Ocean Wind 1
An Ørsted & PSEG project

# Ocean Wind 1 Offshore Wind Farm Project

## Application to the New Jersey Department of Environmental Protection for a Waterfront Development and Wetlands Act of 1970 Individual Permit. Supplemental Information for Application to the New Jersey Department of Environmental Protection for a CAFRA, Flood Hazard Area Control Act and Freshwater Wetlands Protection Act Individual Permit

**January 2023**

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**Abbreviations and Acronyms**

| | |
|---|---|
| AC | alternating current |
| APM | Applicant Proposed Measures |
| ASTM | American Society for Testing & Materials |
| ATV | All-terrain vehicle |
| bgs | below ground surface |
| BMP | best management practices |
| BOEM | Bureau of Ocean Energy Management |
| CAFRA | Coastal Area Facility Review Act |
| CBRA | Coastal Barrier Resources Act |
| CDF | combined disposal facility |
| CFE | controlled flow excavation |
| CFR | Code of Federal Regulation |
| CMP | Comprehensive Management Plan |
| CRMP | Coastal Resource Management Program |
| CWA | Clean Water Act |
| CY | Cubic Yard |
| CZM | Coastal Zone Management |
| CZMA | Coastal Zone Management Act |
| CZMP | Coastal Zone Management Program |
| Department | New Jersey Department of Environmental Protection |
| DFE | Design Flood Elevation |
| DFGW | Division of Fish, Game and Wildlife |
| DLRP | Department of Land Resource Protection |
| DOI | United States Department of the Interior |
| ECR | Export Cable Route |
| EFH | Essential Fish Habitat |
| EPA | United States Environmental Protection Agency |
| ESA | Endangered Species Act |
| FEMA | Federal Emergency Management Agency |
| FHA | Flood Hazard Area |
| FIRM | Flood Insurance Rate Map |
| ft | feet |
| FWW | Freshwater Wetlands |
| GW | gigawatts |
| HDD | horizontal directional drilling |
| HRG | high resolution geophysical |
| HRG&G | high resolution geophysical and geotechnical |
| HUC | Hydrologic Unit Code |
| HV | high voltage |
| HVAC | high voltage alternative current |
| IBA | Important Bird Areas |
| IBSP | Island Beach State Park |
| ILF | In-Lieu Fee |
| IP | Individual Permit |
| ISS | Intertidal and Subtidal Shallows |
| km | kilometer |

| | |
|---|---|
| kV | kilovolt |
| LCP | Linear Construction Project |
| Lease | Ocean Wind BOEM Lease Area OCS-A 0498 Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf |
| LOI | Letter of Interpretation |
| LSRP | Licensed Site Remediation Professional |
| m | meter |
| MBTA | Migratory Bird Treaty Act |
| MEC | Munitions and Explosives of Concern |
| MHP | Materials Handling Plan |
| MMP | Materials Management Plan |
| MW | Megawatt |
| MWh | Megawatt hour |
| MHW | mean high water |
| MLLW | mean lower low water |
| MOU | Memorandum of Understanding |
| msl | mean sea level |
| N.J.A.C. | New Jersey Administration Code |
| N.J.S.A. | New Jersey Statutes Annotated |
| NAVD | North American Vertical Datum |
| NEFSC | Northeast Fisheries Science Center |
| NHP | National Heritage Program |
| NJBPU | New Jersey Board of Public Utilities |
| NJDEP | New Jersey Department of Environmental Protection |
| NJDOT | New Jersey Department of Transportation |
| NJGRS | New Jersey Groundwater Recharge Spreadsheet |
| nm | nautical mile |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NPDES | National Pollutant Discharge Elimination System |
| NRCS | National Resource Conservation Service |
| Ocean Wind | Ocean Wind LLC |
| OCS | Outer Continental Shelf |
| OCSCD | Ocean County Soil Conservation District |
| OCW01 | Ocean Wind 1 Offshore Wind Farm |
| ODST | Office of Dredging and Sediment Technology |
| OREC | Offshore Renewable Energy Certificate |
| Ørsted | Ørsted Wind Power North America LLC |
| OWEDA | Offshore Wind Economic Development Act of 2010 |
| PAPE | Preliminary Area of Potential Effect |
| PMA | Pineland Management Area |
| PSEG | Public Service Enterprise Group Renewable Generation LLC |
| PSO | protected species observers |
| RDCSRS | Residential Direct Contact Soil Remediation Standard |
| ROV | remotely operated vehicle |
| ROW | right-of-way |
| SAV | submerged aquatic vegetation |

| | |
|---|---|
| SCADA | Supervisory Control and Data Acquisition |
| SCS | Soil Conservation Service |
| SESC | Soil Erosion and Sediment Control |
| SRP | Site Remediation Program |
| SPCC | Spill Prevention, Control, and Countermeasure |
| SSAP | Sediment Sampling and Analysis Plan |
| SVC | static VAR compensator |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWM | Stormwater Management |
| TJB | transition joint bay |
| USACE | United States Army Corp of Engineers |
| USCG | United States Coast Guard |
| USDA | United State Department of Agriculture |
| USFWS | United States Fish and Wildlife Service |
| UXO | unexploded ordinances |
| VMS | Vessel Monitoring System |
| VTR | Vessel Trip Report |
| WEA | Wind Energy Area |
| WFD | waterfront development |
| WMA | Watershed Management Area |
| WTG | wind turbine generator |
| WQMP | water quality management plan |

# 1. Project Narrative

## 1.1 Introduction

Ocean Wind, LLC (Ocean Wind), a joint venture between Ørsted Wind Power North America, LLC (Ørsted) and Public Service Enterprise Group Renewable Generation LLC (PSEG), proposes to construct and operate the Ocean Wind 1 Offshore Wind Farm (OCW01, Offshore Wind Farm, or Project) pursuant to the Bureau of Ocean Energy Management (BOEM) requirements for the Ocean Wind BOEM Lease Area OCS-A 0498 Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (Lease). The subject of this application is the Ocean Wind 1 Offshore Wind Farm (or Project).

The Project includes up to 98 wind turbine generators (WTGs), up to three offshore alternating current (AC) substations, array cables linking the individual turbines to the offshore substations, substation interconnector cable linking two of the three substations to each other, offshore export cables, onshore export cable systems[1], two onshore substations, and connections to the existing electrical grid in New Jersey (underground or overhead cables would be required to connect the onshore substations to the existing grid). The WTGs and offshore substations, array cables, and substation interconnector cables will be located in Federal waters approximately 13 nautical miles (nm, 15 statute miles) southeast of Atlantic City. The offshore export cables will be buried below the seabed surface within Federal and State waters. The onshore export cables, substations, and grid connections will be located in Cape May and Ocean Counties, New Jersey. The boundaries of the Project Area are depicted on **Figure 1.1-1, Figure 1.1-2** and **Figure 1.1-3** and specifically consist of:

- Wind Farm Area: This is the area where the turbines, array cables, offshore substation(s), substation interconnector cables, and portions of the offshore export cables are located;
- Offshore export cable route corridor: Area in which the offshore export cable systems will be installed;
- Onshore export cable route corridor: Area in which onshore export cable systems will be installed;
- Onshore substations; and
- Onshore grid connections.

The proposed Project is scheduled for installation from 2023 through 2025 and the Project is scheduled to have first power in 2024.

## 1.2 Project Description

This section details all planned Project facilities, including offshore, onshore and support facilities pursuant to the Waterfront Development (WFD) Act, N.J.S.A. 12:5-1 et seq.; Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19-1 et seq.; Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq.; Flood Hazard Area (FHA) Control Act, N.J.S.A. 58:16A-50 et seq.; Freshwater Wetlands (FWW) Protection Act, N.J.S.A. 13:9B-1 et seq. and regulations set forth in the Coastal Zone Management (CZM) Rules (N.J.A.C. 7:7), FHA Rules (N.J.A.C. 7:13), and Freshwater Wetland Protection Act Rules (N.J.A.C. 7:7A).

### 1.2.1 Boundary

The boundaries of the Project Area are depicted on **Figure 1.1-1** and as discussed in Section 1.1, consist of the Wind Farm Area, offshore export cable routes, onshore export cable routes, onshore substations, and onshore grid connections.

[1] The onshore export cable systems will include the onshore export cable, transition joint bays, onshore splice vaults/grounding link boxes and fiber optic system, including manholes.

The Wind Farm Area is located within Federal waters. The offshore export cable routes are partially located in Federal waters and partially in New Jersey waters. The onshore export cable route corridors are located within New Jersey above mean high water (MHW). This permit application is for Project impacts in New Jersey waters and all onshore activities as shown on **Figure 1.2.1-1** and **Figure 1.2.1-2.**

