo 23

Photo 24

Coordinates:

39.391006°, -74.523331°

Uplands

Representative View of On-Site

Looking Northeast at Proposed O&M Facility and Watercourse 9

Coordinates: 39.375497°, -74.428998°

Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report

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Photo 25

Representative View of On-Site Uplands

Coordinates: 39.410381°, -74.586631°

Atlantic Shores Offshore Wind – Cardiff Onshore Study Area

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

Wetland and Stream Delineation Report



APPENDIX D

Field Delineated Wetlands and Streams Plans







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

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

Wetland Delineation Report







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

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

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

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

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

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

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

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

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

Wetland Delineation Report













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Wetland Delineation Report

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	Delineated Stream
	Delineated Wetland



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Atlantic Shores South








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	Study Area
	Delineated Stream
	Delineated Wetland







Atlantic Shores South







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Atlantic Shores South

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	Study Area
	Delineated Stream
	Delineated Wetland



Atlantic Shores South

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	Study Area
	Delineated Stream
	Delineated Wetland
\square	Wetland Transition Area









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

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

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	Study Area
	Delineated Stream
	Delineated Wetland



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