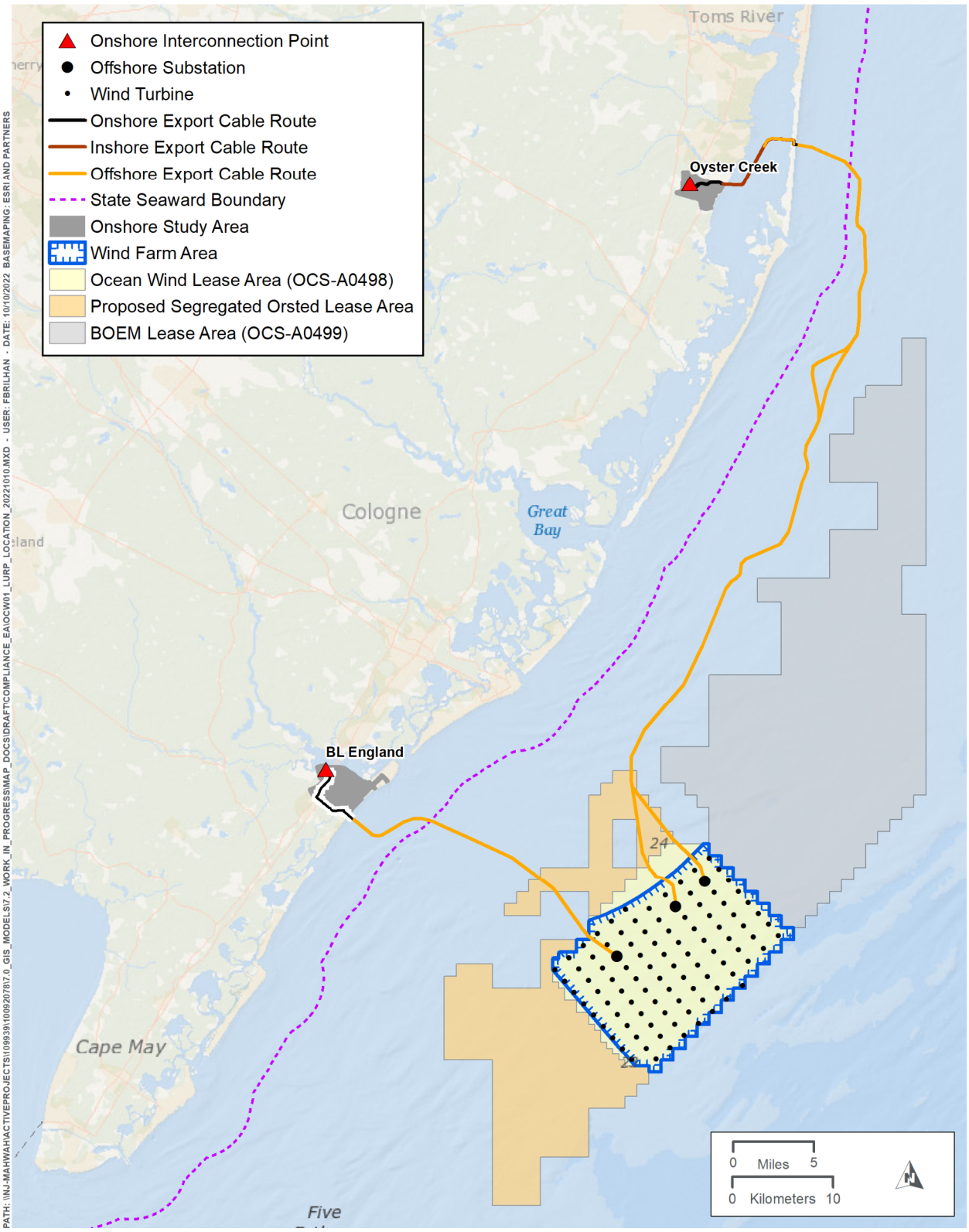



**Figure 1.1-1. Lease Area and Project Boundaries.**

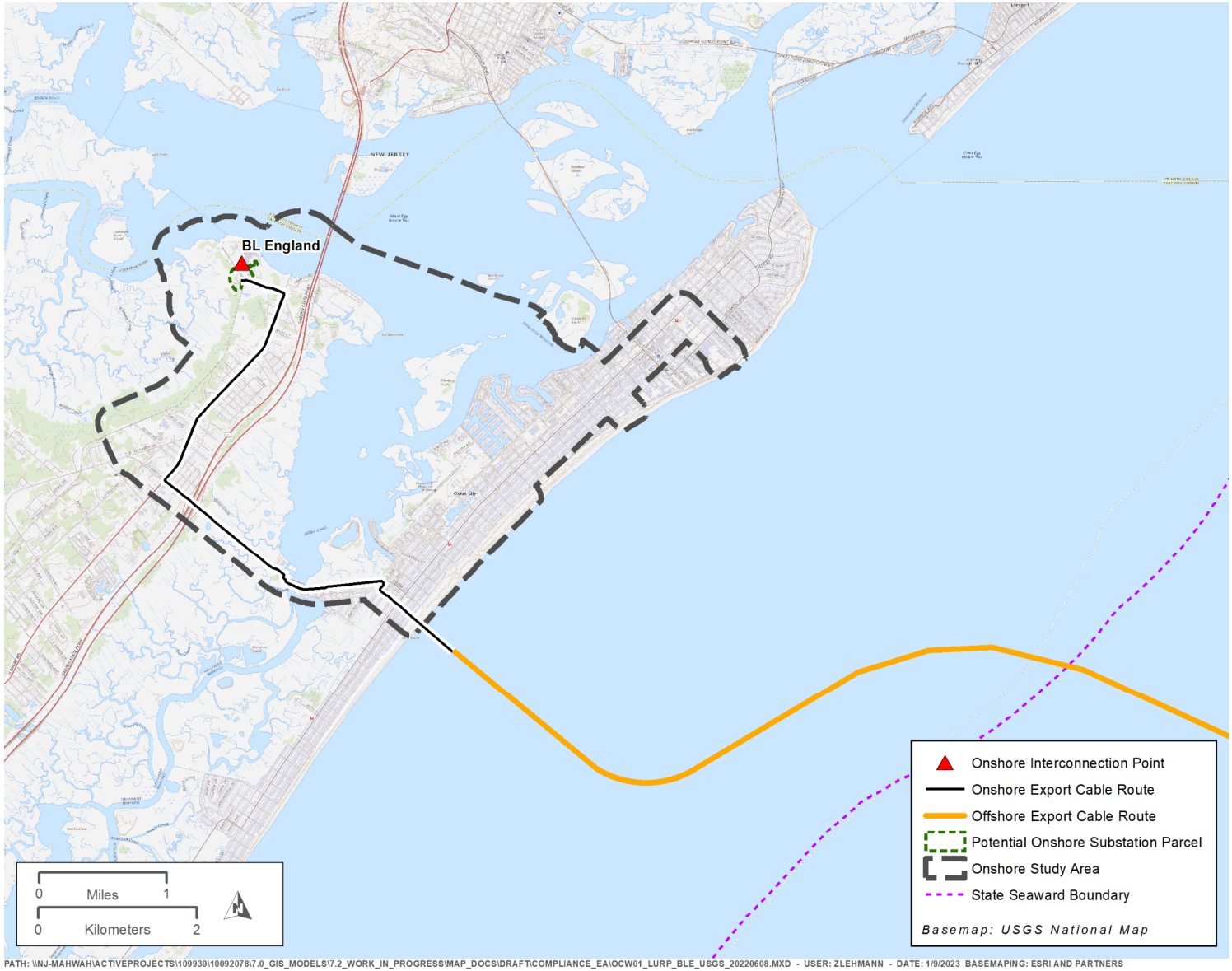



**Figure 1.1-2. Project location – BL England.**

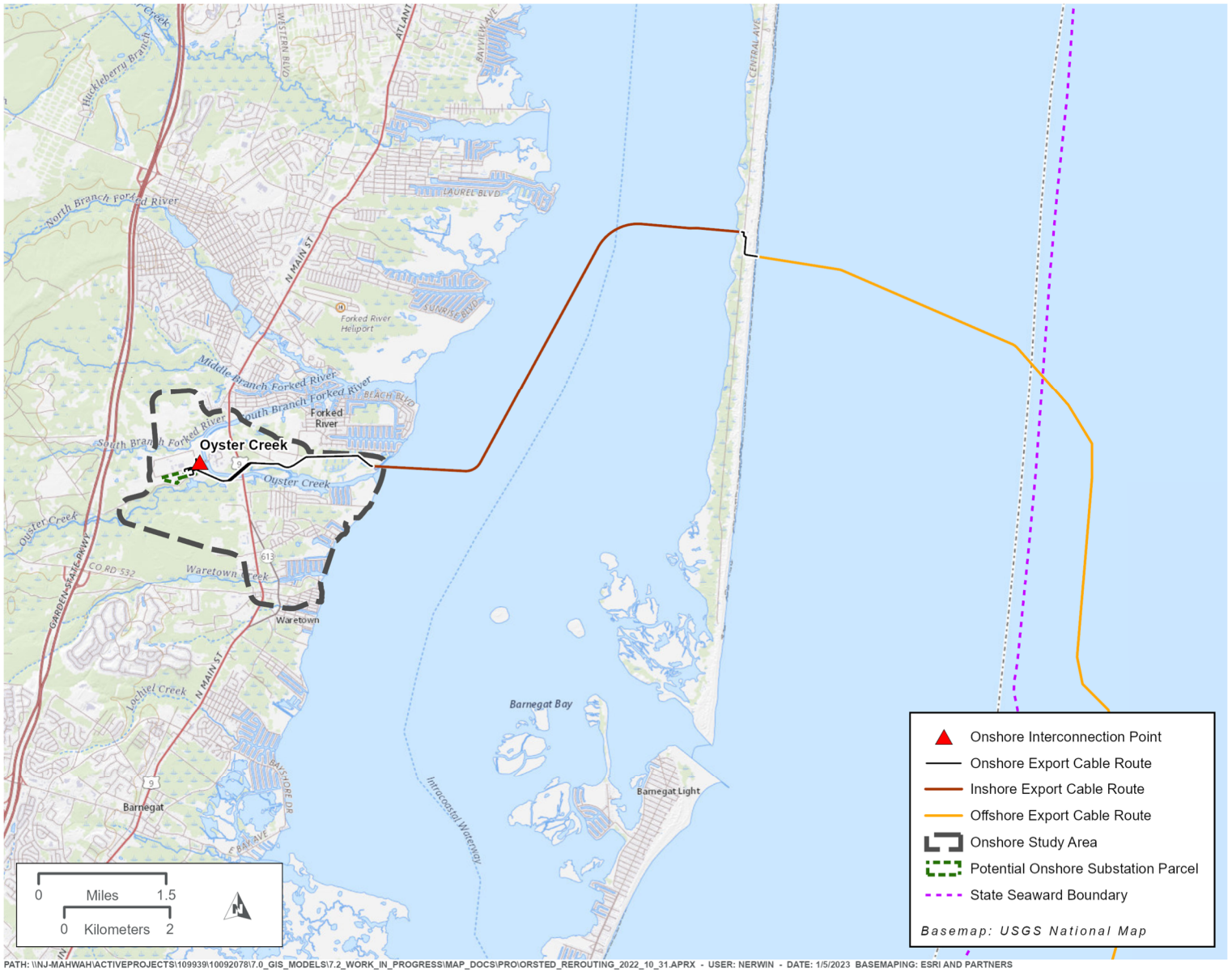



**Figure 1.1-3. Project location - Oyster Creek.**

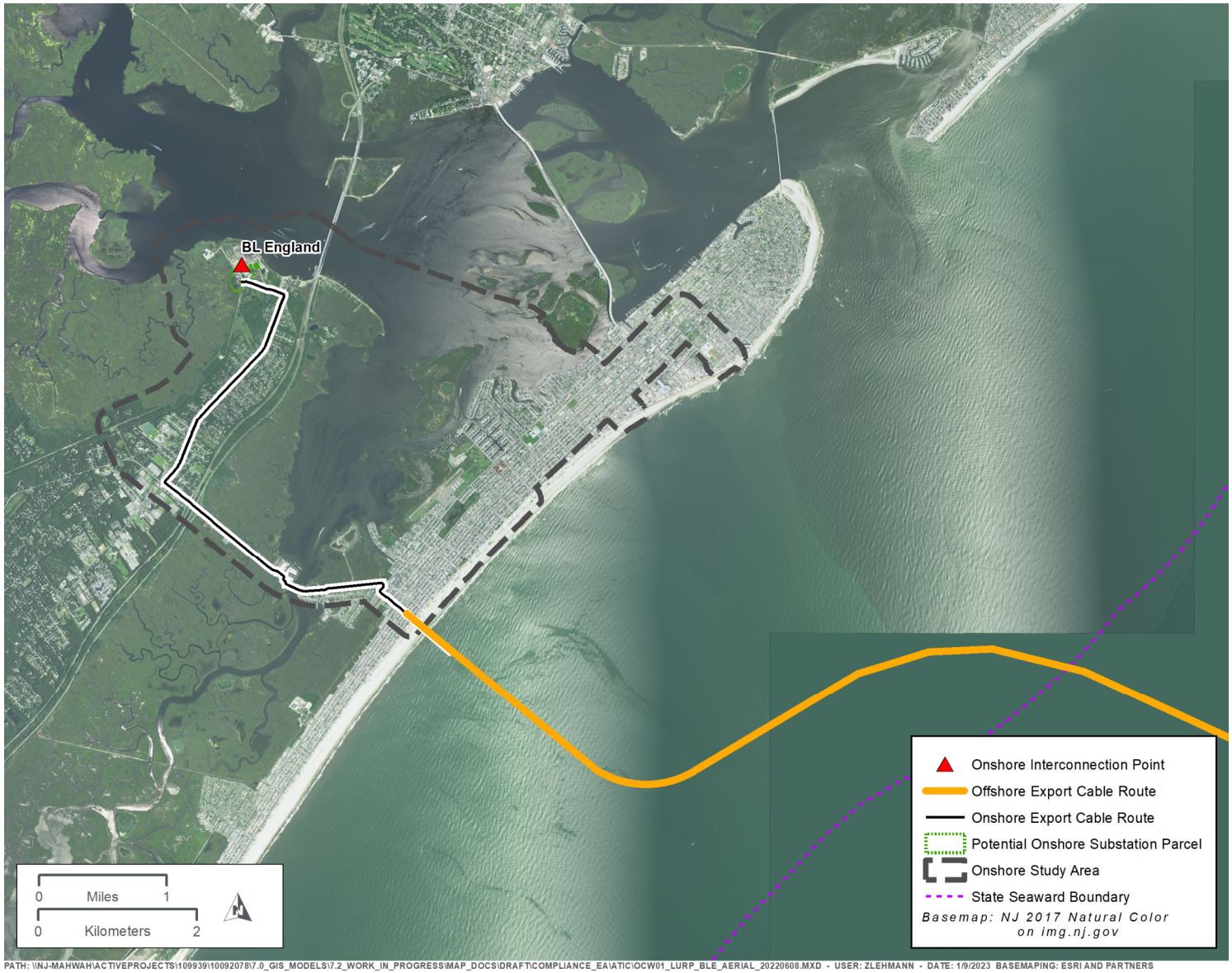



**Figure 1.2.1-1. Project location – BL England.**

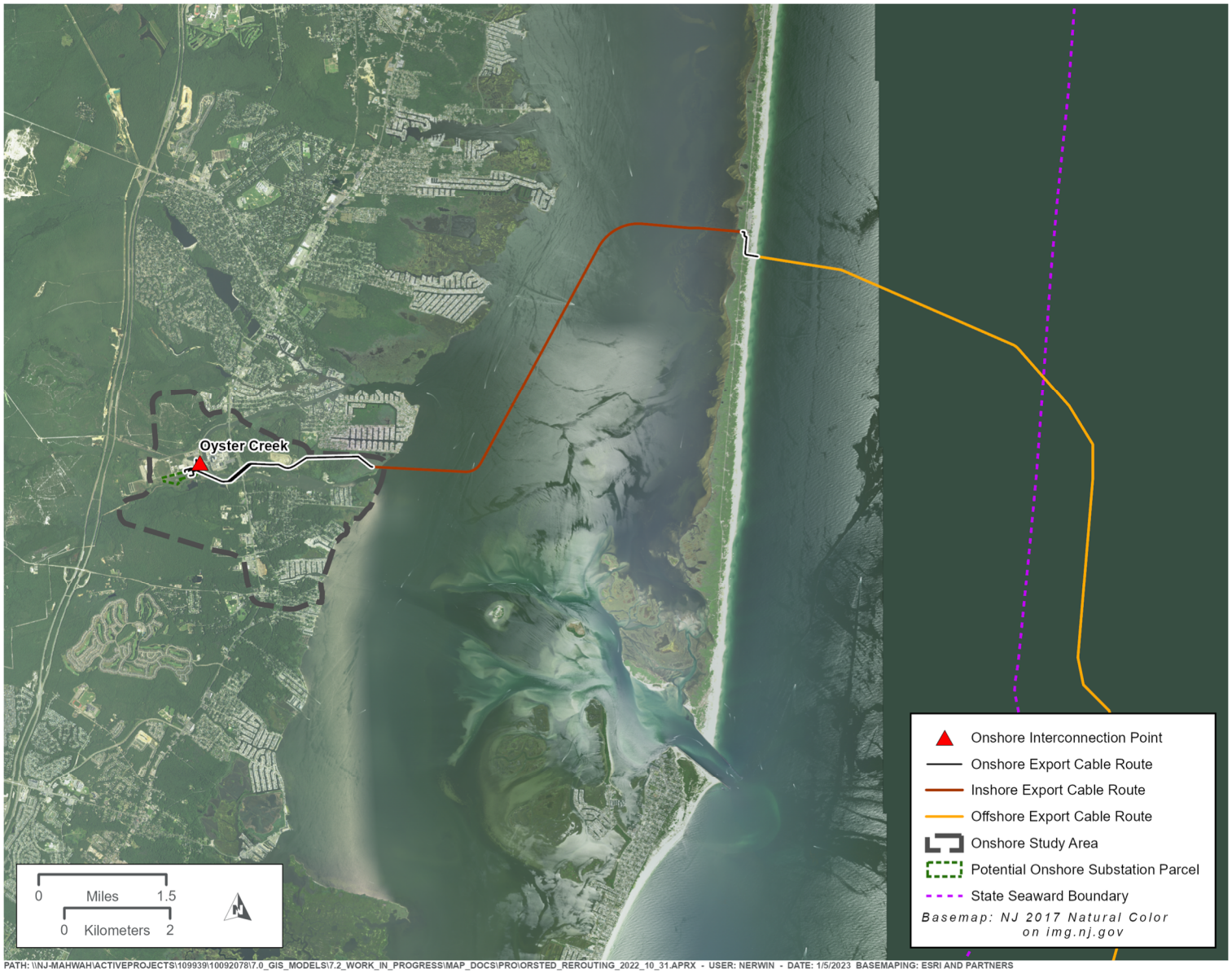



**Figure 1.2.1-2. Project location - Oyster Creek.**

### 1.2.2 The Lease Area and Location Plan

The portion of the Lease Area where the offshore infrastructure, including turbines, offshore substations, and array and substation interconnector cables would be located is referred to as the Wind Farm Area and is located in federal waters (**Figure 1.1-1**). Water depths in the Wind Farm range from 49-118 feet (ft) below mean lower low water (MLLW) with the seabed sloping generally offshore toward the southeast at less than 1°. The Wind Farm Area is approximately 68,450 acres.

Approximate locations for the offshore turbines and offshore substations are shown on **Figure 1.1-1**. The results of high resolution geophysical (HRG) surveys have been used to inform decisions regarding micro-siting to avoid boulders and other features.

### 1.2.3 Project Infrastructure Overview

The Project will include turbines and all infrastructure required to transmit power generated by the WTGs offshore to two onshore interconnection points with the PJM electric transmission system or power pool. Grid connections will be made at BL England and Oyster Creek.

The electrical system is comprised of the cables and components required to step up/down the voltages at the WTGs and to transport the electricity generated from the Offshore Wind Farm to the interconnection points. The system consists of a low voltage side from the WTGs to the offshore substation and a high voltage side from the offshore substations to the interconnection points. Each offshore substation will collect the power transmitted from the WTGs and transform the voltage for transmission through the export cable to the onshore substations.

The onshore infrastructure will consist of a buried onshore AC export cable system, AC substations, and an underground cable interconnection to the existing electrical grid at each interconnection point. As noted above, interconnection points will be required at BL England and Oyster Creek.

The Project will include the following components in State waters:

**Onshore Components**

- Onshore export cable systems - including transition joint bays (TJBs) splice vaults/grounding link boxes, and fiber optic system, including manholes;
- Onshore substations; and
- Connection to the existing grid

**Other Supporting Components**

- Supervisory Control and Data Acquisition (SCADA) system;
- Temporary construction staging areas, including storage areas; and
- Permanent and temporary access roads.

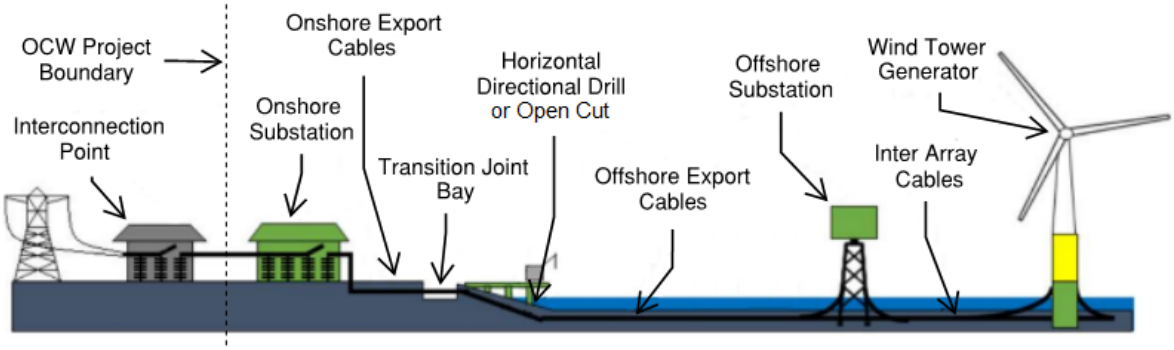



**Figure 1.2.2-1. Indicative key Project components.**

Power will be generated at the offshore wind turbines. Array cables will carry that power to offshore substations where the power will be collected and 'stepped up' to a higher voltage by transformers within the substations. The offshore substations will be connected to each other by substation interconnector cables to provide redundancy, providing the voltage is the same across the wind farm. If the voltage is not the same, then back links may be utilized to keep the turbines energized. Power will be transmitted to shore via offshore export cables.

The offshore substations will be connected to the onshore substations via offshore and onshore export cable systems. The offshore export cable will connect with the onshore export cable at the TJBs at the landfall location(s). The onshore export cables then transmit the power to the onshore substation where the voltage will be stepped up or down to match the grid voltage. The power generated by the Project would be provided to the grid via underground cable connection with the onshore substation(s). Plans and drawings for the Project are provided in the site plans included as Appendix C.

The key components of the Project are listed in **Table 1.2.3-1** along with the function of the component. The proposed activities include construction, operation and maintenance of the proposed facilities.

**Table 1.2.3-1. Summary of Project design parameters.**

| Project Parameter Details |
|---|
| **General (Layout and Project Size)** |
| • 98 WTGs - in Federal waters<br>• Project anticipated to be operational in 2024 |
| **Foundations - in Federal Waters** |
| • Monopile foundations with transition piece; or one-piece monopile/transition piece, where the transition piece is incorporated into the monopile<br>• Foundation piles to be installed using a pile driving hammer<br>• Scour protection around all foundations |
| **Wind Turbine Generators (WTGs) - in Federal Waters** |
| • Rotor diameter up to 788 ft (240 meters [m])<br>• Hub height up to 512 ft (156 m) above MLLW<br>• Upper blade tip height up to 906 ft (276 m) above MLLW<br>• Lowest blade tip height 70.8 ft (22 m) above MLLW |
| **Inter-Array Cables - in Federal Waters** |
| • Target burial depth of 4 ft (1.2 to 1.8 m) depending on site conditions, navigation risk and third-party requirement (final burial depth dependent on cable burial risk assessment (CBRA) and coordination with agencies). Cables could be up to 170 kilovolts (kV)<br>• Preliminary layout available, as depicted in Appendix S,<br>• Cable lay, installation and burial: Activities may involve use of a jetting tool (both jet remotely operated vehicle (ROV) and/or jet sled), vertical injection, leveling, mechanical cutting, plowing (with or without jet-assistance), pre-trenching, controlled flow excavation (CFE) |
| **Offshore Export Cables - in Federal and State Waters** |
| • One export cable at BL England and two export cables for Oyster Creek. 275 kV export cable. Target burial depth of 4 ft (1.2 m) below the seabed or consistent with the CBRA and site conditions (final burial depth dependent on burial risk assessment and coordination with agencies);<br>• One offshore cable 6 miles (10 km) in State waters for BL England, 15 miles (24 km) in federal waters<br>• Two offshore (Atlantic Ocean) cables at 4 miles (6 km) each, and two inshore cables (Barnegat Bay) at 6 miles (10 km) each in State waters for Oyster Creek, 53 miles each (85 km) in federal waters |

| Project Parameter Details |
|---|
| • Cable lay, installation and burial: Activities may involve use of jetting installation technology tool (both jet-assisted cable plow, jet sled and/or diver-operated jetting), vertical injection, CFE, or dredging |
| **Offshore Substations - in Federal Waters** |
| • Three offshore substations<br>• Total structure height up to 296 ft (90 m) above MLLW<br>• Maximum length and width of topside structure 295 ft (90 m; with ancillary facilities)<br>• Offshore substations installed atop a modular support frame and monopile substructure<br>• Foundation piles to be installed using a pile driving hammer<br>• Scour protection installed at foundation locations where required |
| **Landfall for the Offshore Export Cable -** in State Waters and Onshore in New Jersey |
| • Horizontal Directional Drilling (HDD) installation at BL England Atlantic landfall (BL England Route)<br>• HDD installation at Island Beach State Park (IBSP) Atlantic landfall (Oyster Creek Route)<br>• Jet plow and open cut for installation from IBSP into Barnegat Bay (Oyster Creek Route)<br>• HDD installation as preferred option for two mainland landfalls with open cut (supported by sheet piling) and jet plow as an alternate installation technique. (Oyster Creek Route)<br>• Ducts for landfall installed by HDD<br>• A reception pit (with sheet piling) will be required at the exit end of the HDD<br>• Sheet pile would be used at open cut landfall to stabilize the trench through the shoreline (approximately 500 feet at IBSP and approximately 100 feet at Holtec)<br>• Construction reception pit: excavator/dredge barge, land excavator mounted to a barge, sheet piling from barge used for intertidal cofferdams, swamp excavators |
| **Offshore Substations Interconnector Cable - in Federal Waters** |
| • Max. 275 kV cables. Target burial depth 4 ft (1.2 m) depending on conditions (final burial depth dependent on burial risk assessment and coordination with agencies)<br>• Potential layout available, however, not yet finalized<br>• Maximum total cable length is 19 miles (approximately 30 km)<br>• Cable lay, installation and burial: Activities may involve use of a jetting tool, vertical injection, pre-trenching, scar plow, trenching (including leveling, mechanical cutting), plowing, CFE |
| **Onshore Export Cable - Onshore in New Jersey** |
| • Will connect with offshore cables at TJB and carry electricity to the onshore substations<br>• Will be buried at a target burial depth of 4 ft (1.2 m) (this represents a target burial depth rather than a minimum or maximum)<br>• At BL England, onshore cable route will be 5 miles (8 km) and consist of a single underground circuit within a duct bank<br>• At Oyster Creek, the onshore cable route will be 0.5 miles (0.8 km) on IBSP and 3 miles (5 km) on the mainland and include 2 underground circuits in duct banks<br>• Could require up to a 50 ft (15 m) wide construction corridor and up to a 30 ft (9 m) wide permanent easement for cable corridors excluding landfall locations and cable splice locations to accommodate space for splice vaults, joint bays, and HDD. Permanent easements are expected to be larger at splice vaults and transition joint bay locations. See Appendix C for site plans for additional details<br>• The cables will consist of copper or aluminum conductors wrapped with materials for insulation protection and sealing<br>• TJBs, splice vaults/grounding link boxes, and fiber optic system, including manholes |
| **Onshore Substation and Interconnector Cable - Onshore in New Jersey** |
| • Onshore substations located in proximity to existing substations with associated infrastructure |

| Project Parameter Details |
|---|
| • Onshore substation would require a permanent site up to 14.51 acres at BL England and 12.14 acres at Oyster Creek, including area for the substation equipment and buildings, energy storage and stormwater management and landscaping<br>• During construction, up to an additional 6 acres would be required for temporary workspace for each substation<br>• The main buildings within the substation would be up to 1,017 ft long, 492 ft wide and 82 ft tall (310 m long, 150 m wide and 25 m tall)<br>• Secondary buildings may be used to house reactive compensation, transformers, filters, a control room and a site office. The external electrical equipment may include switchgear, busbars, transformers, high voltage (HV) reactors, static VAR compensator (SVC)/ static synchronous compensator (SVC/statcom), synchronous condensers, harmonic filters, and other auxiliary equipment. Lightning protection would include up to 24 lightning masts for a total height up to 98 ft (30 m).<br>• Interconnector cable to existing substation |

Other supporting infrastructure includes metbuoys, communication systems, temporary construction staging areas at each substation, landfall, and on or near the onshore cable routes; permanent and temporary access roads; and a vessel support area.

### 1.2.4 Schedule

**Figure 1.2.3-1** is the proposed schedule for the Project with construction is anticipated to begin in late 2023, upon the completion of Federal, State and local permitting processes, currently projected for July of 2023. The Project is scheduled to begin operation in 2024.

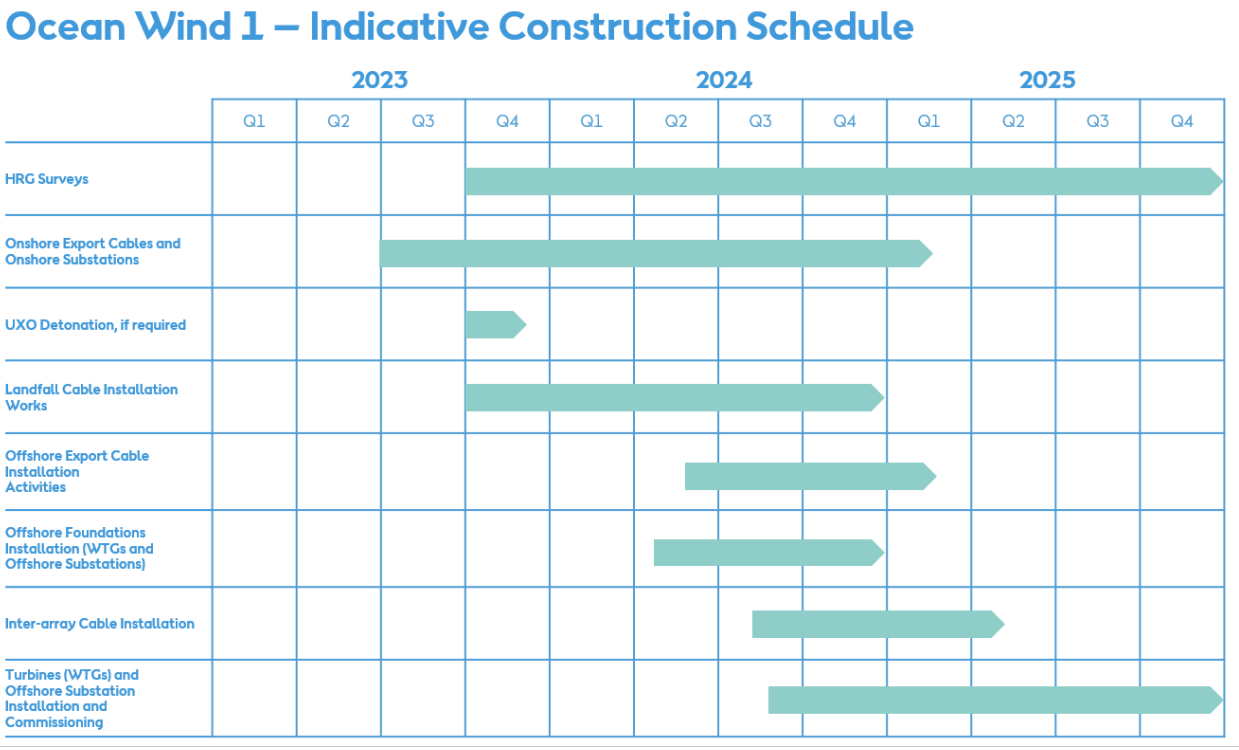



**Figure 1.2.3-1. Proposed Schedule.**

### 1.2.5 Regulatory Jurisdiction

This Project includes regulated activities such as HDD, clearing of vegetation, filling or grading activities in the natural resources described below, or established regulatory buffers that require compliance with applicable Federal, State, and local legislation that are intended to protect and regulate actions in areas with natural resources. The applicable federal laws, New Jersey State laws, and local regulations are described below.

| Regulated Natural Resource | Project Component Feature | NJDEP Required Permit or Approval |
|---|---|---|
| Waterfront Development (WFD) Zone | Export cable landings at the shoreline<br>Portions of inshore export cables within WFD area<br>Offshore export cables | NJDEP WFD In-Water Individual Permit |
| Coastal Areas Facility Review Act (CAFRA) Zone | Onshore substations<br>Onshore export cables<br>Grid interconnection | CAFRA Individual Permit |
| Coastal Wetlands | Any Project facility within a mapped coastal wetland | NJDEP Coastal Wetlands Individual Permit |
| Freshwater Wetlands | Any Project facility within delineated freshwater wetlands, transition areas, or State open waters | NJDEP Freshwater Wetlands Individual Permit |
| Floodplains and Water Quality** | Any Project facility within a mapped flood hazard area (FHA) or riparian zone<br>Any new impervious and regulated motor vehicle surface for parking, access and new substations | NJDEP Flood Hazard Area (included in CAFRA review), Flood Hazard Area Verification and Compliance with the Stormwater Management Rules as a Major Development |
| Section 401 Water Quality | Any activities that result in a discharge of dredged or fill material into waters of the United States | Section 401 Water Quality Certification |
| Tidelands Claim Area | Submarine Cables<br>Any proposed areas of dredging for cable installation or HDD exit pits<br>Onshore export cables that intersect historic Tidelands claims | Tidelands License* |

*Notes: Tidelands Claim Area has been submitted under separate permit applications

**Project activities are within NJDEP FHA areas. However, as the Project Areas overlap with WFD and CAFRA zones, the application itself does not require an FHA application or checklist.

*1.2.5.1 Federal*

1.2.5.1.1 Executive Order 11990 (Protection of Wetlands)

In accordance with Executive Order 11990, "Protection of Wetlands," and the DOT Order 5660.1a, "Preservation of the Nation's Wetlands," Federal agencies must minimize negative impacts to wetland environments and preserve and enhance existing wetland areas when proposing to develop within or adjacent to a wetland area. Specifically, Federal agencies must avoid undertaking or providing assistance for new construction in wetlands unless there is no practicable alternative to such construction and the proposed action includes all practicable measures to minimize harm to the wetlands.

1.2.5.1.2 Clean Water Act (33 U.S.C. § 1251 to 1387 [1972])

Activities proposed within watercourses or adjoining landward areas that could discharge to waters are governed by the Clean Water Act (CWA). The CWA was amended in 1972 to monitor pollution control programs country-wide, and ensure no harmful materials are discharged into waters of the United States without proper pre-treatment mechanisms in place, and Federal and State authorization. The United States Environmental Protection Agency (EPA), which is authorized to enact the CWA, works with its Federal, State and tribal regulatory partners to monitor and ensure compliance with clean water laws and regulations in order to protect human health and the environment. Additionally, the Act's National Pollutant Discharge Elimination System (NPDES) program regulates point sources that discharge pollutants into waters of the United States.

1.2.5.1.3 Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899 prohibits the dumping of refuse into navigable waters or the creation of any navigational obstruction, and it regulates the construction of wharves, piers, jetties, bulkheads, and similar structures in ports, rivers, canals, or other areas used for navigation. It provides useful supplemental jurisdiction for addressing certain kinds of water pollution, and especially for dredge and fill activities. As with the CWA, discharges of refuse or fill material or construction activities in waterways, require a permit.

1.2.5.1.4 Coastal Zone Management Act of 1972 (16 U.S.C. § 1451 to 1465 [1972])

The Coastal Zone Management Act of 1972 promotes the development and growth of coastal areas in the best interest of the public while preserving the coastal environments to the best extent practicable. USACE permits issued in New Jersey must obtain a Coastal Zone Consistency Determination that evaluates a project's consistency with New Jersey's Coastal Zone Management program.

1.2.5.1.5 Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 to 1883 [1976])

Magnuson-Stevens Fishery Conservation and Management Act, first enacted in 1976 (and amended by P.L. 109-479), protects and preserves marine fisheries from overfishing and overpopulation, and maintains a balance between fishery growth and economic and social benefits and sustainability. Specifically, protected areas are identified as Essential Fish Habitat (EFH), which are bodies of water essential to fish reproduction, maturity, foraging and migratory needs. The National Marine Fisheries Service (NMFS) comments on activities proposed by Federal agencies that may adversely impact aquatic resources designated as EFH.

1.2.5.1.6 Endangered Species Act of 1973 (16 U.S.C. § 1531 to 1544 [1973])

The Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531-1544, 87 Stat. 884 [1973]) prohibits the disruption, harm or taking of an endangered species without a permit. Additionally, endangered species have designated critical habitats associated with their habitat needs, including breeding, foraging and maturity growth, within which the ESA also prohibits any negative impact that destroys or adversely modifies designated critical habitat, established by species record sightings or protective buffers.

1.2.5.1.7 Fish and Wildlife Coordination Act (P.L. 850624; 16 U.S.C. § 661 667D [1958])

The Fish and Wildlife Coordination Act, enacted March 10, 1934, authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. This Act also directs the Bureau of Fisheries to use impounded waters for fish-culture stations and migratory-bird resting and nesting areas and requires consultation with the Bureau of Fisheries prior to the construction of any new dams to provide for fish migration. In addition, this Act authorizes the preparation of plans to protect wildlife resources, the completion of wildlife surveys on public lands, and the acceptance by the Federal agencies of funds or lands for related purposes provided that land donations received the consent of the State in which they are located.

1.2.5.1.8 Migratory Bird Treaty Act of 1918 (16 U.S.C. § 703-712 [1918])

The Migratory Bird Treaty Act of 1918 (MBTA) makes it illegal to hunt, take, capture, pursue, or sell birds listed without a waiver from the USFWS. There are currently over 800 birds on the list, including bald eagle (*Haliaeetus leucocephalus*), black-capped chickadee (*Parus atricapillus*), northern cardinal, (*Cardinalis cardinalis*), northern mockingbird (*Mimus polyglottos*), and other songbirds, game birds, and raptors. USFWS formally revoked the January 7, 2021 regulation that limited the scope of the MBTA. USFWS will enforce the MBTA and investigate incidents where the prohibition of incidental take of birds has been violated. USFWS is currently working on regulation that defines the scope of the MBTA's prohibitions to include actions that incidentally take migratory birds.

1.2.5.1.9 Executive Order 11988 (Floodplain Management)

Federal Executive Order 11988 "Floodplain Management," as amended, directs Federal agencies to "take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains." The DOT Order 5650.2 "Floodplain Management and Protection" contains policies and procedures for implementing Executive Order 11988. The Federal Emergency Management Agency (FEMA) has procedures under 44 C.F.R. § 9 "Floodplain Management and Protection of Wetlands," which are administered at the State level under Title 7 of N.J.A.C. § 13 "FHA Control Act Rules". These policies require an analysis to identify and quantify impacts on natural and beneficial floodplain values, and the subsequent preservation or restoration of the natural floodplain and its beneficial values as affected by a project. Under DOT Order 5650.2, an impact is characterized as a significant encroachment if it would involve: a considerable probability of loss of human life; likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility; or a notable adverse impact on natural and beneficial floodplain values.

*1.2.5.2 State of New Jersey*

1.2.5.2.1 NJDEP Tidelands Act (New Jersey Statutes Annotated (N.J.S.A.) 12:3-1 et seq. [2016])

Tidelands are lands now or formerly flowed by the mean high tide of a natural waterway. The State asserts an ownership interest in all tidelands not previously sold via Riparian Grants. The Tidelands Resource Council is the public body responsible for the stewardship of the State's riparian lands. The council determines whether applications for the lease, license, or grant of riparian lands are in the public interest, and whether the State may have a future use for such lands. The council oversees tideland areas, and provides permissions to use these lands, which could be provided through a Tidelands License or Lease or sold through a Riparian Grant at fair market value.

The Project has applied for Tidelands Dredging and Utility Licenses in August 2022. Therefore, the Project will be consistent with this policy.

1.2.5.2.2 Waterfront Development Act (N.J.S.A. 12:5-1 et seq. [2016] and Coastal Zone Management Rules at N.J.A.C. 7:7-1.1 et seq. [2019])

NJDEP's Waterfront Development Act regulates any development along waters and associated landward waterfront of any navigable water by ensuring the development maintains the balance of public recreational use and a healthy coastal environment. The NJDEP may, by appropriate action in any court, prevent the encroachment or trespass upon the waterfront of any of the navigable waters of the State or bounding thereon, or upon the riparian lands of the State, and compel the removal of any such encroachment or trespass, and restrain, prevent and remove any construction, erection or accretion injurious to the flow of any such waters, which may be detrimental to the proper navigation thereof and the maintenance and improvement of commerce thereon.

Flood Hazard Area Control Act (N.J.S.A. 58:16A-50 et seq. [2018] and implementing regulations at N.J.A.C. 7:13 -1.1 et seq. [2018])

At the State level, activities in the flood hazard area are regulated under the NJDEP FHA Rules and require formal permit authorization. Additionally, the NJDEP FHA Rules regulate activities within a riparian zone, which is defined by the rules as the land and vegetation within each regulated water, as well as the land and vegetation within a certain distance of a regulated water. Activities in riparian zones, such as grading, the placement of fill, the cutting or clearing of vegetation, and the creation of impervious surface, are subject to NJDEP regulation.

1.2.5.2.3 Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq. [2016] and N.J.A.C. 7:7A-1.1 et seq. [2018])

Unlike many other states, regulation of freshwater wetlands and open waters in the State of New Jersey is under the jurisdiction of the NJDEP, and not the USACE. The NJDEP's Freshwater Protection Act Rules are based on the Federal Clean Water Act and Rivers and Harbors Act and regulate any activities within freshwater wetlands and State open waters, and if required, compensatory mitigation for any proposed actions within these regulated areas.

1.2.5.2.4 Coastal Area Facility Review Act (N.J.S.A. 13:19-1 et seq. [2016]) and Coastal Zone Management Rules at N.J.A.C. 7:7-1.1 et seq. [2019]

At the State level, development within the defined coastal area is regulated under the CAFRA and requires formal permit authorization. Development is defined as construction, relocation, or enlargement of any building or structure and all site preparation therefor, the grading, excavation or filling on beaches or dunes, and shall include residential development, commercial development, industrial development, and public development.

1.2.5.2.5 The Wetlands Act of 1970 (N.J.S.A. 13:9A-1 et seq.)

The Wetlands Act of 1970 N.J.S.A. 13:9A-1 et seq. requires permits for activities within tidal and estuarine wetlands. The Wetlands Act of 1970 defines tidal and estuarine wetlands as land subject to tidal action in specified areas including areas formally connected to tidal waters whose surface is at or below an elevation of one foot above extreme high water upon which may grow or is capable of growing some of the listed plants. This Act regulates the draining, dredging, excavation, and placement of structures or other obstructions within tidal and estuarine wetlands. Regulation in the State of New Jersey is based on a mapped line completed in 1970.

*1.2.5.3 Local*

1.2.5.3.1 Cape Atlantic Soil Conservation District (N.J.S.A. 4:24-39 et seq.) and (N.J.A.C. 2:90-1)

Empowered to conserve and manage soil and water resources in cooperation with the State Soil Conservation Committee, the Soil Conservation District addresses stormwater, soil erosion and sedimentation issues that result from land disturbance activities (primarily construction). District certification of plans for qualifying projects is a prerequisite to local construction permits. The mission of the State Soil Conservation Committee is to provide leadership in the planning and implementation of natural resource management programs for the agricultural and development communities and the general public through a locally based delivery system in coordination with local, State, and Federal partners.

1.2.5.3.2 Ocean County Soil Conservation District (N.J.S.A. 4:24-39 et seq.)

The Ocean County Soil Conservation District (OCSCD) is one of fourteen Soil Conservation Districts in New Jersey that all work together to implement the New Jersey Soil Erosion and Sediment Control Act, which governs various aspects of new development. OCSCD is a sub-division of the New Jersey Department of Agriculture, however, is locally governed, and operates within the boundaries of Ocean County. In this capacity, OCSCD regulates certain construction activities by reviewing and certifying plans for soil erosion control which are designed based on a set of best management practices, known as Standards, and conduct inspections of construction sites and have a variety of regulatory and enforcement powers to ensure that construction sites are maintained in compliance with the certified erosion control plan.

## 1.3 Purpose and Need

### 1.3.1 Purpose of the Proposed Project

The purpose of the Project is to develop an offshore wind generation project within the BOEM Lease Area, that meets the need to deliver competitively priced renewable energy and additional capacity in accordance with State and regional renewable energy demands and goals. Under the NJ OWEDA, the NJBPU is required to establish an OREC program requiring a percentage of electricity sold in the State be derived from offshore wind energy and to establish an application process for interested offshore wind developers to apply to be eligible to receive ORECs. New Jersey's OWEDA was signed in August 2010 and mandates the development of a minimum of 1,100 MW of offshore wind resources when there is a demonstrated net economic benefit for NJ. On June 21, 2019, the NJBPU selected the Ocean Wind Project to meet the State's energy demands/goals (NJBPU Docket No QO18121289). The Project is expected to be operational in 2024.

In January 2018, New Jersey Governor Phil Murphy signed Executive Order 8 reestablishing OWEDA, setting an increased energy goal of 3,500 MW by 2030 and directing the NJBPU to move forward with developing the OREC process. In November 2019, Executive Order 92 increased the goal to 7,500 MW by 2035.

Assembly Bill 3723, which passed in the State Senate on May 23, 2018, established that by 2020, 21 percent of the kilowatt hours sold in the State by each electric power supplier and each basic generation service provider be from Class I renewable energy sources. It goes on to set goals to achieve 35 percent renewables by 2025, 50 percent by 2030, and 100 percent by 2050. The Ocean Wind 1 Project will promote and help New Jersey achieve its renewable energy generation goals as outlined in the *Draft 2019 New Jersey Energy Master Plan, Policy Vision to 2050*[2], released in June 2019. Ocean Wind 1 will create over 3,000 direct jobs through

[2] Available at https://nj.gov/emp/pdf/Draft%202019%20EMP%20Final.pdf.

development and an approximately three-year construction cycle[3]. Upon startup the Project will power approximately 500,000 New Jersey homes and promote and help New Jersey achieve its ambitious renewable energy generation goal of supplying more than 1.5 million New Jersey homes with offshore wind power.

On June 21, 2019, the NJBPU selected the Ocean Wind 1 Project to develop the offshore wind farm proposed in this application. Construction is expected to commence in 2023, with the Project operational in 2024. The Ocean Wind 1 Project is backed by a Memorandum of Understanding (MOU) between Orsted and PSEG, which has been followed by exclusive negotiations for PSEG to become an equity investor in the Ocean Wind 1 Project. On June 21, 2019, the NJBPU selected the Ocean Wind Project to develop the offshore wind farm proposed in this application. Construction of the Project will commence in 2023 and will have first power in 2024. On December 4, 2020, Orsted announced that it had entered into an agreement to sell a 25% ownership interest in the Ocean Wind 1 Project to New Jersey's Public Service Enterprise Group (PSEG). In March 2021, the New Jersey Board of Public Utilities approved the sale by Orsted to PSEG. The joint ownership structure utilizes the respective capabilities and experience of the parties.

In the Notice of Intent for Ocean Wind (86 FR 16630), BOEM incorporated by reference the NJBPU Order of June 21, 2019 (NJBPU Docket No. QO18121289) as part of the goal of the project:

> The goal of Ocean Wind is to develop a commercial-scale, offshore wind energy facility in the Lease Area with up to 98 wind turbine generators, inter-array cables, up to three offshore substations, two onshore substations, and two transmission cables making landfall in Ocean County, NJ, and Cape May County, NJ. The Project would contribute to New Jersey's goal of 7.5 gigawatts (GW) of offshore wind energy generation by 2035 as outlined in New Jersey Governor's Executive Order No. 92, issued on November 19, 2019. Furthermore, Ocean Wind's goal to construct and operate a commercial-scale offshore wind energy facility in the Lease Area is intended to fulfill the NJBPU September 20, 2018, solicitation for 1,100 megawatts (MW) of offshore wind that was awarded to Ocean Wind, via the NJBPU on June 21, 2019 (NJBPU Docket No. QO18121289).

As cooperating agencies consider which alternatives to the Proposed Action to carry forward for further analysis, it is worth re-emphasizing two key elements in the NJBPU order: 1) the State Offshore Wind Renewable Energy Credit program is structured around MW hours of generation per year—not nameplate capacity; and 2) the Order envisions a schedule for commercial operation starting in late 2024.

#### *1.3.1.1 Energy Production*

While the NJBPU Order uses 1,100MW as short-hand for the size of the Project, the key metric for measuring energy produced by the Project, and for meeting the NJBPU requirements, is the energy produced by the Project over a year. The New Jersey Offshore Wind Economic Development Act of 2010 (OWEDA) defines an offshore wind renewable energy credit as representing the environmental attributes of one megawatt hour (MWh) of electric generation from an offshore wind project. For each MWh delivered to the transmission grid, an offshore wind project will be credited with one offshore wind renewable energy credit. Ocean Wind's annual offshore wind renewable energy credit Allowance is 4,851,489 MWh per year. Further, the total annual offshore wind renewable energy credit allowance, as approved by the NJBPU, shall not be subject to reduction or modification during the term of this offshore wind renewable energy credit Order unless otherwise agreed to by the NJBPU and Ocean Wind or its successor. The number of turbines proposed are based on technical information collected by Ocean Wind and are critical for Ocean Wind 1 to produce the specified allowance and meet its contractual commitments to the NJBPU pursuant to the 2019 Power Purchase Agreement resulting

[3] The estimate was generated by utilizing the R/ECON model, with the assistance of Rutgers Bloustein School. See Volume II Section 2.3.1.2.1 for additional detail.

from the NJBPU's competitive selection process. The level of the allowance is essential for NJBPU's efforts to help New Jersey achieve its renewable energy goals.

#### *1.3.1.2 Project Schedule*

The NJBPU Order does not merely specify the annual production capacity expected by the State—it also lists in which years that electricity is to be delivered. When considering which technologies would be used to develop the Project, agencies should only consider those technologies that are commercially available (see Appendix A Alternatives Analysis for further information regarding alternative technologies considered).

### 1.3.2 Description of Public Need and/or Significant Benefit

The Project is proposed to meet New Jersey's need to fulfill the State's OWEDA, which mandates the development of a minimum of 1,100 MW of offshore wind resources. The Project also contributes to meeting the States' energy needs established by both NJ Executive Order 8 (2018), which set a goal for 3,500 MW of renewable energy by 2030, and Executive Order 92, which in November 2019 increased the goal to 7,500 MW by 2035.

The Project's benefits include the following:

- Contributing to meeting State renewable energy goals and replacing fossil fuel-based energy sources;
- Improving regional air quality through the net reduction of regional air pollution over the life of the Project;
- Creating artificial reefs through the placement of WTGs, which will create hard substrate habitats for a new, more diverse community of finfish and invertebrates; and
- Increased job opportunities, increased property tax revenue, and increased income associated with local construction employment. Long-term employment opportunities during the operations phase would include the creation of operations and maintenance jobs. Artificial reefs are expected to increase the number of trips and revenue for recreational fishermen.

# 2. Project Description - Installation Techniques, Project Sites, and Export Cable Routes

The following section describes the installation and design techniques for the proposed Project sites and export cable routes, from the 3 nm limit of State waters to the onshore substations interconnection with the regional grid. Ocean Wind's routing and siting process along with alternatives analyzed to determine the onshore/inshore interconnection, substations, export cable route corridors/routes, and landfall options is described in Appendix A. For detailed graphical design of Project components and design technology details, please refer to Appendix C – Design Plans.

## 2.1 Installation and Design Technologies

The following sections provide a description of construction and installation techniques for the Project as they relate to particular Project locations in the in-water and onshore environments. Installation technologies are presented by facility and location in **Table 2.1-1**.

**Table 2.1-1. Installation technologies by facility and location.[1]**

| Project Component Within State Waters (Milepost) | Installation Technology | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Seabed Preparation (Displacement Plow/Subsea Grab) | Jet Trenching Technologies (Jet Sled/ /CFE/Vertical Injection/air jet/water | Dredging (Mechanical Excavation) | Jet-Assisted Cable Plow | HDD | Open Cut | Transition Joint Bay | Cable Duct Installation | Onshore Grid Interconnection |
| **BL England** | | | | | | | | | |
| Offshore Export Cable (MP 5 through 10.3)[1] | X | X | X | X | | | | | |
| Offshore Landfall (MP 4.3 through 5) | X | X | X | | X | | | | |
| Onshore Export Cable Route (MP 0 through 4.3) | | | | | X | | X | X | |
| Onshore Substation (MP 0) | | | | | | | | X | X |
| **Oyster Creek** | | | | | | | | | |
| Offshore Export Cable (MP 9.5 through 12.5) | X | X | X | X | | | | | |
| Offshore Landfall (MP 9 through 9.5) | X | X | X | | X | | | | |
| Crossing of Island Beach State Park (MP 8.8 through 9) | | | | | | X | X | X | |
| Barnegat Bay Crossing and Lacey Township Landfall (MP 2.5 through 8.8) | X | X | X | | X | X[2] | | | |
| Onshore Export Cable Route (MP 0 through 2.5) | | | | | X | | X | X | |
| Onshore Substation (MP 0) | | | | | | | | X | X |

[1] Reference Project Plans in Appendix C for milepost locations

[2] Open Cut is an alternate installation technique for the Oyster Creek mainland landfall

### 2.1.1 Inshore/Offshore

A number of construction methods will be utilized as part of preparation and installation activities for the export cable within the inshore and offshore environment. For the purposes of this discussion, the inshore environment includes backwater areas in Barnegat Bay, whereas the offshore environment includes all areas from the Atlantic Ocean MHW line to the 3 nm limit of State waters.

#### *2.1.1.1 Site Preparation Activities*

Ocean Wind 1 is conducting a phased site investigation campaign which includes high resolution geophysical and geotechnical (HRG&G) surveys of the export cable route corridors and landfalls. These surveys have begun and will continue prior to the start of construction to identify detailed seabed conditions and morphology, verify seabed layers, and determine the presence or absence of potential hazards or obstructions. For the HRG

surveys, remote sensing techniques include side-scan sonar, sub-bottom profiling, singlebeam and multibeam bathymetry, and backscatter and high-density magnetometer surveys. Geotechnical surveys will include borings, cone penetration tests, and vibracores.

Prior to final cable routing and micro-siting of all offshore/inshore assets, the Project will implement an Unexploded Ordnance/ Munitions and Explosives of Concern (UXO/MEC) Risk Assessment with Risk Mitigation Strategy designed to evaluate and reduce risk in accordance with the "As Low As Reasonably Practicable" risk mitigation principle. Avoidance is the preferred approach for UXO/MEC mitigation; however, there may be instances where confirmed UXO/MEC avoidance is not possible due to layout restrictions, presence of archaeological resources, or other factors that preclude micro-siting. In such situations, confirmed UXO/MEC may be removed through in-situ disposal or physical relocation. In-situ disposal of UXO/MEC will be done with low order (deflagration) or high order (detonation) methods or by cutting the UXO/MEC to extract the explosive components. During Project construction, the likelihood of encountering UXO/MEC is very low.

Boulder clearance will take place prior to construction to clear the cable corridors in preparation for trenching and burial operations. A combination of displacement plow, subsea grab or, in shallower waters, a backhoe dredger may be used to clear boulders and undertake route clearance activities.

There is a potential to encounter obstructions during installation of the cables, such as abandoned cables, fishing gear, and marine debris. Obstructions pose risks of damage to cables and installation tools, as well as installation delays. Following pre-construction surveys, possible UXO/MEC clearance, and boulder clearance, a series of grapnels will be towed along the final cable route to locate and clear remaining obstructions prior to cable installation (i.e., a pre-lay grapnel run). A pre-lay grapnel run will usually be undertaken no more than two months before installation of the cable along a particular route length. The Ocean Wind 1 fisheries liaison will conduct fisheries stakeholder outreach to coordinate the removal of fishing gear within the proposed cable corridor prior to pre-construction preparation activities.

Sandwaves are mobile slopes of sediment on the seabed. Cables must be buried at a depth beneath the level where natural sandwave movement would uncover them. In addition, the natural slope of the sandwaves can pose a hazard for installation tools that require a relatively level surface to operate effectively. In some cases, it may be necessary to level the mobile sediments prior to cable installation to ensure the cable is buried below the stable seabed. While no sandwave clearance is currently proposed within State waters, because these features are highly mobile a pre-construction survey will be conducted to determine if clearance will be required prior to cable installation.  The work would be undertaken using CFE methods. Multiple passes may be required.

#### *2.1.1.2 Trenching Technologies*

Cables will typically be laid and post-lay or simultaneous lay and burial will be performed using a trenching tool. Cables can be installed using a tool towed behind the installation vessel to simultaneously open the seabed and lay the cable (i.e., simultaneous lay), or by laying the cable and following with a tool to imbed the cable (post-lay installation). It is anticipated that approximately 1 to 3 miles of cable will be installed per day during active installation. Cable installation activities will be continuously monitored and adjusted in order to ensure the cable is laid and sufficiently buried while minimizing sediment disturbance in accordance with State regulations related to dredging and water quality requirements (N.J.A.C. 7:7-12.7 and 16.3).

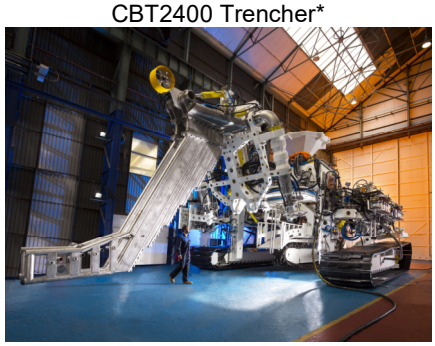
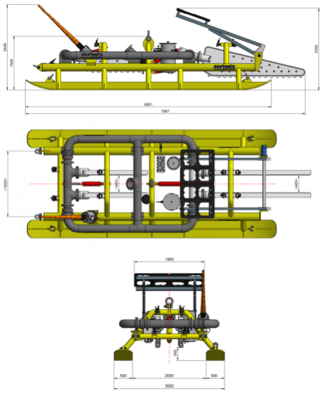
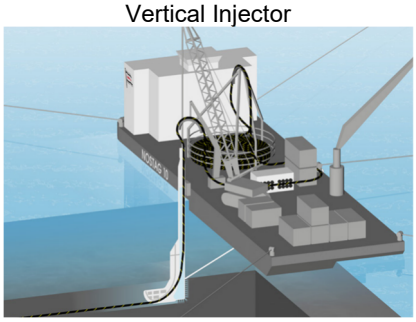
The selected trenching tools will be based on the water depth and sediment types in the area of proposed cable installation and availability at the time of project installation. Trenching tools include jet-assisted cable plows, jet sleds, jet trenchers, vertical injectors, controlled flow excavators and diver assisted jetting. Jetting tools work by fluidizing sediment along the intended path of the cable allowing the cable to sink into the fluidized trench under its own weight. The process works by introducing water at high pressure along the

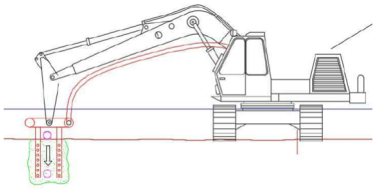
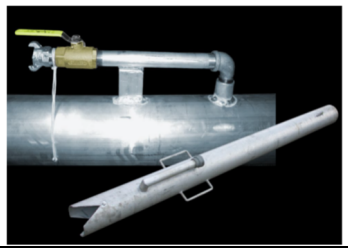
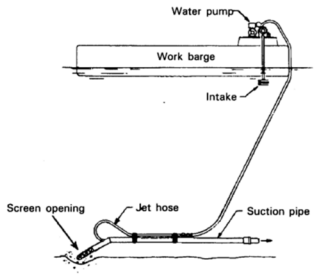
leading edge or face of two swords that straddle the cable. The jetting tool's hydraulic nozzles are controlled and pointed downward so as not to produce an upward movement of sediment into the water column; this method maximizes the replacement of sediments within the trench to embed the cable as jetting progresses. Cable burial depth beneath the sediment surface is determined by the length of the swords and degree to which the sediment is fluidized. This cable installation method disturbs the sediment in the trench as little as possible so that the sediment can provide future cable protection. Cable plows also have jetting-assistance, which helps to fluidize the soil, easing the passage of the share.

Standard trenching tools for the offshore cable burial are presented in **Table 2.1.1-1** below. Also presented below are shallow water jetting options. As multiple options continue to be evaluated, the Project has assumed the use of the tool with the maximum potential disturbance (i.e., jet sled and jet plow) for purposes of impact calculation as described in Section 2.2 and depicted on offshore drawings in Appendix C.

**Table 2.1.1-1. Jet Trenching Tool Options.**

| Trenching Tool | Operating Depth Range (ft) | Cable Burial Range (ft) | Dimensions (ft) L x W x H | Cable Burial Sequence |
|---|---|---|---|---|
| HD3 Jet-assisted Cable Plow  | 0 – 1,640 | 0 - 10 | 50 x 21 x 23 | Simultaneous Lay and Bury |
| Hydro Plow  | 0 - 660 | 0 - 20 | 52 x 20 x 13 | Simultaneous Lay and Bury |
| Dig-It Jet Trencher  | 20 - 3280 | 0 - 10 | 26 x 21 x 16 | Post Lay Bury |

| Trenching Tool | Operating Depth Range (ft) | Cable Burial Range (ft) | Dimensions (ft) L x W x H | Cable Burial Sequence |
|---|---|---|---|---|
| CBT2400 Trencher*<br>  | 30 - 3300 | 0 - 10 | 28 x 28 x 21* | Post Lay Bury |
| Jet Sled*<br>  | 6 - 20 | 0 - 8 | Width 23 ft* | Simultaneous Lay and Bury or post lay bury |
| Vertical Injector<br>  | 6 - 30 | 0 - 10 | Length suited to water depth + burial depth | Simultaneous Lay and Bury |
| Controlled Flow Excavator<br>  | Up to 300 | 0 - 10 | 20 x 10 x 10 | Post Lay Bury |

| Trenching Tool | Operating Depth Range (ft) | Cable Burial Range (ft) | Dimensions (ft) L x W x H | Cable Burial Sequence |
|---|---|---|---|---|
| Diver or Excavator operated Jetting Tools  | 0 - 8 | 0 -10 | Project specific attachment for excavator or diver handling | Post Lay Bury |
| Diver Assisted Air Jet  | 20-70 | 0-15 (dependent on wave/currents, trench prone to fill in) | Depth specific (lift chamber designed for operating depth) | Pre Trench & cable burial |
| Diver Assisted Water Jet   | 5-120 | 0-15 (dependent on wave/currents, trench prone to fill in) | Typically 15'x3"-6" diameter | Pre Trench & cable burial |
| Diver Jet | 1-60 | 0-15 | Typically 4'x 1"-3" diameter | Post Lay Bury |
| Diver Assisted Trencher | 0-120 | 0-6.5 | 17' x 14' x 5' | Post Lay Bury |

* Notes the tools utilized for conservative impacts calculations for this permit application

*2.1.1.3 Dredging*

Within very shallow areas in Barnegat Bay and for accessing HDD exit pits, dredging will be required for cable installation and HDD marine spread vessel access and at HDD exit pits. Dredging will be performed in accordance with the NJDEP's Office of Dredging and Sediment Technology (ODST) standard permit conditions and best management practices (BMPs) to minimize impacts to water quality in the construction area. Examples of BMPs include closed clamshell environmental buckets equipped with sensors to ensure complete closure of the bucket, controlled lift speed, holding times for water decanting, no barge overflow, limited

rinsing/hosing of the barge to prevent runoff into the water body, and discharge of decant water into the same water body from which it came. During construction, water quality will be monitored to ensure no exceedance of the surface water quality standards outlined in N.J.A.C. 7:9B. Monitoring protocols will be detailed in a water quality monitoring plan (WQMP) that will be developed in accordance with the NJDEP ODST and Division of Water Quality.

#### *2.1.1.4 Mechanical Displacement Plow*

In certain (harder) soil conditions such as clays, where jet trenching is not possible, a mechanical displacement plow may be used to cut a 'V' shaped trench into the seabed, prior to cable lay. The cable is then laid into the pre-cut trench and jetted in afterwards. The plow consists of a 'V' share and skid assembly, which is towed behind a support vessel providing the required pull force. The plow can also incorporate a diverting share at seabed level which will act to clear boulders and debris away from the route center-line.

#### *2.1.1.5 Vertical Injection Jetting*

The vertical injector tool is a jet-assisted cable guide mounted to the side of a vessel/barge. The cable is taken from the storage carousel on the barge and is fed down the vertical injector and into the seabed at the required burial depth. A diverter at the bottom of the tool ensures the cable transitions from vertical to horizontal, within the minimum bending radius of the cable. Water is injected through nozzles along the leading edge of the tool which fluidizes the seabed and allows it to move along the cable route, paying out cable as it moves. Water pressure can be varied to suit the soil conditions and progress speed. On completion of trenching, the tool is lifted vertically upwards to transition the cable to the seabed, then the cable is unloaded from the injector.

#### *2.1.1.6 Mechanical Trenching*

Mechanical trenchers can be used in harder soil conditions which are less suited to jetting technology. This is a self-propelled, tracked subsea vehicle with a cutting chain, or disc which cuts a narrow slot into the seabed. The cable is captured in a trough which guides the cable through the vehicle and into a depressor which feeds the cable into the bottom of the cut slot at the required burial depth. Hybrid jetter-cutter vehicles have capability to switch between cutting or jetting mode, depending on what soil types are encountered.

### 2.1.2 Landfall

Cable landfall is where the submarine offshore cable transitions to an onshore cable. Offshore cables would be connected to onshore cables at underground TJBs located onshore. TJBs provide a clean dry environment for jointing the offshore and onshore cable and provide protection to the cable joint during operation. One TJB is required for each submarine cable. Offshore export cables would be installed up to the TJB using HDD or open cut (i.e., trenching) **(Figures 2.1.2-2** and **2.1.2-3)**. The landfall methodology will be chosen to suit the conditions to ensure the optimal methodology is applied to achieve the installation with least impact as described for each landfall location in Sections 2.2 and 2.3 below.

#### *2.1.2.1 Horizontal Directional Drilling*

For landfall areas, where cables will be installed using HDD, the HDD equipment will be set up near the landfall, and the drill paths will extend from land to sea, terminating at the location where the submarine cables will enter the drilled holes(s). Exit pit locations for the HDD are based on the water depths allowed by the cable laying vessel or barge and the HDD path geometries.

In locations where multiple cables make landfall, the HDD alignments will be offset from one another to allow for landing constraints (limited available onshore workspace), thermal resistivity constraints, as well as to ensure the safe progression of each HDD installation that maintains the integrity of the drilled path during construction.

The HDD process involves drilling a small diameter pilot hole along the designed drill path and subsequently enlarging the completed pilot hole through a process referred to as 'reaming'. Drilling fluid containing a bentonite and water mix, is pumped at high pressure down the drill pipe string to create the drilled hole and ensure it remains stable. Tooling and drilling fluid is adapted and changed to compliment the subsurface conditions encountered to ensure the process is optimized in-situ. Once the reamed drill path has been verified, a conduit is pulled into the drilled hole, normally from offshore to onshore, using the HDD rig positioned on land. The complete HDD conduit string is fused together from short sections of conduit at a suitable onshore staging location (see Onshore drawing set within Appendix C). It is then maneuvered into the water and towed by vessel to the offshore HDD exit in a complete string, aligned with the drilled hole, and pulled in. Concrete mattresses may be used to stabilize the conduit within the HDD pit prior to cable pull in. The HDD pit will either be backfilled with suitable clean fill or will be allowed to naturally infill in areas of dynamic wave action (Atlantic Ocean).

The HDD process will be supported by a marine vessel spread, encompassing an offshore work platform and support vessels (see HDD drawings Appendix C). The marine spread will assist the HDD process and ensure the connection with drilling assembly and conduit can be made. In advance of the reaming process, the marine spread will be positioned at the HDD exit and a seabed excavation will be carried out to enable subsequent lay down and burial of the installed conduit. Dredging may be required in ultra-shallow areas in Barnegat Bay to allow vessel access for the HDD marine construction spread near the landfall at Lacey Township (see Offshore drawings Appendix C). The HDD exit pit will be excavated to a depth of approximately 10 ft below the seabed with sufficient room (volume) for containing any drilling fluid returns produced at the exit location during construction. Drilling fluids are denser than water and remain within the HDD exit pit. An Inadvertent Returns Contingency Plan has been developed, for both onshore and offshore areas of proposed HDD, that specifies how drilling fluid would be addressed in the event it reaches the seabed surface or onshore ground surface during the HDD (Appendix P). Any temporary containment from an onshore inadvertent return shall be removed upon completion of the installation.

Upon completion of the HDD and subsequent cable installation, whereby the export cable is pulled through the installed HDD conduit, a thermal grout may be pumped into the conduit to fill the annulus around the cable. This will be done to complement the cable ratings (the potential benefits of using a thermal grout will be evaluated and incorporated into the final construction design). Valves will seal the grout within the conduit and prevent release into water column and additionally prevent seawater from entering the conduit. The preliminary landfall HDD cross section is shown in **Figure 2.1.2-1** below.

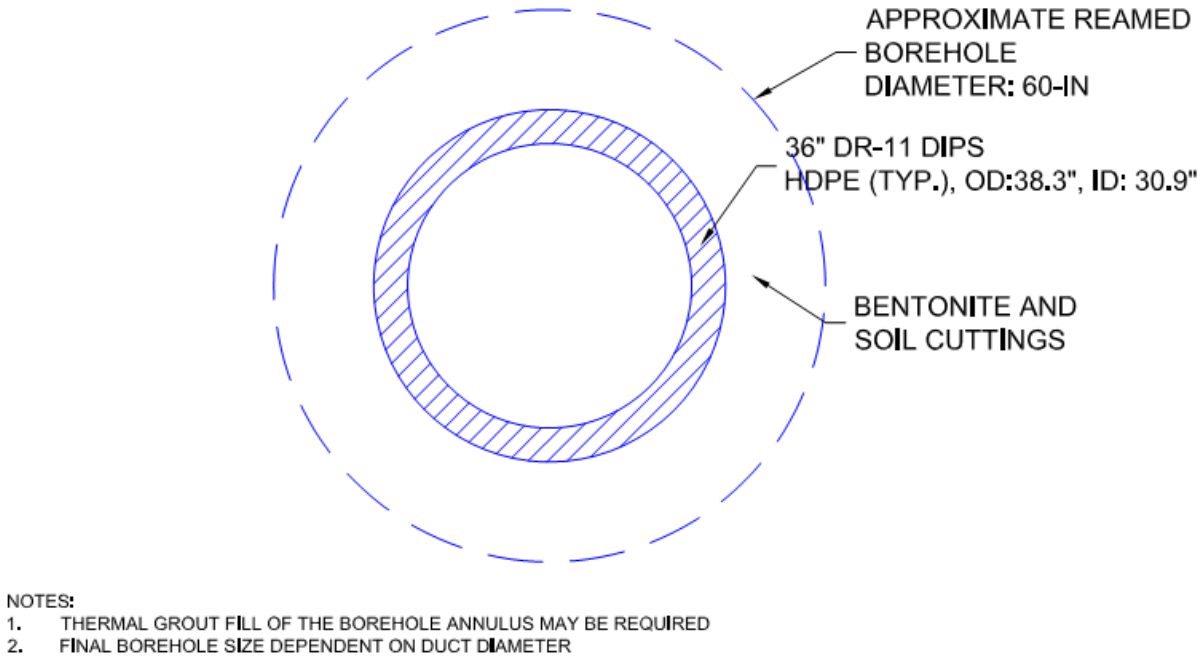



**Figure 2.1.2-1. Indicative landfall HDD cross-section.**

A temporary work area will be established in proximity to the selected landfall site. The HDD rig will be set up at the selected landfall site with the drill directed seawards. The maximum length and depth of the drill path is dictated by the cable's mechanical limits and the local ground conditions for both drilling and the thermal load of the cable. However, other factors will determine the exact length of the HDD, including width of the dune/beach area, bathymetry, geologic conditions, etc. The HDD crossings within the Atlantic Ocean will exit near the -20 ft contour, sufficient to accommodate the cable installation vessels. Each offshore cable will be pulled though their dedicated HDD conduit and routed to a circuit-specific TJB within the temporary work area.

The installed HDD conduit will be lifted above the waterline by either an anchored barge, a jack-up vessel or tracked excavator, depending on the water depth and expected water conditions. Once the end-seal is removed, a winch wire will be threaded through the HDD conduit and then tensioned to pull the cable (via the pulling-head) from offshore through the HDD conduit to the TJB. A typical transitional HDD cross-section is shown in **Figure 2.1.2-2.**

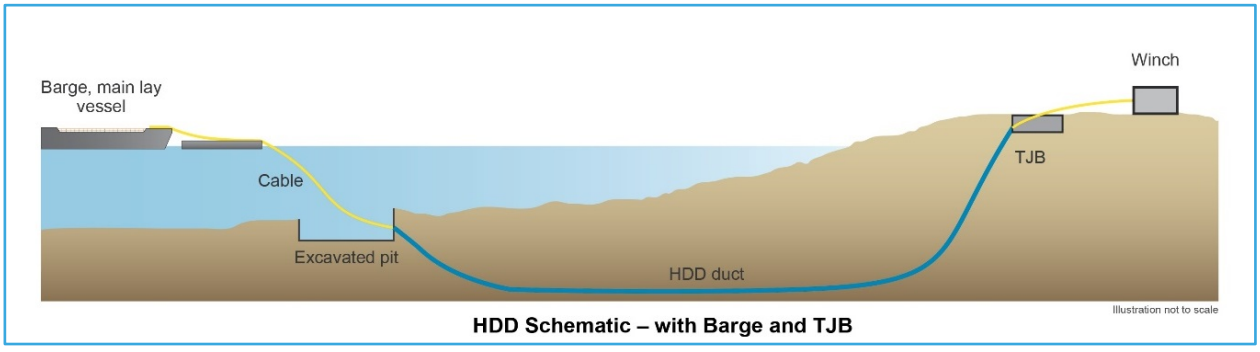



**Figure 2.1.2-2. Typical transitional HDD cross-section.**

#### *2.1.2.2 Open Cut*

Under certain circumstances, open-cut installation can be a more efficient and less impactful method for installing cable at the landfall than trenchless technology. The method is especially suited in locations with high organic material content in the ground at the landing site because organic material is known to lower the power capacity of the cables, resulting in system inefficiencies. An indicative layout for an open-cut landfall is shown in **Figure 2.1.2-3.** For the open cut landfall method which is proposed at the Barnegat Bay to IBSP landfall, a trench will be excavated through the shoreline to the onshore TJB location and supported with sheetpile. The trench will be excavated with either land-based excavators, swamp excavators or excavators positioned on an ultra-shallow barge (See offshore drawing set Appendix C). The same equipment can be used to backfill the trench upon completion of the cable installation or installation of the cable conduit.

Following the trenching, the cable is spooled off a barge and floated into position for the onshore cable pull in. A pull rope is secured to the cable from a pull winch positioned past the onshore TJB. The cable is then pulled toward shore and through the excavated trench and into the TJB. Once the cable is secured at the TJB, the shallow water burial tool is pulled as close to shore as possible and subsea burial of the cable can commence. After the cable pull, the trench will be backfilled with suitable material and the piles removed. Following construction, the shoreline will be restored to pre-existing contours and replanted with native vegetation to stabilize the shoreline.

At the Lacey Township Holtec Property landfall, geotechnical information is being collected to confirm the landfall methodology. Following collection of the geotechnical information, Ocean Wind 1 will conduct a risk assessment to evaluate the probability for an inadvertent return of drilling fluid. This assessment will include an evaluation of subsurface soils. HDD is ultimately best suited where subsurface soils are homogenous, consolidated, and of high shear strength. In addition, optimal subsurface soils are comprised of well-graded material of low porosity, which are capable of withstanding the pressures associated with HDD. While HDD is currently the preferred methodology, if the evaluation described above indicates a high probability for an inadvertent return, open cut trenching would be used, open cut design is included in the plans in Appendix C.

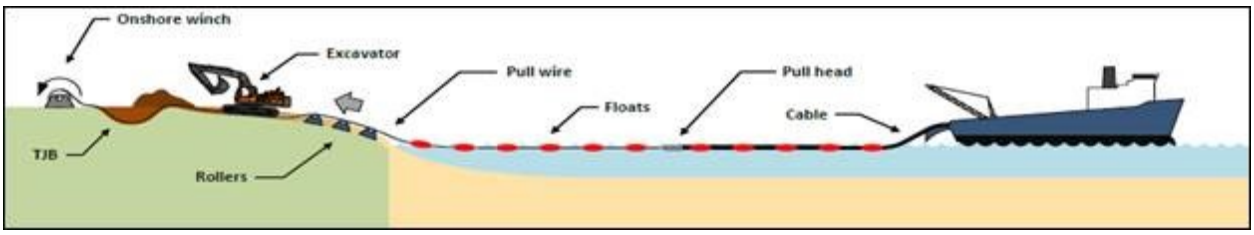



**Figure 2.1.2-3. Typical open cut landfall.**

### 2.1.3 Onshore

#### *2.1.3.1 Transition Joint Bays*

The current design will utilize a TJB for each of the proposed circuits. At the TJB, the cables from the Offshore Project Area HDD installation will be unbundled and transitioned to the arrangement required for the onshore cable duct installation. The TJBs will be buried below grade and will occupy an area approximately 20 ft in width and 70 ft in length. From the surface, the only visible components of the cable system will be the manhole covers.

#### *2.1.3.2 Cable Duct Installation*

Installation of onshore cable will work progressing along multiple construction spreads. Work at any location is expected to take three months to complete, and the trench in any given location is not expected to be open for more than one week.

The construction of the duct bank includes the following steps:

1. Carry out desktop assessment of existing utility services along the cable routes;
2. Carry out site investigation boreholes to confirm ground conditions and thermal properties of the soil (to be proposed under subsequent future permit applications);
3. Carry out test pits to confirm presence, or lack of, services in targeted areas;
4. Survey and mark splice vault locations; survey and mark duct bank locations;
5. Set up erosion and siltation controls, including silt sacks or similar protection for existing storm drains;
6. Set up traffic management measures, in coordination with local police and public works officials;
7. Open roads and install duct banks;
8. Backfill trench and repave/reinstate in accordance and agreement with the permitting and requirements of the landowner; and
9. Clean up work area, remove erosion controls.

The duct bank installation will be performed using conventional construction equipment (e.g., hydraulic excavator, loader, dump trucks, and flatbed trucks) to deliver PVC pipe, crew vehicles, cement delivery trucks, and paving equipment.

The design of the proposed trench arrangement for the duct bank incorporates the following considerations:

- The minimum overall width required for both the cable trench and the associated construction activities, such as excavations, trench support, vehicle movements and general safety, taking into consideration the permissible working area.
- Design will also be in line with the United States Department of Transportation's standards by which traffic signs, road surface markings, and signals are designed and installed to avoid and minimize the impacts on residents and businesses while maintaining the flow of traffic within the community to minimize any disruption.
- The appropriate size of ducts and arrangement for both ease of installation and thermal effects influencing the cable design and sizing.
- The minimum depth of cover to the top of the cables, in line with industry practices in the U.S. or New Jersey area.
- Any protective covers necessary in line with U.S. or New Jersey industry practices.
- Any preexisting utilities.
- The use of high-quality concrete or backfill materials to reduce the spacing between cables to minimize the overall trench width and depth and to enhance the thermal resistivity properties of the material to best influence the cable design.
- The use of any advanced construction or duct installation techniques to minimize construction activities and decrease the overall construction time. For example, a stepped or battered trench configuration would be difficult to implement for installations within the roadway due to the space restrictions and ground conditions - shoring or trench boxes would potentially be used for this type of installation. It may be possible to have a battered or sloped trench, but this would be determined by a number of factors (e.g., ground stability, water table levels and space constraints).
- The identification of preferred joint bay (splice vaults) positions along the route, taking into consideration the maximum cable pulling length between joint bays based on the maximum installation

on limitations of the cable, the location and size of any joint bays will be designed and sited to cause minimal disruption to, local access, road junctions, traffic arrangements, and disruption to road users.
- Traffic management and lane closure arrangements to minimize disruption to local residents and road users.
- Construction techniques such as trenchless technology at particular areas of engineering difficulty or areas sensitive to local residents, road users or other constraints (e.g., Crook Horn Creek/Peck Bay, Highway 9 and Oyster Creek).
- Identification of location for installation of the cables, such as roadside shoulders.

The splice vaults/grounding link boxes are typically two-piece (top and bottom) pre-formed concrete "boxes" with holes at both ends to connect with the PVC piping to the cables to be spliced. Once the duct bank is in place, the cables (one cable per duct) can be pulled using a winch wire driven by a winch.

Temporary construction staging areas will be required on or near the onshore cable route for employees and for laydown and storage of materials, as well as space for small temporary offices, welfare facilities (rest rooms, changing rooms, personal storage, and rest areas), security, and parking. The construction staging areas will be removed, and the sites will be restored to their original condition when construction has been completed.

#### *2.1.3.3 Onshore Grid Connection*

Ocean Wind 1 will be installing underground transmission lines with a riser at the existing substation for grid connections for the proposed onshore substation locations. Construction of the underground interconnection cable will be similar to that described for onshore export cables. A riser will be installed to bring the interconnection cable aboveground at the existing substation. Construction of the riser will begin with the foundation, then the steel riser will be installed, and finally conductors will be installed from underground line to the riser and connected to the substations at each end. The foundations are anticipated to be concrete drilled shaft type foundations. The depth and diameter of the foundations will depend on soil geotechnical conditions and specific loading conditions on the riser. The installation will be performed using augers, cranes (for rebar and anchor bolt cages), and concrete trucks. Following foundation installation (and appropriate concrete curing time), the riser will be set on the foundations using cranes. The total construction time for the underground interconnection line installation is anticipated to be approximately two to three months. Laydown areas for the underground interconnection lines will be within the workspace for the new substations. No additional laydown areas will be required. The connection from the point of interconnection (POI) to the riser structure would be completed by the POI owner and operator.

## 2.2 Proposed BL England Onshore Substation and Export Cable Route

This section describes the Proposed BL England Project Area by Project component. Within each Project component, different installation technologies (described in Section 2.1 above) will be utilized (**Table 2.1-1).**

### 2.2.1 Offshore Export Cable

The BL England offshore ECR contains a single cable that begins within the Wind Farm Area at one offshore substation and proceeds approximately 20 miles northwest to the Atlantic Ocean landfall at 35th Street within Ocean City. Within State waters, the ECR will extend for approximately 6 miles before terminating at the onshore TJB within the HDD workspace. Along the ECR, the cable has been sited to avoid existing sensitive resources to the maximum extent practicable including prime fishing areas, artificial reefs, submerged wrecks/obstructions, and State and Federal borrow areas (**Table 2.2.2-1**).

Proposed temporary and permanent impacts to state regulated resources are presented in **Table 2.2.2-1**.

**Table 2.2.2-1. Offshore BL England Ocean Wind 1 Project Area proposed temporary and permanent impacts to State regulated resources**

| Regulated Resource | Jetting/Jet-assisted Cable Plow Trench | | Jetting/Jet-assisted Cable Plow Skids | | Dredging Activities | | | Mooring and Anchoring Activities | | TOTAL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temporary (ac) | Permanent (ac) | Temporary (ac) | Permanent (ac) | Temporary (ac) | Volume (CY) | Permanent (ac) | Temporary (ac) | Permanent (ac) | Temporary (ac) | Temporary Volume (CY) | Permanent (ac) |
| State Open Waters | 2.134 | 0.000 | 16.082 | 0.000 | 0.711 | 6,682 | 0.000 | 0.265 | 0.000 | 19.192 | 6,682 | 0.000 |
| Submerged Aquatic Vegetation Habitat | - | - | - | - | - | - | - | - | - | - | - | - |
| Shellfish Habitat | - | - | - | - | - | - | - | - | - | - | - | - |
| Intertidal and Subtidal Shallows | - | - | - | - | - | - | - | - | - | - | - | - |
| Prime Fishing Areas | - | - | - | - | - | - | - | - | - | - | - | - |

### 2.2.2 Offshore Landfall

The offshore ECR terminates at a single onshore TJB within the onshore HDD workspace. The transition to shore Is made via HDD from an HDD exit pit location approximately 1,600 ft from the mean high water (MHW) line in Ocean City. The cable landfall HDD will be approximately 2,500 ft in length and surface onshore within 35th Street in Ocean City between Central Avenue and Asbury Avenue. The existing paved areas within the city streets will be utilized as temporary workspace from West Avenue to the beach bulkhead at 35th Street. Using HDD at landfall from the Atlantic Ocean will allow the Project to avoid impacts to sensitive resources such as beaches, dunes, and overwash areas. Additionally, HDD will allow the Project to avoid surficial impacts to beachfront Green Acres-encumbered parcels owned by Ocean City (Block 611.11, Lots 137 and 145). Use of HDD will also avoid impacts to the ongoing USACE beach nourishment operations within Ocean City. The cable will be buried approximately 38 feet below the peak of the dunes on the beach and approximately 26 feet below the MLLW line. The cable will also be buried between 7.5 feet under the dunes and a maximum of 35 feet in the Atlantic Ocean below the beach nourishment project's depth of closure elevation of -22 ft NAVD88(see Appendix C Design Plans). Based on correspondence with USACE, while all of Ocean City's beaches are within USACE's beach nourishment program, this portion of the Ocean City beach is not actively being renourished and has remained stable for many years. The alignment to land within the 35th Street roadway right-of-way (ROW) was selected because it is previously disturbed with sufficient space to allow for HDD work areas. Noise attenuation measures such as sound screens and/or curtains will be implemented, and construction will take place in winter months so as to reduce impacts to local residents and tourism/recreation.

### 2.2.3 Onshore Export Cable Route

After making landfall at 35th Street, the ECR would travel northwest within the paved areas of 35th Street before turning to the northeast for a distance of approximately 330 feet, at which point the ECR turns back to the northwest and onto Roosevelt Boulevard. The cable would remain within the Roosevelt Boulevard Cape May County ROW adjacent to coastal wetlands to the north until the alignment exits Roosevelt Boulevard paved areas just prior to the bridge crossing Peck Bay/Crook Horn Creek. The ECR exits the pavement to the south of Roosevelt Boulevard and onto Waterview Boulevard, then continues on Nautilus Drive within the roadway, to a previously disturbed parking area at the end of Nautilus Drive. At this point the cable will cross beneath Crook Horn Creek south of the Roosevelt Boulevard Bridge via HDD technology with the entry/exit pit within the paved area at the end of Nautilus Drive. On the west side of Crook Horn Creek, the cable will exit the HDD within a previously disturbed area used as a rowing club, south of the Roosevelt Boulevard Bridge before crossing to the north side of Roosevelt Boulevard and re-entering the northbound paved ROW of Roosevelt Boulevard. HDD installation under Crook Horn Creek will avoid impacts to submerged aquatic vegetation (SAV), shellfish, wetlands, and a Green Acres encumbered parcel north of the bridge (Block 3350.01, Lot 17 owned by Ocean City). From here, the cable will continue to follow Roosevelt Boulevard to the northwest entirely within paved areas for approximately 1.1 miles before turning northeast onto State Route 9 (North Shore Road) for 1.8 miles. The onshore ECR will then turn northwest onto Clay Avenue, turn west across the former golf course and terminate at the proposed onshore substation within the former coal pile area at the decommissioned BL England Generating Station.

### 2.2.4 Onshore Substation

The onshore substation has been sited within approximately 15 acres of Upper Township Block 479, Lot 76. The substation was sited within a brownfield area that was previously used for coal storage and has recently been remediated. A NJDEP LOI for the property was issued March 19, 2019 (File No. 0511-03-0011.4 FWW180001). Because this LOI is valid for a period of five years, it was relied upon for siting of the proposed substation. Ocean Wind conducted a field survey on July 15, 2022, and verified that the wetland boundary remains unchanged from the LOI.

The portion of the parcel currently proposed was chosen for substation development because of its proximity to the onshore interconnection point at the BL England Generating Station and reduction of potential impacts as compared to the former golf course location. Siting the onshore substation in this area would also make use of the adjacent generating station access road and would allow for a net decrease in impervious surface at the substation. The areas outside of the proposed development area but within the parcel contain an extensive wetland complex that includes coastal wetlands north of the railroad ROW. Temporary and permanent impacts to wetlands and their associated transition areas identified by the 2019 LOI are avoided within the proposed development parcel to the extent practicable. The limit of disturbance for the substation has been designed to eliminate permanent impacts to tidal wetlands delineated by Ocean Wind 1 and to reduce impacts to 1970 Mapped Coastal Wetlands from 0.153 acres (0.043 permanent, 0.11 temporary) to 0.007 acre of permanent impact associated with grading for one stormwater outfall. The substation and stormwater outfalls will be constructed within transition area associated with tidal wetlands delineated adjacent to the western boundary of the substation. Refer to **Table 2.2.4-1** below for summary of temporary and permanent impacts to state regulated resources.

**Table 2.2.4-1. Onshore BL England Ocean Wind 1 Project Area proposed temporary and permanent impacts to State Regulated Resources**

| Regulated Resource | Onshore Export Cable Installation | | Onshore Substation | | Total | |
|---|---|---|---|---|---|---|
| | Temporary | Permanent | Temporary | Permanent | Temporary | Permanent |
| Freshwater Wetlands | 0.090 | 0.243 | - | - | 0.090 | 0.243 |
| Freshwater Wetlands Transition Area | 0.470 | - | - | - | 0.470 | - |
| Coastal Wetlands | - | - | - | 0.007 | - | 0.007 |
| Coastal Wetlands Transition Area | 0.472 | - | 0.054 | 0.189 | 0.526 | 0.189 |

## 2.3 Proposed Oyster Creek Substation and Export Cable Route

This section describes the Proposed Oyster Creek Project Area by Project component. Within each Project component, different installation technologies (described in Section 2.1 above) will be utilized (**Table 2.1-1).**

### 2.3.1 Offshore Export Cable

The Oyster Creek offshore export cable route (ECR) contains two cables and begins within the Wind Farm Area at two offshore substations and proceeds north for approximately 57 miles to the Atlantic Ocean side of IBSP. Within State waters, the two cables will run parallel to each other separated by approximately 300 ft at the 3 nm boundary, before narrowing to approximately 200 ft just prior to HDD landfall at IBSP. Along the ECR, the cables will avoid the majority of the existing sensitive resources to the maximum extent practicable including prime fishing areas, artificial reefs, submerged wrecks/obstructions, and State and Federal borrow areas. Within State waters, just prior to landfall the ECR will cross approximately 1.7 miles of the Cedar Creek Prime Fishing Ground in a nearly straight alignment so as to minimize the impacts to the area. (**Table 2.3.4-1**)

### 2.3.2 Offshore Landfall

The offshore ECR terminates at two onshore TJBs within the onshore HDD workspace. The transition to shore is made via HDD from two HDD exit pit locations in the Atlantic Ocean approximately 950 ft from the MHW line at IBSP. The two cable landfall HDDs will be approximately 1,550 ft in length and will surface onshore within the southern auxiliary lot of Swimming Area #2. The existing paved areas within the remaining parking lot for Swimming Area #2 will be utilized as temporary workspace so as to minimize the impacts to natural resources.

The area is comprised of previously disturbed areas that have been paved. HDD landfall from the Atlantic Ocean will allow the Project to avoid impacts to sensitive resources such as beaches, dunes, and overwash areas. The alignment to land in the auxiliary parking lot of Swimming Area #2 was selected as this area is seasonally used by the park (closed between October and June) and represents a previously disturbed, paved area with sufficient space to allow for HDD work areas.

### 2.3.3 Crossing of Island Beach State Park

To cross IBSP, the proposed route will begin within the auxiliary parking lot of Swimming Area #2 at the TJBs within the HDD workspace and would continue north for approximately 1,100 ft through the western side of the main parking lot via traditional cable duct installation, then west approximately 120 ft to Shore Road, then north approximately 300 ft within Shore Road to the maintenance area workspace on the western shoreline. From the maintenance area workspace, the route would continue via open cut into Barnegat Bay within a prior channel (previously disturbed and unmaintained), before traversing southwest across Barnegat Bay. Utilization of the previously disturbed main parking lot adjacent to the north and the maintenance area to the west of Shore Road minimizes impacts on Shore Road, which is the main thoroughfare to the southern portion of the island. Some minor clearing and wetland disturbance would be required west of Shore Road, but the route through the maintenance area allows for direct access to the prior channel. Utilization of the prior channel to the west of the maintenance area would make use of a previously disturbed area of deeper water and minimize the impacts to SAV and Intertidal and Subtidal Shallows (ISS). Furthermore, deeper water within this area allows for substantially less dredging than other routes, and greater likelihood of using jetting technology for longer distances (see Appendix A Alternatives Analysis). Additionally, this would minimize the amount of added length to the export cable route, making this alternative feasible from an engineering perspective, without the need for a high voltage alternative current (HVAC) booster. Use of open-cut installation allows for a reduced cable separation (20m for open cut rather than 50m for HDD), which keeps the majority of workspace within the prior channel and outside of areas containing dense SAV beds.

### 2.3.4 Barnegat Bay Crossing and Lacey Township Landfall

The ECR will cross the shallow waters of Barnegat Bay from the open cut landfall on IBSP, starting within the prior channel traveling due west with a cable separation of approximately 65 ft, before widening to 160 ft outside of the channel and turning southwest for approximately 3.5 miles. The ECR then turns due west again before the inshore portion of the ECR terminates at two onshore TJBs within the onshore HDD workspace at the Holtec Property. The preferred method of installation for the transition to shore is HDD from two HDD exit pits between 700 and 800 feet from the MHW line at Lacey Township in Barnegat Bay (**Table 2.3.4-1**). However, through the ongoing engineering and design analysis, Ocean Wind 1 has identified a potential high risk of drilling fluid losses (i.e., inadvertent return) to the surrounding environment during HDD as a result of the required drilling fluid pressures during HDD operations which are estimated to exceed the theoretical strength of the overlying soils for the majority of the HDD alignment. Geotechnical investigations upon which installation design depends are ongoing. Ocean Wind 1 anticipates that the preliminary data from these surveys needed to complete installation design will be available at the end of Quarter 1, 2023. At that time, data will be reviewed to determine whether HDD is the installation technique with the least environmental impact, or whether the risk of inadvertent return to the surrounding environmental as well as any requisite cleanup efforts including mobilization of heavy equipment and hoses to affected areas along and adjacent to the HDD alignment in wetland and tidal areas (see Ocean Wind 1's Inadvertent Returns Contingency Plan in Appendix P for additional information) is such that open cut would result in the least impact. The offshore plans included in Appendix C provide details for the preferred option HDD installation as well as alternative installation in the event that open cut installation would minimize impacts. Potential additional impacts of open cut trenching can be found in **Table 2.3.4-2**. Through Barnegat Bay, Ocean Wind 1 sited the cable to minimize impacts to the majority of NJDEP-mapped SAV and shellfish resources. Furthermore, based on the most recent studies

available, much of these areas show substantially less SAV and shellfish currently present in these areas. Ocean Wind 1 conducted additional in-water video collection in summer 2022 to further refine the delineations of SAV beds near the Project footprint, document percent cover, and identify species. The results are included in Appendix L. Six months prior to cable installation (within the growing season), a focused pre-construction in-water SAV survey will be conducted to characterize the SAV condition (e.g., shoot density) within the Project's potential area of impact. Ocean Wind 1 proposes to perform maintenance dredging of the Oyster Creek channel portion of the Barnegat Inlet Federal Navigation Project in order to allow for the safe and reliable passage of construction vessels into Barnegat Bay. This federal navigation channel is operated and maintained by the U.S. Army Corps of Engineers (USACE). Ocean Wind 1 has coordinated closely with USACE who has solicited bids to conduct planned maintenance dredging of the channel as part of its regular operations and maintenance duties. However, Ocean Wind understands the next regularly planned maintenance dredging may not be performed prior to construction of the Ocean Wind 1 Project within Barnegat Bay – therefore Ocean Wind 1 is planning to perform this maintenance dredging to ensure safe and reliable use of the channel by Project construction vessels – if necessary. All dredging will be performed within the authorized project limits and in accordance with USACE environmental reviews and authorization. Ocean Wind 1 does not propose to expand or deepen the channel beyond the federally authorized limits.

**Table 2.3.4-1. Offshore Oyster Creek Ocean Wind 1 Project Area proposed (with HDD landfall) temporary and permanent impacts to NJDEP-regulated resources**

| Regulated Resource | Jetting/Jet-assisted Cable Plow Trench | | Jetting/Jet-assisted Cable Plow Skids | | Dredging Activities | | | | Mooring and Anchoring Activities | | TOTAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Temporary (ac) | Permanent (ac) | Temporary (ac) | Permanent (ac) | Temporary (ac) | Temporary Volume (CY) | Permanent Volume (CY) | Permanent (ac) | Temporary (ac) | Permanent (ac) | Temporary (ac) | Temporary Volume (CY) | Permanent Volume (CY) | Permanent (ac) |
| State Open Waters | 6.311 | - | 41.253 | - | 26.279 | 118,359 | 18,030 | 3.645 | 1.644 | - | 56.24 | 118,359 | 18,030 | 3.645 |
| Submerged Aquatic Vegetation Habitat | - | - | - | - | 1.803 | 8,120 | 4,507 | 0.911 | 0.020 | - | 1.832 | 8,120 | 4,507 | 0.911 |
| Shellfish Habitat | 3.425 | - | 20.622 | - | 4.748 | 21,386 | 18,030 | 3.645 | 0.695 | - | 29.495 | 21,386 | 18,030 | 3.645 |
| Intertidal and Subtidal Shallows | - | - | - | - | 3.936 | 13,093 | - | - | 0.025 | - | 3.961 | 13,093 | - | - |
| Prime Fishing Areas | 1.335 | - | 10.061 | - | - | - | - | - | 0.094 | - | 11.490 | - | - | - |

**Table 2.3.4-2. Potential additional impacts to NJDEP-regulated resources as a result of open cut trenching cable installation**

| Regulated Resource | Temporary (acres) | Temporary Volume Removed (CY) | Permanent (acres) | Permanent Volume Removed (CY) |
|---|---|---|---|---|
| State Open Water | 2.22 | 24,300 | - | - |
| Submerged Aquatic Vegetation | 1.1 | 12,100 | - | - |
| Shellfish Habitat | 1.9 | 21,100 | - | - |
| Intertidal and Subtidal Shallows | 1.2 | 12,800 | - | - |

The Lacey Township landfall is located at the shore of Barnegat Bay within a parcel owned by Holtec (Lacey Township Block 100, Lot 1.06). If HDD is used for landfall, two HDDs will extend for a distance of approximately 1,200 ft and were designed to target previously disturbed areas on land where possible. Landfall via HDD at the Holtec Property in Lacey Township will be used if Ocean Wind 1 determines the risk for inadvertent return allows for avoidance of impacts to shellfish habitat, SAV, ISS, beaches, and mapped coastal wetlands. HDD operations onshore will be minimized through the use of timber matting (or equivalent) in the HDD workspace. While there will be a very small area of permanent impacts to wetlands for permanent winch pads and manholes in this location (likely the size of four manhole covers), all temporary impacts from construction activities will be restored to pre-construction contours and impacts (both temporary and permanent) will be mitigated. For additional information on wetland impacts, please see Appendix S. At the HDD entry pit, a small hardstand area around the TJB will permanently remain below the ground surface, with two manholes flush with the ground surface to allow for access and maintenance during operation as needed.

If it is determined that the risk of inadvertent returns associated with HDD cannot be adequately controlled, Ocean Wind 1 will use open cut installation. A trench will be excavated starting approximately 50 feet into the bay and continuing through the shoreline to the onshore TJB location. The trench will be supported with standard trench boxes for soil stabilization landward of the MHW line and sheet piles waterward of MHW. The trench will be excavated with long reach land-based excavators (see offshore drawing set Appendix C). A crane will be used to install sheetpile via vibratory hammer. The cable will be floated from the cable lay vessel into the excavated trench and diver-operated jet sled or hand jetting will be used to install the cable to the target burial depth. The open cut trench will be restored to existing contours following construction. The same equipment used for trenching can be used to backfill the trench upon completion of the cable installation or installation of the cable conduit. The onshore temporary workspace, TJBs, and permanent manholes and winch pads will be the same as described for the HDD installation. Within the temporary workspace, sediments removed from the sheet pile cofferdam will be contained for disposal, pending further coordination with NJDEP.

### 2.3.5 Onshore Export Cable Route

The proposed onshore ECR proceeds west across the Holtec Property and DOT property in Lacey Township through undeveloped land, following previously disturbed upland berms, existing roadways and dirt trails. The cable will be installed within a small area of coastal wetlands, wetland transition area and riparian zone while within these previously disturbed areas (see **Table 2.3.6-1**). Use of existing roads, historically disturbed upland berms and trails minimizes impacts to wetlands and State open waters. The cable will follow the berms and trails west and then southwest, then will follow a portion of the existing paved access road on the DOT Property before turning south of the access road and continuing west toward Route 9. Along this route a small concrete headwall will be replaced in-kind within the Holtec Property, approximately 1,400 ft from the HDD landfall area. The ECR then crosses a forested area that will require minor clearing of some brush and trees (see woody vegetation clearing impact numbers depicted on plans in Appendix C). The cables will be installed within two duct banks that range from 6 to 15 ft in separation through the Holtec Property. This route will take advantage of existing roads, in the vicinity of the New Jersey Department of Transportation's (NJDOT) combined disposal facility (CDF).

This route traverses a previously disturbed but currently undeveloped area and will shorten the distance to the onshore substation, allowing the cables to function at maximum capacity. This route balances reduction of tree clearing with reduced conflict with existing users along the narrow Holtec Property access road east of Route 9. Based on correspondence with local stakeholders, the road serves as emergency access to the Vincent Clune Park and also as NJDOT access to the State-owned CDF. The shortened route south of the Holtec Property access road also reduces sharp turns along Route 9 and consolidates the Oyster Creek and Route 9 HDD crossings.

As the ECR approaches Route 9, it turns to the southwest and crosses underneath Route 9 and Oyster Creek using HDD methodology, surfacing in an existing private access road owned by Holtec, south of Oyster Creek (Ocean Township Block 41, Lot 43). The route then continues back into Lacey Township within this previously disturbed, paved access road for approximately 3,000 linear ft, until the termination at the proposed onshore substation parcel. The HDD crossing of Oyster Creek allows for a more direct route to the substation and avoids road opening work and major traffic attenuation along Route 9. Using HDD under Oyster Creek will also allow for avoidance of sensitive resources, surficial impacts to open waters, and freshwater and coastal wetlands. Utilizing the existing paved access road to run the cable west to the substation parcel will allow for avoidance to adjacent wetlands and watercourses.

### 2.3.6 Onshore Substation

The onshore substation has been sited within the eastern portion of Lacey Township's Block 1001, Lot 4.06, a parcel acquired by Ocean Wind for development. The parcel has been historically disturbed as part of the development of the Oyster Creek Nuclear Generating Station and was often used for storage and staging, based on historic aerial imagery. The eastern portion of the parcel was selected for development of the substation because of its proximity to the onshore interconnection point, flat topography and lack of natural resources. The area is dominated by early successional forest and scrub shrub habitat dominated by eastern red cedar. An NJDEP Letter of Interpretation (LOI) for the property was issued August 15, 2017 (1512-17-0013.1 FWW170001) identifying isolated freshwater wetlands of intermediate value. Because this LOI is valid for a period of five years, it was relied upon for siting of the proposed substation. Subsequent to the siting of the substation, wetlands within the proposed substation location were identified by NJDEP staff during a wetland verification site visit in November 2021. The western portion of the parcel contains varying topography with a "gully" feature that slopes from an elevation of approximately 27 ft (North American Vertical Datum [NAVD]88) down to 19 ft elevation before returning to approximately 26 ft elevation and would require a significant amount of fill to develop. Therefore, the substation was sited in the eastern portion of the parcel. Refer to **Table 2.3.6-1** below for summary of temporary and permanent impacts to State regulated resources.

**Table 2.3.6-1. Onshore Oyster Creek Ocean Wind 1 Project Area proposed temporary and permanent impacts to State regulated resources (all impacts shown in acres)**

| Regulated Resource | Onshore Export Cable Installation | | Onshore Substation | | Total | |
|---|---|---|---|---|---|---|
| | Temporary | Permanent | Temporary | Permanent | Temporary | Permanent |
| Freshwater Wetlands | - | 0.059 | 0.008 | 1.220 | 0.008 | 1.279 |
| Freshwater Wetlands Transition Area | 2.527 | 1.272 | 0.120 | - | 2.647 | 1.272 |
| Coastal Wetlands | 5.628 | 0.002 | - | - | 5.628 | 0.002 |
| Coastal Wetlands Transition Area | 1.030 | 0.015 | - | - | 1.030 | 0.015 |
| Riparian Zone | 1.635 | 0.0006 | - | - | 1.635 | 0.0006 |
| State Open Waters | 0.007 | - | - | - | 0.007 | - |

# 3. Compliance Statements

## 3.1 CAFRA, WFD and Coastal Wetlands Regulatory Compliance Statement

### 3.1.1 Statement of Project Compliance with the Coastal Zone Management Rules (N.J.A.C. 7:7)

The Coastal Zone Management Act (CZMA) of 1972 requires that Federal actions affecting any coastal use or resource (defined as land or water use, or natural resource of a State's coastal zone), be conducted in a manner that is consistent with the enforceable policies of a State's Federally approved Coastal Zone Management Program (CZMP) or Coastal Resource Management Program (CRMP). The BOEM is the lead Federal agency for the Project, including portions within New Jersey.

As described below, the proposed activity will be conducted in a manner consistent with the Coastal Zone Management (CZM) Rules of the State of New Jersey (N.J.A.C. 7:7) and pursuant to 15 CFR part 930, which authorizes states with approved CZM programs to conduct a coastal zone consistency review and concurrence determination of projects within the State coastal zone boundary. Projects that require a Federal license or permit, are Federally funded, or are a direct activity of a Federal agency are to be reviewed to ensure that activities in or affecting the State's coastal zone are consistent with the State enforceable program policies.

In New Jersey, Federal consistency reviews are the responsibility of the NJDEP, Division of Coastal Resources, as the lead State agency that implements or coordinates the State's Federally approved CZMP. Pursuant to the CZMA, New Jersey has defined its coastal zone boundaries and developed policies to be utilized to evaluate projects within the designated Coastal Zone, as set forth in New Jersey's CZM Rules (last amended on February 20, 2020). These rules provide for the issuance of permits under three CZMP areas: Waterfront Development Act (N.J.S.A. 12:5-1 et seq. Wetlands.),Wetlands Act of 1970 (N.J.S.A. 13:9A-1 et seq.), and the Coastal Area Facility Review Act (N.J.S.A. 13:19-1 et seq.).

The following sections contain an evaluation of the Project's consistency with NJDEP CZM Rules (**Table 3.1.1-1)**. Section 3.1.2 through Section 3.1.10 provides descriptions of how the Project will be consistent with each applicable policy or management principle. Rules not applicable to this Project are also listed in **Table 3.1.1-1**, with reasons for not including them provided in the CZM evaluation below.

**Table 3.1.1-1. Applicability to New Jersey's CZMA Rules October 5, 2021.**

| CZM Rule | | Applicable | Not Applicable |
|---|---|---|---|
| 7:7-1.4(b) | Standards for evaluating permit applications | X | |
| 7:7-9.2 | Shellfish Habitat | X | |
| 7:7-9.3 | Surf Clam Areas | X | |
| 7:7-9.4 | Prime Fishing Areas | X | |
| 7:7-9.5 | Finfish Migratory Pathways | X | |
| 7:7-9.6 | Submerged Vegetation Habitat | X | |
| 7:7-9.7 | Navigation Channels | X | |
| 7:7-9.8 | Canals | | X |
| 7:7-9.9 | Inlets | | X |
| 7:7-9.10 | Marina Moorings | | X |
| 7:7-9.11 | Ports | X | |
| 7:7-9.12 | Submerged Infrastructure Routes | | X |
| 7:7-9.13 | Shipwrecks and Artificial Reef Habitats | X | |
| 7:7-9.14 | Wet Borrow Pits | | X |
| 7:7-9.15 | Intertidal and Subtidal Shallows | X | |
| 7:7-9.16 | Dunes | X | |

| CZM Rule | | Applicable | Not Applicable |
|---|---|---|---|
| 7:7-9.17 | Overwash Areas | X | |
| 7:7-9.18 | Coastal High Hazard Areas | X | |
| 7:7-9.19 | Erosion Hazard Areas | X | |
| 7:7-9.20 | Barrier Island Corridor | X | |
| 7:7-9.21 | Bay Islands | | X |
| 7:7-9.22 | Beaches | X | |
| 7:7-9.23 | Filled Water's Edge | | X |
| 7:7-9.24 | Existing Lagoon Edges | | X |
| 7:7-9.25 | Flood Hazard Areas | X | |
| 7:7-9.26 | Riparian Zones | X | |
| 7:7-9.27 | Wetlands | X | |
| 7:7-9.28 | Wetlands Buffers | X | |
| 7:7-9.29 | Coastal Bluffs | | X |
| 7:7-9.30 | Intermittent Stream Corridors | | X |
| 7:7-9.31 | Farmland Conservation Areas | | X |
| 7:7-9.32 | Steep Slopes | | X |
| 7:7-9.33 | Dry Borrow Pits | | X |
| 7:7-9.34 | Historic & Archaeological Resources | X | |
| 7:7-9.35 | Specimen Trees | X | |
| 7:7-9.36 | Endangered or Threatened Wildlife or Plant Species Habitats | X | |
| 7:7-9.37 | Critical Wildlife Habitat | X | |
| 7:7-9.38 | Public Open Space | X | |
| 7:7-9.39 | Special Hazard Areas | X | |
| 7:7-9.40 | Excluded Federal Lands | | X |
| 7:7-9.41 | Special Urban Areas | X | |
| 7:7-9.42 | Pinelands National Reserve and Pinelands Protection Area | X | |
| 7:7-9.43 | Meadowlands District | | X |
| 7:7-9.44 | Wild and Scenic River Corridors | | X |
| 7:7-9.45 | Geodetic Control Reference Marks | X | |
| 7:7-9.46 | Hudson River Waterfront Area | | X |
| 7:7-9.47 | Atlantic City | | X |
| 7:7-9.48 | Land and Waters Subject to Public Trust Rights | X | |
| 7:7-10.2 | Standards Applicable to Routine Beach Maintenance | | X |
| 7:7-10.3 | Standards Applicable to Emergency Post-Storm Beach Restoration | | X |
| 7:7-10.4 | Standards Applicable to Dune Creation and Maintenance | X | |
| 7:7-10.5 | Standards Applicable to the Construction of Boardwalks | | X |
| 7:7-11.2 | Standards for Conducting Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment | X | |
| 7:7-11.3 | Standards for Conducting Endangered or Threatened Wildlife Species Habitat Evaluation | X | |
| 7:7-11.4 | Standards for Reporting the Results of Impact Assessments and Habitat Evaluations | X | |

| CZM Rule | | Applicable | Not Applicable |
|---|---|---|---|
| 7:7-12.2 | Shellfish Aquaculture | X | |
| 7:7-12.3 | Boat Ramps | | X |
| 7:7-12.4 | Docks and Piers for Cargo & Commercial Fisheries | | X |
| 7:7-12.5 | Recreational Docks and Piers | | X |
| 7:7-12.6 | Maintenance Dredging | X | |
| 7:7-12.7 | New Dredging | X | |
| 7:7-12.8 | Environmental Dredging | | X |
| 7:7-12.9 | Dredged Material Disposal | X | |
| 7:7-12.10 | Solid Waste or Sludge Dumping | | X |
| 7:7-12.11 | Filling | X | |
| 7:7-12.12 | Mooring | X | |
| 7:7-12.13 | Sand and Gravel Mining | | X |
| 7:7-12.14 | Bridges | | X |
| 7:7-12.15 | Submerged Pipelines | | X |
| 7:7-12.16 | Overhead Transmission Lines | | X |
| 7:7-12.17 | Dams and Impoundments | | X |
| 7:7-12.18 | Outfalls and Intakes | X | |
| 7:7-12.19 | Realignment of Water Areas | | X |
| 7:7-12.20 | Vertical Wake or Wave Attenuation Structures | | X |
| 7:7-12.21 | Submerged Cables | | X |
| 7:7-12.22 | Artificial Reefs | | X |
| 7:7-12.23 | Living Shorelines | X | |
| 7:7-12.24 | Miscellaneous Uses | X | |
| 7:7-13.3 | Impervious Cover Requirements that Apply to Sites in the Upland Waterfront Development and CAFRA Areas | | X |
| 7:7-13.4 | Vegetative Cover Requirements that Apply to Sites in the Upland Waterfront Development and CAFRA Areas | | X |
| 7:7-13.5 | Determining if a Site is Forested or Unforested | | X |
| 7:7-13.6 | Upland Waterfront Development Area Regions and Growth Ratings | | X |
| 7:7-13.7 | Determining the Environmental Sensitivity of a Site in the Upland Waterfront Development Area | | X |
| 7:7-13.8 | Determining the Developmental Potential of a Site in the Upland Waterfront Development Area | | X |
| 7:7-13.9 | Determining the Development Potential for Residential or Minor Commercial Site in the Upland Waterfront Development Area | | X |
| 7:7-13.10 | Determining the Development Potential for a Major Commercial or Industrial Development Site in the Upland Waterfront Development Area | | X |
| 7:7-13.11 | Determining the Development Potential for a Campground Development Site in the Upland Waterfront Development Area | | X |
| 7:7-13.12 | Determining the Development Intensity of a Site in the Upland Waterfront Development Area | | X |

| CZM Rule | | Applicable | Not Applicable |
|---|---|---|---|
| 7:7-13.13 | Impervious Cover Limits for a Site in the Upland Waterfront Development Area | | X |
| 7:7-13.14 | Vegetative Cover Percentages for a Site in the Upland Waterfront Development Area | | X |
| 7:7-13.15 | Coastal Planning Areas in the CAFRA Area | | X |
| 7:7-13.16 | Boundaries for Coastal Planning Areas, CAFRA centers, CAFRA cores, and CAFRA nodes; Non-mainland Coastal Centers | | X |
| 7:7-13.17 | Impervious Cover Limits for a Site in the CAFRA Area | | X |
| 7:7-13.18 | Vegetative Cover Percentages for a Site in the CAFRA Area | | X |
| 7:7-13.19 | Mainland Coastal Centers | | X |
| 7:7-14.1 | Rule on Location of Linear Development | X | |
| 7:7-14.2 | Basic Location Rule | X | |
| 7:7-14.3 | Secondary Impacts | X | |
| 7:7-15.2 | Housing | | X |
| 7:7-15.3 | Resort/Recreational | | X |
| 7:7-15.4 | Energy Facility | X | |
| 7:7-15.5 | Transportation | X | |
| 7:7-15.6 | Public Facility | X | |
| 7:7-15.7 | Industry | X | |
| 7:7-15.8 | Mining | | X |
| 7:7-15.9 | Port | X | |
| 7:7-15.10 | Commercial Facility | | X |
| 7:7-15.11 | Coastal Engineering | | X |
| 7:7-15.12 | Dredged Material Placement on Land | X | |
| 7:7-15.13 | National Defense Facilities | | X |
| 7:7-15.14 | High-Rise Structures | | X |
| 7:7-16.2 | Marine Fish and Fisheries | X | |
| 7:7-16.3 | Water Quality | X | |
| 7:7-16.4 | Surface Water Use | | X |
| 7:7-16.5 | Groundwater Use | X | |
| 7:7-16.6 | Stormwater Management | X | |
| 7:7-16.7 | Vegetation | X | |
| 7:7-16.8 | Air Quality | X | |
| 7:7-16.9 | Public Access | X | |
| 7:7-16.10 | Scenic Resources and Design | X | |
| 7:7-16.11 | Buffers and Compatibility of Use | X | |
| 7:7-16.12 | Traffic | X | |
| 7:7-16.13 | Subsurface Sewage Disposal Systems | | X |
| 7:7-16.14 | Solid & Hazardous Waste | X | |
| 7:7-17.2 | General Mitigation Requirements | X | |
| 7:7-17.3 | Timing of Mitigation | X | |
| 7:7-17.4 | Amount of Mitigation Required | X | |
| 7:7-17.5 | Property Suitable for Mitigation | X | |
| 7:7-17.6 | Conceptual Review of a Mitigation Area | X | |

| CZM Rule | | Applicable | Not Applicable |
|---|---|---|---|
| 7:7-17.7 | Basic Requirements for Mitigation Proposals | X | |
| 7:7-17.8 | Department Review and Approval of Mitigation Proposal | X | |
| 7:7-17.9 | Requirements for Shellfish Habitat Mitigation | X | |
| 7:7-17.10 | Requirements for Submerged Aquatic Vegetation Habitat Mitigation | X | |
| 7:7-17.11 | Requirements for Intertidal and Subtidal Shallows and Tidal Water Mitigation | X | |
| 7:7-17.12 | Requirements for Riparian Zone Mitigation | X | |
| 7:7-17.13 | Requirements for Wetland Mitigation | X | |
| 7:7-17.14 | Wetlands Mitigation Hierarchy | X | |
| 7:7-17.15 | Requirements for Credit Purchase from an Approved Mitigation Bank | X | |
| 7:7-17.16 | Requirements for In-Lieu Fee Payment | X | |
| 7:7-17.17 | Financial assurance for Mitigation Projects; General Provisions | | X |
| 7:7-17.18 | Financial Assurance; Fully Funded Trust Fund Requirements | | X |
| 7:7-17.19 | Financial Assurance; Line of Credit Requirements | | X |
| 7:7-17.20 | Financial Assurance; Letter of Credit Requirements | | X |
| 7:7-17.21 | Financial Assurance; Surety Bond Requirements | | X |
| 7:7-17.22 | Mitigation Banks | | X |
| 7:7-17.23 | Application for a Mitigation Bank | | X |

7:7-1.4(b) Standards for evaluating permit applications

*(b) The Department shall issue a permit pursuant to CAFRA only upon a finding as required by N.J.S.A. 13:19-10 that the development:*

*1. Conforms with all applicable air, water and radiation emission and effluent standards and all applicable water quality criteria and air quality standards;*

Ocean Wind 1 will be in compliance with all applicable air and water emission and effluent standards as well as all applicable water quality criteria and air quality standards. Radiation emission is not anticipated as part of the Project. Ocean Wind 1 has submitted an OCS Air Permit Application to U. S. EPA Region 2 on March 29, 2022 along with a revised application submitted July 15, 2022 and another revised application was submitted October 7, 2022. Ocean Wind 1 will continue to coordinate with U. S. EPA throughout review of the application and will comply with permit conditions. The Project has also applied for permits with U. S. Army Corps of Engineers (USACE) Philadelphia District in compliance with Clean Water Act Section 404 along with Rivers and Harbors Act Section 10 and 408. State permits including CAFRA, Waterfront Development (in-water), Coastal Wetlands, Freshwater Wetlands and Flood Hazard Area Control Act were applied for in August 2022.

During the in-water work, the Project shall implement a suspended sediment/water quality monitoring plan in compliance with NJDEP and USACE Water Quality Certificate conditions. Best Management Practices will be implemented for all Project activities to ensure conformance with applicable water quality criteria.

*2. Prevents air emissions and water effluents in excess of the existing dilution, assimilative and recovery capacities of the air and water environments at the site and within the surrounding region;*

See statement above regarding OCS Air Permit. Project coordination with the U.S. EPA throughout the permitting process and compliance with permit conditions will prevent air emissions in excess of the existing

dilution, assimilative and recovery capacities of the air environment at the site and within the surrounding region.

*3. Provides for the collection and disposal of litter, recyclable and solid waste in such a manner as to minimize adverse environmental effects and the threat to the public health, safety and welfare;*

Ocean Wind 1 will prepare and implement waste management plans and hazardous materials plans as appropriate for the Project.

Wastes associated with the onshore portion of the Project include solid trash, drilling solids, drilling muds, and stormwater. All wastes generated shall comply with the applicable state and federal regulations, including but not limited to the Resource Conservation and Recovery Act and Department of Transportation (DOT) Hazardous Materials regulations. Ocean Wind 1 is likely to use a site-specific Waste Management Register to identify, profile, categorize, and coordinate each waste stream. Where feasible, Ocean Wind 1 will reduce waste and recycling as well as set waste reduction goals to minimize its waste generation.

During construction of the onshore substations, waste material would be disposed of in an appropriate licensed disposal facility and/or recycling center. In addition, drilling solid and liquid wastes generated by trenchless installation for each of the onshore routes would be disposed of in an appropriate licensed landfill and/or recycling center. There is potential for trench materials excavated during installation of the onshore cables to be disposed of depending on the properties of soil materials. The amounts of trenched material to be disposed of is dependent on final design and the results of subsurface soil investigations. A Licensed Site Remediation Professional will be retained to develop management for any contaminated soils. Stormwater that collects on the onshore portions of the Project during construction will be addressed in the construction Stormwater Pollution Prevention Plan, which Ocean Wind will develop and submit for approval by appropriate agencies prior to construction and once final design is completed. Stormwater that collects on either onshore substation site will be directed to a stormwater management basin and discharged, or alternative solution in agreement with the relevant agencies. Anticipated stormwater discharge amounts are dependent on final substation design and engineering.

Offshore, Ocean Wind 1 will meet applicable regulations and standards, as set by the International Maritime Organization's International Convention for the Prevention of Pollution from Ships (IMO MARPOL), the USCG, and applicable State regulations, for treatment and disposal of solid and liquid wastes generated during all phases of the Project.

Wastes generated offshore are containerized, segregated, and categorized. Wastes would then be transported via vessel to an onshore storage location until coordination can occur for pickup and disposal by a licensed waste management company. Wastes generated during offshore work, including those from vessel activity during the construction, operations, and decommissioning phases, and disposal are listed in **Table 3.1.1-2** along with the potential treatment methods.

**Table 3.1.1-2. Anticipated solid and liquid wastes generated during offshore work.**

| Source[a] | Method of Disposal |
|---|---|
| Oily bilge water | Stored onboard and delivered to a port reception facility or treated onboard with an oil water separator |
| Oily residues (sludge) | Stored onboard and delivered to a port reception facility |
| Tank washings (slops) | N/A |
| Sewage | Treated onboard with a USCG-certified Marine Sanitation Device and discharged overboard or delivered to a port reception facility |

| Source[a] | Method of Disposal |
|---|---|
| Plastics | Stored onboard and delivered to a port reception facility |
| Food wastes | Stored onboard and delivered to a port reception facility or discharged overboard in accordance with US regulations |
| Domestic wastes | Stored onboard and delivered to a port reception facility |
| Cooking oil | Stored onboard and delivered to a port reception facility |
| Incinerator ashes | N/A |
| Operational wastes | Stored onboard and delivered to a port reception facility |
| Cargo residues | N/A |

[a] Solid and liquid waste categories are based on waste categories provided in Annexes I, II, IV, and V of MARPOL

*4. Would result in minimal feasible impairment of the regenerative capacity of water aquifers or other ground or surface water supplies;*

The Project is not expected to impact water aquifers or other ground or surface water supplies. Existing conditions and potential impacts are described in the environmental assessment in Append S of the application.

During onshore construction, dewatering may be required. BMPs will be used during discharge of water, such as energy dissipation devices and erosion and sediment controls. Dewatering activities will be temporary, short-term, and water drawdown would be minimal. An NJDEP Dewatering Permit will be required during construction activities. Discharges and releases will be managed using the SPCC Plan. Therefore, no impacts to regenerative capacity are anticipated.

*5. Would cause minimal feasible interference with the natural functioning of plant, animal, fish and human life processes at the site and within the surrounding region;*

The Project has been sited and designed to minimize potential impacts to the environment. The Environmental Assessment provided in Appendix S provides a description of existing conditions and potential impacts and well as applicant proposed measures (APMs) for avoidance, minimization and mitigation. With the implementation of APMs, and adherence to permit conditions, the Project will not cause more than minimal interference with the natural functioning of plant, animal, fish and human life processes at the site or within the surrounding region.

*6. Is located or constructed so as to neither endanger human life or property nor otherwise impair the public health, safety and welfare;*

Ocean Wind 1 is committed to safety. The Project has been sited and will be constructed so as to neither endanger human life or property nor otherwise impair the public health, safety and welfare.

Ocean Wind 1 has developed and will implement the project specific Safety Management System for the Project. The cables will be buried below the seabed or underground. Offshore, project siting and cable burial have been coordinated with USACE and USCG as well as NJDEP to promote safety of navigation during and after construction. Onshore, the project has been sited primarily within public road ROWs and previously disturbed sites to minimize potential for impacts to property. The substation and portions of the onshore export cable are within areas of known contamination (Appendix S). The Project linear portions will be enrolled under the NJDEP Site Remediation Program (SRP) as a linear construction project (LCP) and handled in accordance with all applicable regulations. Ocean Wind 1 will manage any contamination encountered during Project construction in

accordance the NJDEP SRP guidance as well as with the Materials Management Plan (MMP) and Materials Handling Plan (MHP), which will be developed prior to construction. The Project will not include residential and labor-intensive economic development within the special hazard area and all development will include appropriate mitigating measures to protect public health and safety. Ocean Wind 1 will coordinate construction activities to try to avoid community events (e.g., annual marathons or parades) and develop a construction schedule to minimize activities in the onshore export cable corridors during the peak summer recreation and tourism season, where practicable.

*7. Would result in minimal practicable degradation of unique or irreplaceable land types, historical or archaeological areas and existing public scenic attributes at the site and within the surrounding region;*

The Project has been sited primarily within existing public road ROWs and previously disturbed areas to minimize potential impacts to habitat. Appendix S provide an environmental assessment. There will be no permanent or long-term loss of unique or irreplaceable areas. Mitigation will be carried out in coordination with the regulations and with cooperating agencies to offset any permanent impacts to regulated resources. The Project has been sited to avoid archaeological and historic resources. The onshore substations, the only aboveground facilities within New Jersey, are both sited in areas associated with former power generation facilities to minimize visual impacts. The remaining project components in New Jersey are buried, primarily within road ROW, and will have only temporary visual impacts during construction.

*8. Provides, pursuant to standards established in this chapter, onsite public access to the waterfront and adjacent shoreline, or offsite public access to the waterfront and adjacent shoreline if on-site public access is not feasible as determined by the Department.*

Public access during construction activities could pose the potential for both security threats and hazard conditions for members of the public and workers at the site; however, all existing public access to and along the waterfront will be maintained to the maximum extent practicable. Ocean Wind 1 received a deficiency letter on December 28, 2022, from the Department identifying additional information needed for the pending CAFRA application to be deemed complete for review, including a proposal to address the Public Access rule at N.J.A.C. 7:7-16.9(k)3 and the 2019 Public Access Law. Ocean Wind 1 will provide a formal response to this deficiency at a later date.

*BL England*

HDD installation is proposed at the landfall locations on the waterfront to minimize impacts to beaches, including access. At BL England, HDD workspace will be within 35th Street and access to that portion of 35th Street will be temporarily restricted, but public access to the waterfront will be available from 34th Street (where a public restroom/changing building is located at the beachfront) or from 36th Street. In addition, the work at the landfall will be scheduled outside of the summer season when waterfront use is reduced to minimize impacts to the extent practicable. During HDD activities, the beach will remain open for access as there will be no temporary workspace required on the beaches or dunes.

*Oyster Creek*

At IBSP, the HDD workspace will be within the southern auxiliary parking lot of Swimming Area #2 south of the park office. Additional parking lots immediately north of the park office and a portion of the Swimming Area #2 parking lot will remain available for access to the beach. Public access to the waterfront will remain available through other parking lots. In addition, the work at the landfall will be scheduled outside of the summer season when waterfront use is reduced and when Swimming Area #2 parking areas are closed (October 1 through early June), to minimize impacts to the extent practicable. Furthermore, during HDD activities, the beach will remain open for access as there will be no temporary workspace required on the beaches or dunes.

The Project will be installed below the beach and dunes and, therefore, will not block views or restrict access after installation.

3.1.2 Subchapter 9 – Special Areas

7:7-9.2 Shellfish Habitat

This policy generally limits disturbance of shellfish habitat. Shellfish habitat is defined at N.J.A.C. 7:7-9.2(a) as an estuarine bay or river bottom, which currently supports or has a history of production for hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), or blue mussels (*Mytilus edulis*), or otherwise listed below in this section. A shellfish habitat area is defined as an area that meets one or more of the following criteria:

1. The area has a current shellfish density equal to or greater than 0.20 shellfish per square foot;
2. The area has a history of natural shellfish production according to data available to the New Jersey Bureau of Shellfisheries, or is depicted as having high or moderate commercial value in the Distribution of Shellfish Resources in Relation to the New Jersey Intracoastal Waterway (U.S. Department of the Interior [DOI], 1963) and/or "Inventory of New Jersey's Estuarine Shellfish Resources" (Division of Fish, Game and Wildlife [DFGW], Bureau of Shellfisheries, 1983-present);
3. The area is designated by the State of New Jersey as a shellfish culture area as authorized by N.J.S.A. 50:1 et seq. Shellfish culture areas include estuarine areas presently leased by the State for shellfish aquaculture activities or hard clam relay, transplant and transfer as well as those areas suitable for future shellfish aquaculture development; or
4. The area is designated as productive at N.J.A.C. 7:25-24, Leasing of Atlantic and Delaware Bay Bottom for Aquaculture.

*BL England*

There are no areas of shellfish habitat within the Atlantic Ocean at the site of the HDD landfall. Within Great Egg Harbor and Crook Horn Creek, the entire area is mapped as high value commercial hard clam habitat. The onshore cable will cross Crook Horn Creek at Roosevelt Boulevard Bridge via HDD technology. There will be no surficial construction activities in shellfish areas as a result of this installation, thereby avoiding impacts.

*Oyster Creek*

Barnegat Bay contains shellfish habitat areas as defined by N.J.A.C. 7:7-9.2(a)1 through 4 above. Portions of Barnegat Bay were mapped as moderate hard clam commercial value based on available Department of Interior (DOI) 1963 resources. The proposed offshore export cable corridor in Barnegat Bay avoids areas mapped as moderate and high shellfish density (greater than 0.20 shellfish per square foot) as mapped by DFGW 2012 shellfish resource inventories via use of trenchless technology to the greatest extent practicable. However, the route will cross 1986 and 1963 mapped moderate habitat. Small areas south of the proposed offshore export cable corridors are mapped as shellfish aquaculture leases and will be avoided by the proposed offshore export cable corridor.

Ocean Wind 1 will minimize adverse impacts from cable installation to shellfish habitat through the use of jetting technology and trenchless technology (such as HDD or direct pipe), where practicable. Jetting technology does not remove sediments from the trench, but rather, temporarily disturbs them as they are fluidized. While Ocean Wind 1 considered a series of water-to-water HDDs to cross Barnegat Bay, the HDD method was ultimately determined to be infeasible (see Appendix A for further discussion).

The primary method for cable installation in Barnegat Bay will be the use of a tracked self-propelled or towed jetting tool (jet sled or jet plow). This self-propelled tool is the most appropriate, considering the shallow waters in Barnegat Bay (Appendix C). The proposed jetting tool works by fluidizing sediment along the intended path

of the cable – introducing water at high pressure along the leading edge or face of two swords that straddle the cable – allowing the cable to sink into the fluidized trench under its own weight. The jetting tool's hydraulic nozzles are controlled and pointed downward so as not to produce an upward movement of sediment into the water column; the benefit of using this method is to maximize the replacement of sediments within the trench to embed the cable as jetting progresses. Cable burial depth beneath the sediment surface is determined by the length of the swords and degree to which the sediment is fluidized. This cable installation method disturbs the sediment in the trench as little as possible so that the sediment can provide future cable protection. Compared to dredging, jetting minimizes direct impacts to the seabed as well as minimizes suspended sediment and deposition associated with construction outside the trench area. Refer to Section 2.1 for more detail on jetting technologies proposed.

Cable installation activities will be continuously monitored and adjusted in order to ensure the cable is laid and sufficiently buried while minimizing sediment disturbance. Jetting technology has been used on other similar projects in New York and New Jersey including most recently in Delaware Bay for the Silver Run Project as approved by the NJDEP under Permit No. 1712-07-0002.3 WFD/CSW180001.

Temporary access for vessels and HDD pits will be required for cable installation in Barnegat Bay at the Lacey Township Holtec Property landfall approach which will be within approximately 4.7 acres of shellfish habitat. All activities will be done in accordance with State and Federal regulations. Should the open cut installation method be deemed the alternative with least overall impact due to the potential for inadvertent returns, an additional 1.9 acres of shellfish habitat may be temporarily disturbed. As explained under policy N.J.A.C. 7:7-12.21, submerged cables are defined as "underwater telecommunication cables, and shall include all associated structures in the water such as repeaters". Therefore, the Project's electrical transmission export cables are not regulated as submerged cables and the Project's electrical transmission cable installation is not regulated as New Dredging under N.J.A.C. 7:7-12.7. As such, the Project is consistent with N.J.A.C. 7:7-9.2.

The benthic community will experience short term, direct impacts that will be limited in spatial extent. Limited direct adverse impacts, such as mortality or injury to benthic organisms in the immediate path of the installation activities are likely (**Table 2.2.4-1** and **Table 2.3.6-1**). However, many benthic invertebrate species are capable of recolonizing from surrounding benthic communities (Rhoads et al. 1978, Schaffner 2001). Because the area to be jetted is small in comparison to the surrounding, unaffected habitat in Barnegat Bay, rapid recolonization following construction is expected. Therefore, the adverse direct impact to the benthic community, including shellfish habitat, from installation of the export cable will be temporary and minor. The benthic community will recover quickly to pre-construction conditions such that there will be no permanent impact. Therefore, the Project is consistent with this policy.

7:7-9.3 Surf Clam Areas.

Surf clam areas are defined as coastal waters that can be demonstrated to support significant commercially harvestable quantities of surf clams (*Spisula solidissima*), or areas important for recruitment of surf clam stocks. This policy prohibits development that would destroy, condemn, or contaminate surf clam areas.

Other than localized Project impacts to the seabed associated with installing the Project infrastructure during construction, the Project will not have long term adverse impacts to the seabed and Applicant Proposed Measures (APMs) will be implemented to reduce temporary effects of increased turbidity associated with construction (Appendix S). The offshore export cable will be buried at a target depth of 4 ft (1.2 m) in surf clam areas as required by NJDEP regulations. Per N.J.A.C. 7:7-9.3, where it is demonstrated that achieving a depth of 4 ft (1.2 m) is not practicable, the cable will be buried as close as practicable to the target depth.

Surf clam fisheries have experienced declines in commercial landings in New Jersey from 1980 through 2016 and landings in New Jersey are at an all-time low as catches that are composed of relatively small clams are

not favored by processors (Northeast Fisheries Science Center [NEFSC] 2016). One potential explanation of this is the warm water intrusion on the Mid-Atlantic shelf. Over the last decade, these warmer waters may have caused mortality in larger surf clams off the New Jersey coast and effectively shifted the population northward as indicated by the increase in New York surf clam biomass. Southern areas (Delmarva Peninsula and New Jersey) have experienced declines in surf clam biomass during recent years due primarily to poor recruitment and slow growth rates associated with warm water conditions (Weinberg 2005).

From 1988 to 2019, NJDEP's Bureau of Shellfisheries conducted an annual inventory of New Jersey's inshore (within 3 nm of shore) surf clam stock. Sampling was conducted from Shark River Inlet to Cape Map Inlet between the months of June and August using a commercial hydraulic clam dredge to measure abundance at each station. Sampling of these inshore waters has shown a downward trend of the estimated standing stock from a maximum of 26.3 million bushels recorded in 1997 to just 325,020 bushels recorded in 2014 (most recent report available). Additionally, mean shell lengths have steadily increased which is reflective of poor recruitment during this time period. From 2010 through 2014, inshore surf clam harvest in New Jersey's designated "approved waters" has been practically non-existent with only 2,944 industry bushels of surf clams harvested from 2010 through 2014 (NJ Bureau of Shellfisheries 2015). Data on the adult/harvestable clams in state waters from 2009 through 2019 indicates that the total bushels harvested per 5 minute sampling effort has decreased from an average of approximately 2 bushels in 2009 to 0.03 bushels in 2019 (NJ Bureau of Shellfisheries 2019; **Figure 3.1.2-1 and Figure 3.1.2-2**). Recruitment data from 2015 through 2019 provided by the NJDEP's Bureau of Marine Fisheries has shown a similar trend (**Figure 3.1.2-3 and Figure 3.1.2-4**) when compared to data collected during the first 5 years of survey conducted from 1988 through 1992 for surf clam recruitment. Data provided is displayed as surf clams per liter of sample collected from the NJDEP surf clam recruitment surveys. Surf clam catch from 1988 through 1992 shows over 20 sampling locations within state waters in excess of 50 clams per liter. Conversely, the 2015 through 2019 surveys show a total of only two sampling locations with greater than 50 clams per liter (NJ Bureau of Shellfisheries 2019) indicating that recruitment has decreased dramatically over the 30+ years of the survey.

Furthermore, based on Vessel Monitoring System (VMS) and Vessel Trip Report (VTR) (NOAA Fisheries n.d.), the vast majority of vessel movement for the surf clam/ocean quahog harvest occurs outside of State waters and not along the proposed export cable route. VMS is a satellite surveillance system that monitors the location and movement of commercial fishing vessels. Data from 2011 to 2016 uses speed over ground information to assess the possibility of identifying transit versus fishing activity based on speed thresholds identified by industry and agency interviews. A speed threshold of less than 4 or 5 knots is considered indicative of fishing activity but may also include slower movement of vessel transit or other activities such as processing at sea. The resultant information is used to prepare density maps of fishing vessels in the vicinity of the Lease Area and export cable routes presented in **Figure 3.1.2-5 and Figure 3.1.2-6** (MARCO n.d.).

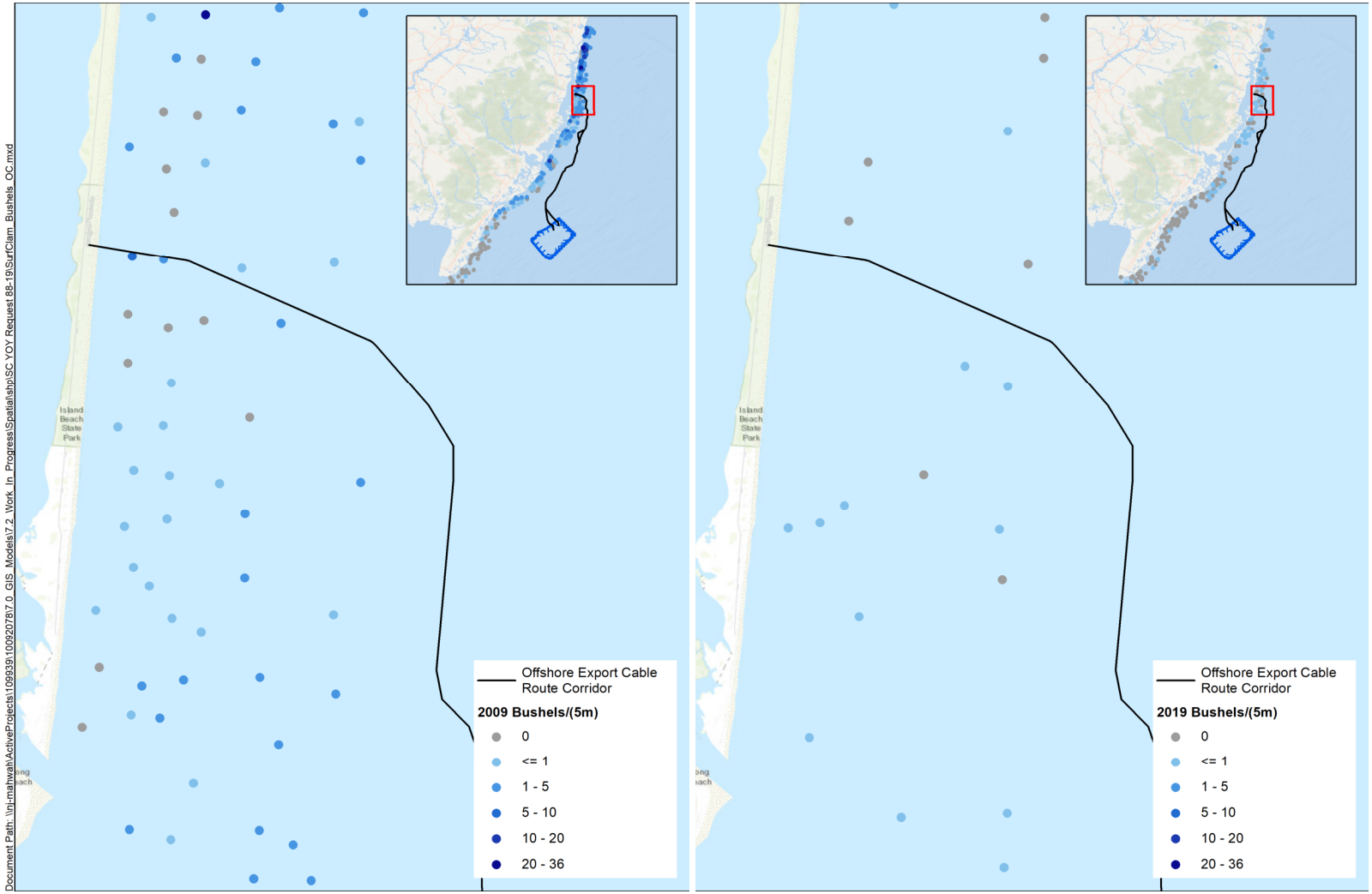



**Figure 3.1.2-1. NJDEP Surf Clam Surveys, bushels per 5-minute sampling effort at Oyster Creek, 2009 vs 2019**

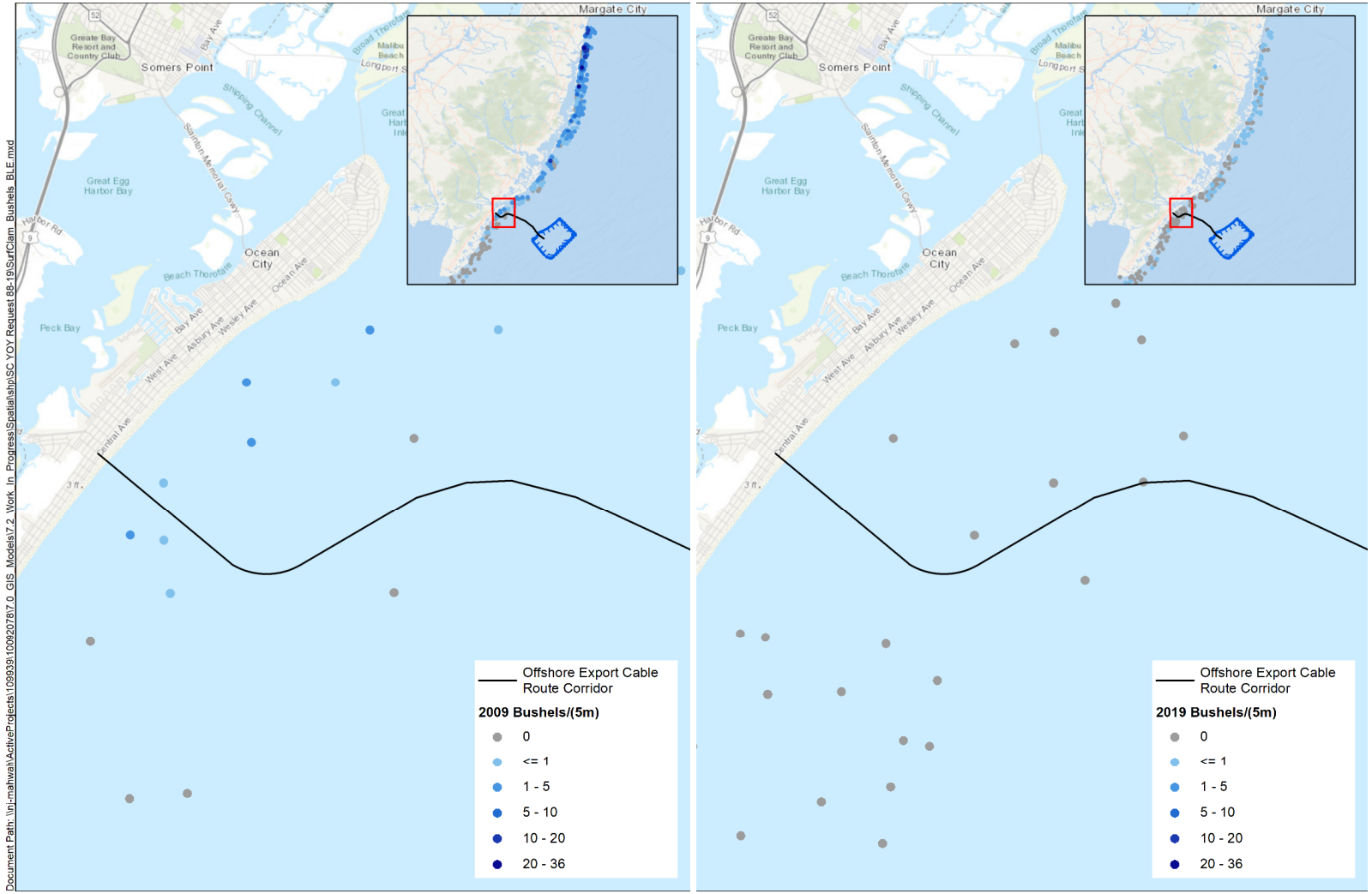



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**Figure 3.1.2-2. NJDEP Surf Clam Surveys, bushels per 5-minute sampling effort at BL England, 2009 vs 2019**

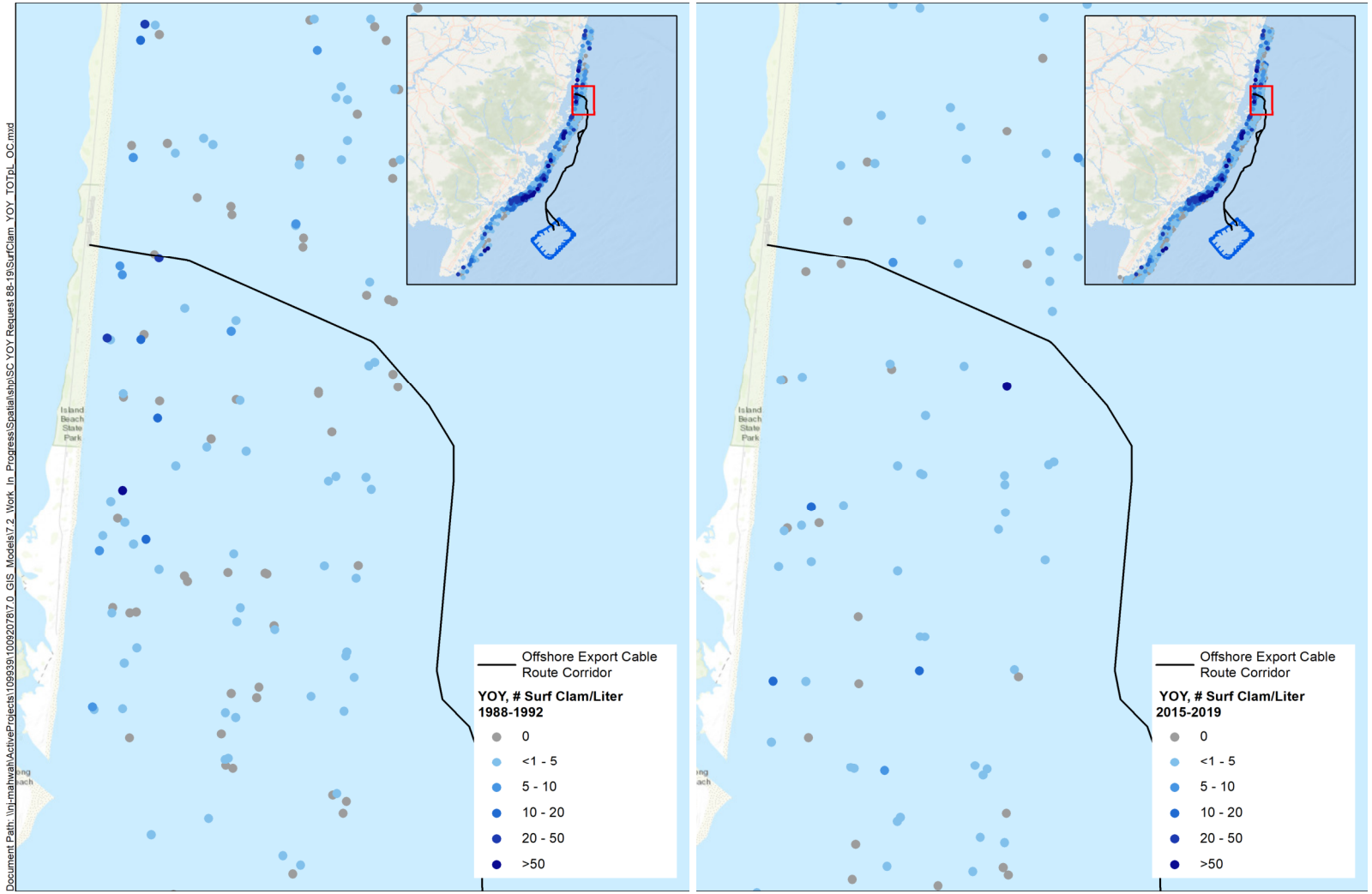


**Figure 3.1.2-3. NJDEP Surf Clam Recruitment Surveys, number of clams per liter of sample at Oyster Creek, 1988-1992 vs 2015-2019**

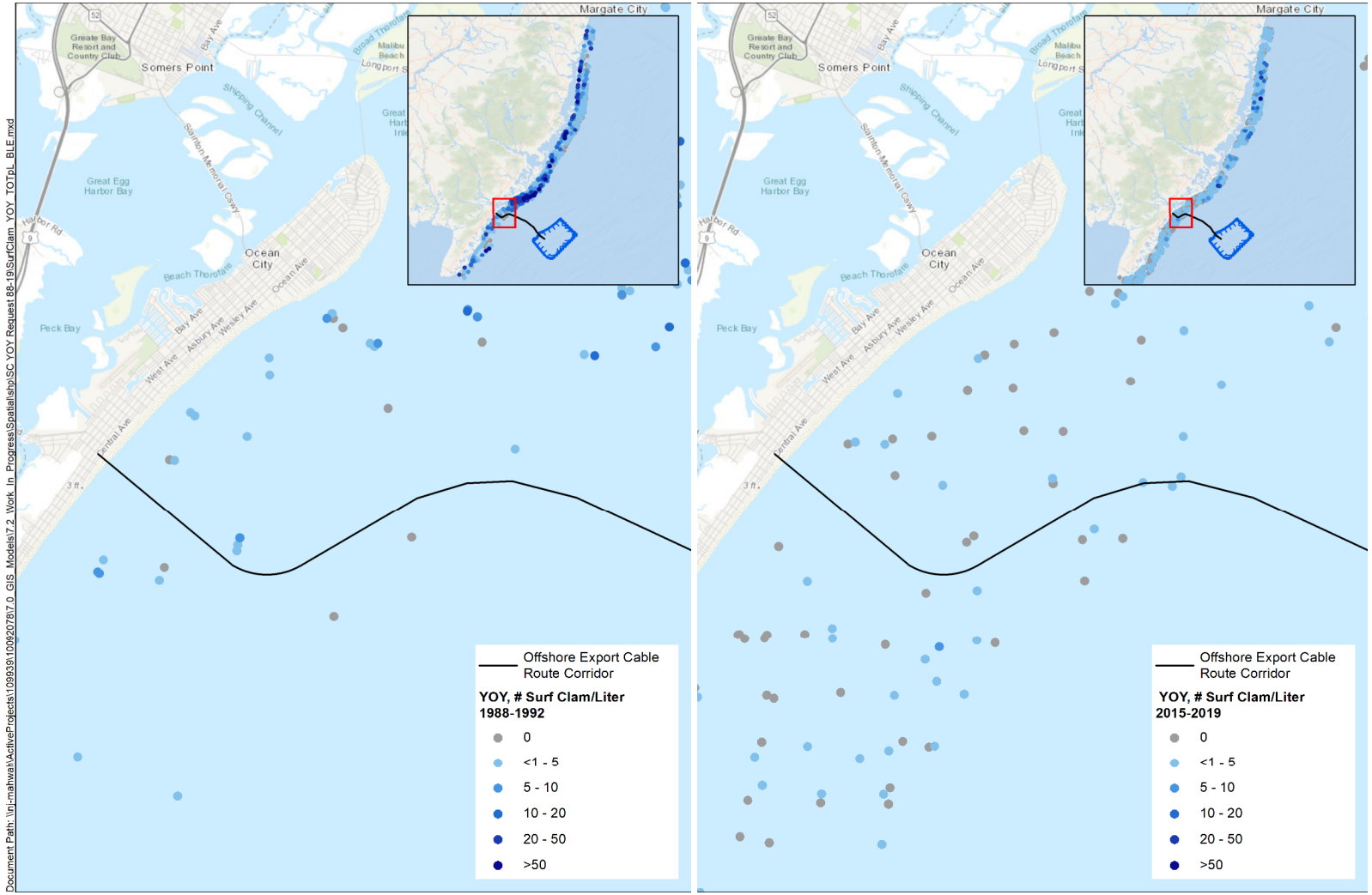


**Figure 3.1.2-4. NJDEP Surf Clam Recruitment Surveys, number of clams per liter of sample at BL England, 1988-1992 vs 2015-2019**

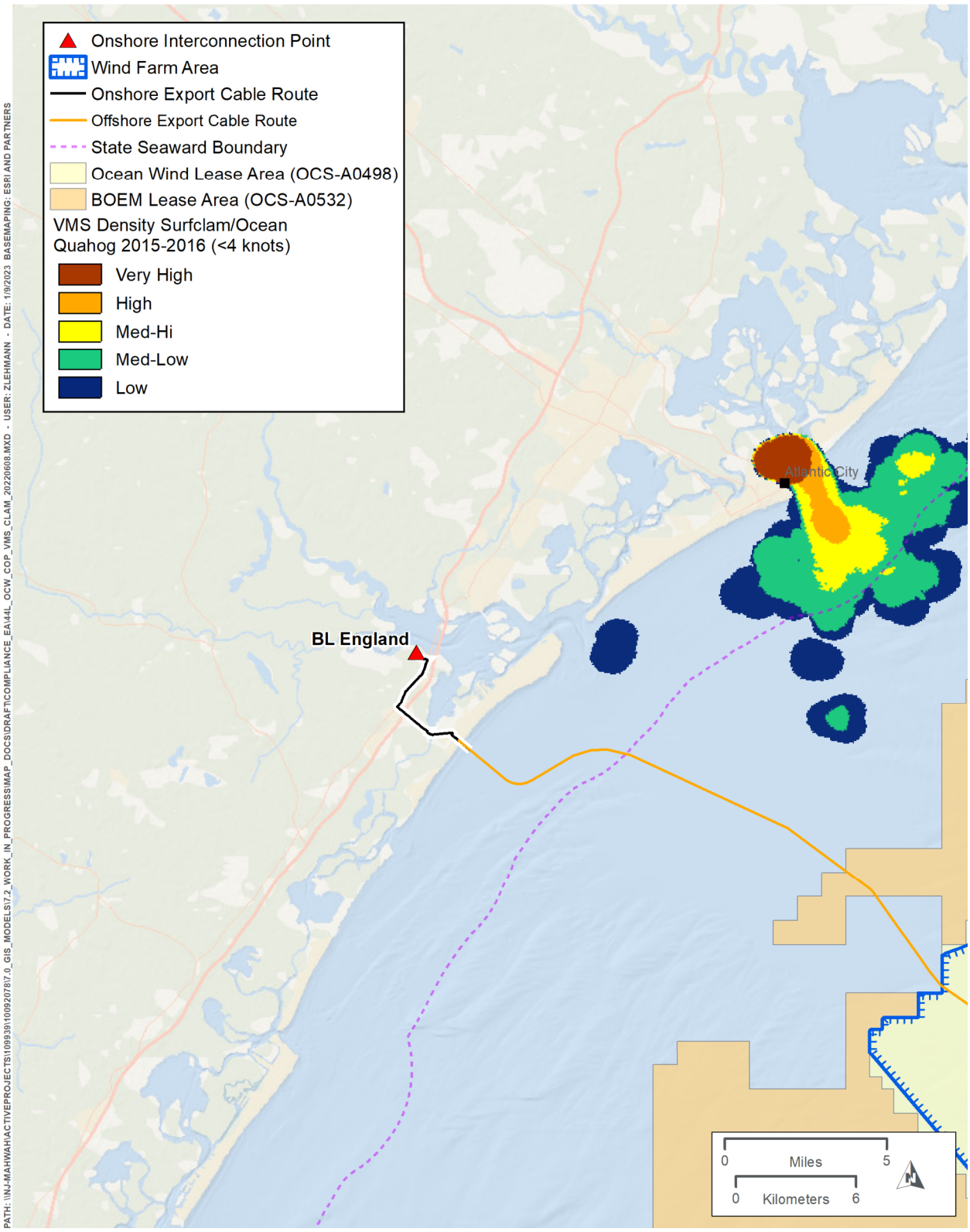


**Figure 3.1.2-5. BL England NOAA Vessel Monitoring System Data for Surf clam movement 2015-2016**

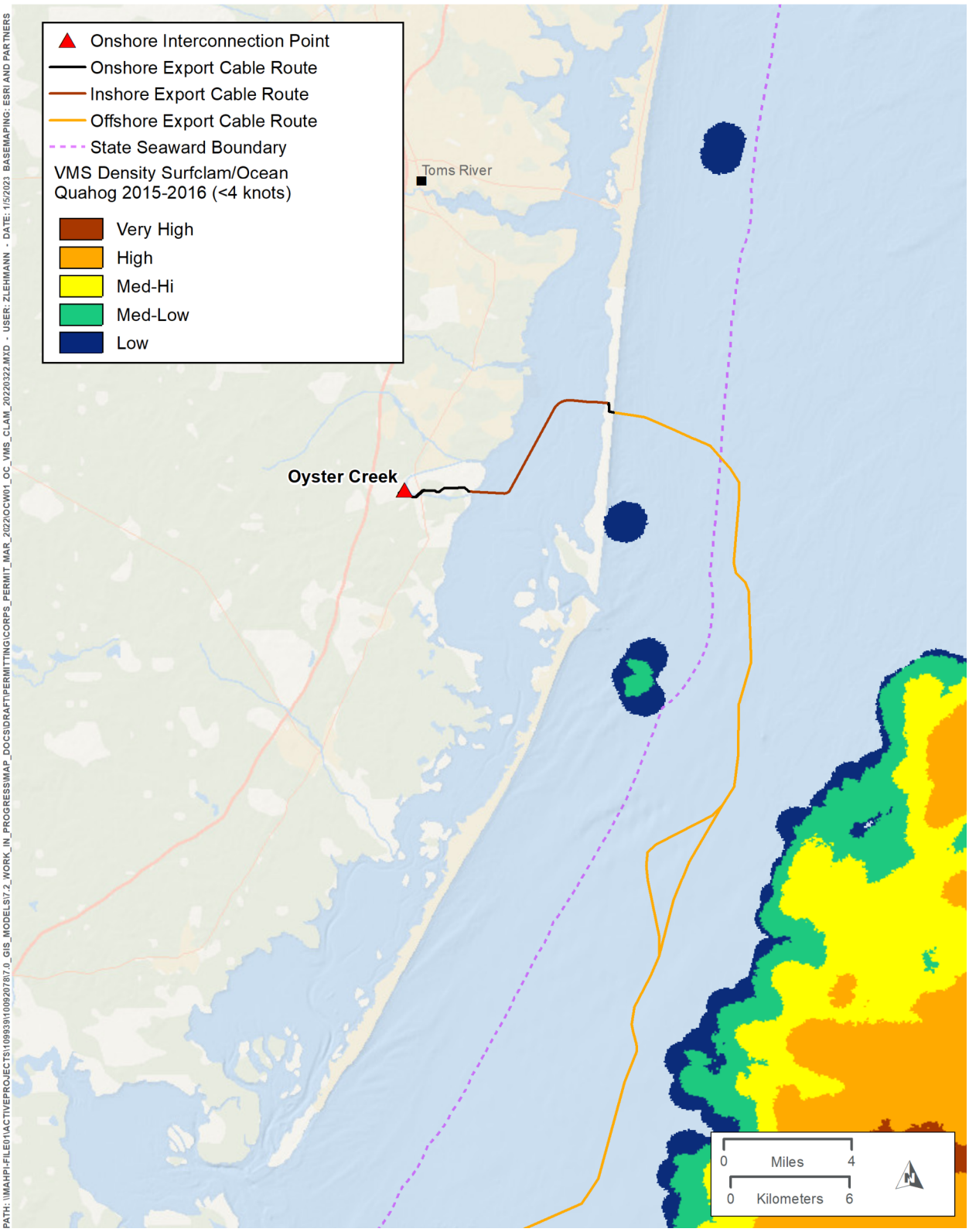


**Figure 3.1.2-6. Oyster Creek NOAA Vessel Monitoring System Data for Surf clam movement 2015-2016**

Based on the aforementioned data and trends of surf clam stock inventory and recruitment, the areas of the ECR within state waters do not show significant commercially harvestable quantities of surf clams or areas important for recruitment of surf clam stocks. Therefore, no impacts to surf clam areas are expected. Along the offshore ECR, bottom habitat will return naturally to pre-existing conditions after cable burial, within approximately nine months, allowing for quick recolonization of the impacted area by any surf clams from the surrounding area that may be present. There will be no prohibition on surf clam harvest after Project construction. Development of the Project is in the national interest for clean, renewable energy and in compliance with the offshore wind generated electricity goal set by the State of New Jersey's Executive Order No. 92 (2019). Furthermore, Ocean Wind 1's fisheries liaison is coordinating with fishing stakeholders to minimize impacts to the commercial fisheries industry. Therefore, the Project is consistent with this policy.

7:7-9.4 Prime Fishing Areas.

This policy prohibits submarine mining of sand or gravel in prime fishing areas. Project activities do not include mining. The Project will avoid prime fishing areas to the maximum extent practicable. While seabed preparation may be required prior to cable burial, sand or gravel submarine mining will not occur within prime fishing areas or in any part of the Project Area. As discussed in Section 2.1, because the Project proposes to use jetting tools that will not discernably change bathymetry, fishery productivity of these areas will not be impacted. Additionally, the cables have been sited to avoid prime fishing areas mapped by the Department to the maximum extent practicable.

*BL England*

The BL England offshore ECR avoids all prime fishing areas.

*Oyster Creek*

Within the Oyster Creek offshore ECR just prior to landfall, the cable route crosses the Cedar Creek prime fishing area. At this location the cable route makes as direct a crossing as practicable in order to make landfall via HDD within the southern auxiliary lot at Swimming Area #2 at IBSP.

Along the offshore export cable corridors, bottom habitat is expected to infill to pre-existing conditions after cable burial and not cause any long-term changes to bathymetry. Public outreach and notice to mariners will occur prior to marine construction activities to minimize impacts. Therefore,the Project is consistent with this policy.

7:7-9.5 Finfish Migratory Pathways.

This policy prohibits developments, such as dams, dikes, spillways, channelization, tide gates, and intake pipes that would create physical barriers to migratory fish. Although the cables for the Project will run through waters classified as a migratory pathway of migratory fish, the cables will be buried at target depths that will not result in a physical barrier to fish passage. Within Barnegat Bay, migratory fish work restriction windows (typically March through June) will be coordinated with NJDEP and USACE to avoid and minimize potential construction impacts to anadromous species. Potential impacts to migratory pathways will be limited to the areas directly around the construction and will be minimized through the use of APMs/BMPs and jetting technology where practicable to limit noise and turbidity, respectively. Jetting technology will minimize the amount of sediment disturbance around the construction location and migratory fish will be able to pass around construction. See Appendix S for additional information regarding finfish in the Project Area and details on impact minimization measures. Construction will not create a physical barrier to the movement of fish along finfish migratory pathways, nor will any other aspects of the Project. Therefore, the Project is consistent with this policy.

7:7-9.6 Submerged Vegetation Habitat.

This policy prohibits or restricts development to protect water areas that support SAV. Certain development in

SAV habitat is allowed including trenching for utility pipelines and submarine cables in the public interest, provided there is no practicable or feasible alternative alignment, the impact is minimized and that, following pipeline or cable installation, the disturbed area is restored to its preconstruction contours and conditions.

*BL England*

Within the Atlantic Ocean, no areas are mapped as submerged vegetation habitat. Within Great Egg Harbor, small areas of submerged vegetation habitat are mapped by the NJDEP, however, none are present at Roosevelt crossing at Peck Bay/Crook Horn Creek. Furthermore, this crossing will occur via trenchless HDD technology, avoiding any potential surficial impacts.

*Oyster Creek*

The Project has been designed to minimize impacts to SAV and SAV habitat in Barnegat Bay to the extent practicable as described in the Alternatives Analysis (see Appendix A).

Open cut trenching will be used to install the cables from the maintenance/storage yard into a prior channel in Barnegat Bay. While this area is mapped by the NJDEP 1986 mapping as SAV habitat, mapping supplied by NJDEP from 1979 does not indicate this area is SAV habitat. Additionally, Rutgers cites multiple studies that also do not map SAV within this area (2009, 2003, 1996-99), and the depth of this channel (approximately 4 to 7 ft, CIRES 2014) is inconsistent with areas that typically support SAV. Further, Ocean Wind 1's site-specific surveys conducted October 2021 (Underwater Photography) have confirmed that this channel does not contain SAV beds (Appendix L). Ocean Wind's site-specific surveys conducted in July 2022 within the "prior channel" confirmed that SAV was typically observed as absent or sparse, generally as single or double shoots of SAV in any given video frame and it was undetermined whether the SAV was drifting in the water column or rooted to the seafloor. To the north and south of the prior channel, continuous/patchy SAV beds were observed during the July 2022 surveys. While the Project is working to limit disturbances to the prior channel area, the workspace required for a portion of the cable installation works will be located within the areas observed to contain continuous/patchy SAV beds. Use of open cut installation allows for a reduced cable separation (20 m for open cut rather than 50 m for HDD), which keeps the majority of workspace needed to accommodate the cable installation both in-water and at the landfall within the prior channel.

Landfall on the western side of Barnegat Bay may be made using HDD or open cut installation techniques, depending on the potential for inadvertent returns. Ocean Wind's site-specific surveys conducted in July 2022 indicate that no SAV attached to the seafloor was found near the Holtec landfall.

Additional SAV surveys will be completed within the growing season prior to the start of construction and following construction to document pre-construction existing conditions and impacts to SAV.

BMPs developed in coordination with NJDEP and NMFS during the acquisition of State and Federal permits will be implemented to further minimize impacts. Furthermore, jetting technology will minimize impacts to the seabed and limit resuspension and dispersal of sediments to surrounding SAV beds. Ocean Wind 1 will restore dredged areas west of IBSP within the prior channel (currently mapped by the Department as SAV habitat) by backfilling areas with suitable material and mitigating. For more on SAV impacts, please see Appendix L and Appendix S.

Ocean Wind 1 will coordinate with NJDEP per N.J.A.C. 7:7-9.6 and NMFS to potential restore/mitigate SAV impacts as necessary. However, because the channel currently does not support SAV due to water depth, SAV is not expected to become reestablished in the area following construction. In areas outside of the permanent cable easement, SAV will become re-established once construction activities are completed. In areas overlying the cables where SAV re-establishment will not be allowed to ensure the cables and thermal load are not affected, Ocean Wind 1 will coordinate with NJDEP, NMFS and other regulatory agencies to prepare the best practicable mitigation plan to address impacts to SAV. A restoration and mitigation plan will be prepared and

approved at least 30 days prior to construction. Within six months before cable installation begins (within the growing season), a focused pre-construction SAV survey will be conducted to characterize the SAV condition (e.g., shoot density) within the Project's potential area of impact. Development of this Project is in the national interest for clean, renewable energy and is in compliance with the State of New Jersey's Executive Order No. 92 (2019) and N.J.A.C. 7:7- 9.6(b). Therefore, the Project is consistent with this policy.

7:7-9.7 Navigation Channels.

This policy prohibits construction that would extend into a navigation channel and stipulates that development that would cause siltation within navigation channels shall utilize appropriate mitigation measures. The Project will involve short term construction activities to cross New Jersey's Intracoastal Waterway, a navigation channel extending 102.3 nm from Manasquan Inlet to the western entrance to the Cape May Canal. The Intracoastal Waterway is 100 ft wide and maintained at a depth of 6 ft below MLW. The Intracoastal Waterway crossings are under review by the USACE as part of Ocean Wind 1's the Section 408 application.

*BL England*

The export cable will be buried via HDD under the Intracoastal Waterway navigation channel at the Roosevelt Boulevard Bridge crossing and impacts to the navigation channel and seabed will be avoided. The export cable crossing will be coordinated with USACE and the U.S. Coast Guard (USCG) to assure safety of navigation during and after construction and to assure proper burial depths and channel morphologies have been met so that the cable is buried at a depth that will not be impacted by future dredging operations or navigation. The area that crosses the navigation channel will be small in size (approximately 0.1 acre) and all in-water operations associated with the installation will be conducted by qualified and certified vessel and equipment operators.

*Oyster Creek*

The export cable will be buried under the Intracoastal Waterway navigation channel in Barnegat Bay and measures will be taken to avoid impacts to the maximum extent practicable.

Mitigation measures will be used to minimize siltation within the navigation channel based on APMs listed in Appendix S. Export cable burial will be coordinated with USACE and the U.S. Coast Guard (USCG) to assure safety of navigation during and after construction and to assure proper burial depths and channel morphologies have been met so that the cable is buried at a depth that will not be impacted by future dredging operations or navigation. Further, an HRG survey will be conducted post construction to confirm target burial depths have been achieved. Short-term temporary navigation restrictions may be imposed by the USCG during Project construction that will allow for export cable installation while minimizing conflicts with other vessels. No permanent structures or vessels will be staged or moored within the navigation channel during construction. The area that crosses the navigation channel will be small in size (approximately 0.1 acre) and all in-water operations associated with the installation will be conducted by qualified and certified vessel and equipment operators. Ocean Wind 1 has coordinated this crossing with USACE and has applied for a Section 408 authorization. Per USACE requirements, crossings must be 6 ft below the authorized channel depth or 4 ft below the existing depth, whichever is deeper. As previously mentioned, the authorized depth in this location is 6ft below MLW. At the location of this crossing in Barnegat Bay, the existing water depth of the channel area is between 10 and 12 ft below MLW. Therefore, the cable will be buried at a minimum depth of 4 ft below the seabed for this crossing. Thus, the Project is consistent with this policy.

Ocean Wind 1 proposes to perform maintenance dredging of the Oyster Creek channel portion of the Barnegat Inlet Federal Navigation Project in order to allow for the safe and reliable passage of construction vessels into Barnegat Bay. This federal navigation channel is operated and maintained by the U.S. Army Corps of Engineers (USACE). Ocean Wind 1 has coordinated closely with USACE who has solicited bids to conduct

planned maintenance dredging of the channel as part of its regular operations and maintenance duties. However, Ocean Wind understands the next regularly planned maintenance dredging may not be performed prior to construction of the Ocean Wind 1 Project within Barnegat Bay – therefore Ocean Wind 1 is planning to perform this maintenance dredging to ensure safe and reliable use of the channel by Project construction vessels – if necessary. All dredging will be performed within the authorized project limits and in accordance with USACE environmental reviews and authorization. Ocean Wind 1 does not propose to expand or deepen the channel beyond the federally authorized limits.

7:7-9.8 Canals.

This policy prohibits actions that would interfere with boat traffic in canals used for navigation. The Project Area does not include a canal as defined by NJDEP nor will the Project interfere with any canals used for traffic. Therefore, this policy is not applicable.

7:7-9.9 Inlets.

This policy prohibits filling and discourages submerged infrastructure in coastal inlets. The Project does not include fill or the installation of infrastructure within inlets. Therefore, this policy is not applicable.

7:7-9.10 Marina Moorings.

This policy prohibits non-water-dependent development in marina mooring areas. The Project Area is not suitable for and does not contain marina moorings, nor will the Project involve development of marina moorings. Therefore, this policy is not applicable.

7:7-9.11 Ports.

This policy prohibits uses that would preempt or interfere with port uses. As described in Appendix A, Ocean Wind 1 sited Project facilities to avoid and minimize interference with navigation, including port use. Ocean Wind 1 will use an existing port and onshore office, warehouse and workshop facilities to the extent practicable. The Project activities proposed in this permit application will not preempt or interfere with port uses. The use of the ports is consistent with port operations. Therefore, the Project is consistent with this policy.

7:7-9.12 Submerged Infrastructure Routes.

This policy prohibits any activity that would increase the likelihood of damaging submerged infrastructure (pipeline or cable that runs below a submerged land surface) or interfering with maintenance operations. Surveys for existing submerged infrastructure have been conducted and concluded that no submerged infrastructure will be crossed by the Project within State waters. The Project will not interfere with maintenance of other submerged infrastructure. Therefore, this policy is not applicable.

7:7-9.13 Shipwrecks and Artificial Reef Habitats.

This policy restricts the use, except for archaeological research, of special areas with shipwrecks and artificial reefs that would adversely affect the usefulness of any special area as a fisheries resource. Known shipwrecks and artificial reef habitats were mapped and avoided during initial siting. A geophysical survey was conducted to identify potentially unmapped shipwrecks and artificial reef habitats (Appendix N). The proposed cable routes will avoid these areas to the extent practicable. If avoidance is not possible, Ocean Wind 1 will develop a plan to mitigate impacts to shipwrecks and artificial reef habitat. Ocean Wind 1 does not expect the Project to have adverse impacts on shipwrecks or artificial reef habitats. Therefore, the Project is consistent with this policy.

7:7-9.14 Wet Borrow Pits.

This policy restricts the use and filling of underwater borrow pits. The Project will avoid wet borrow pits (**Figure 3.1.2-7)**.Therefore, this policy is not applicable.

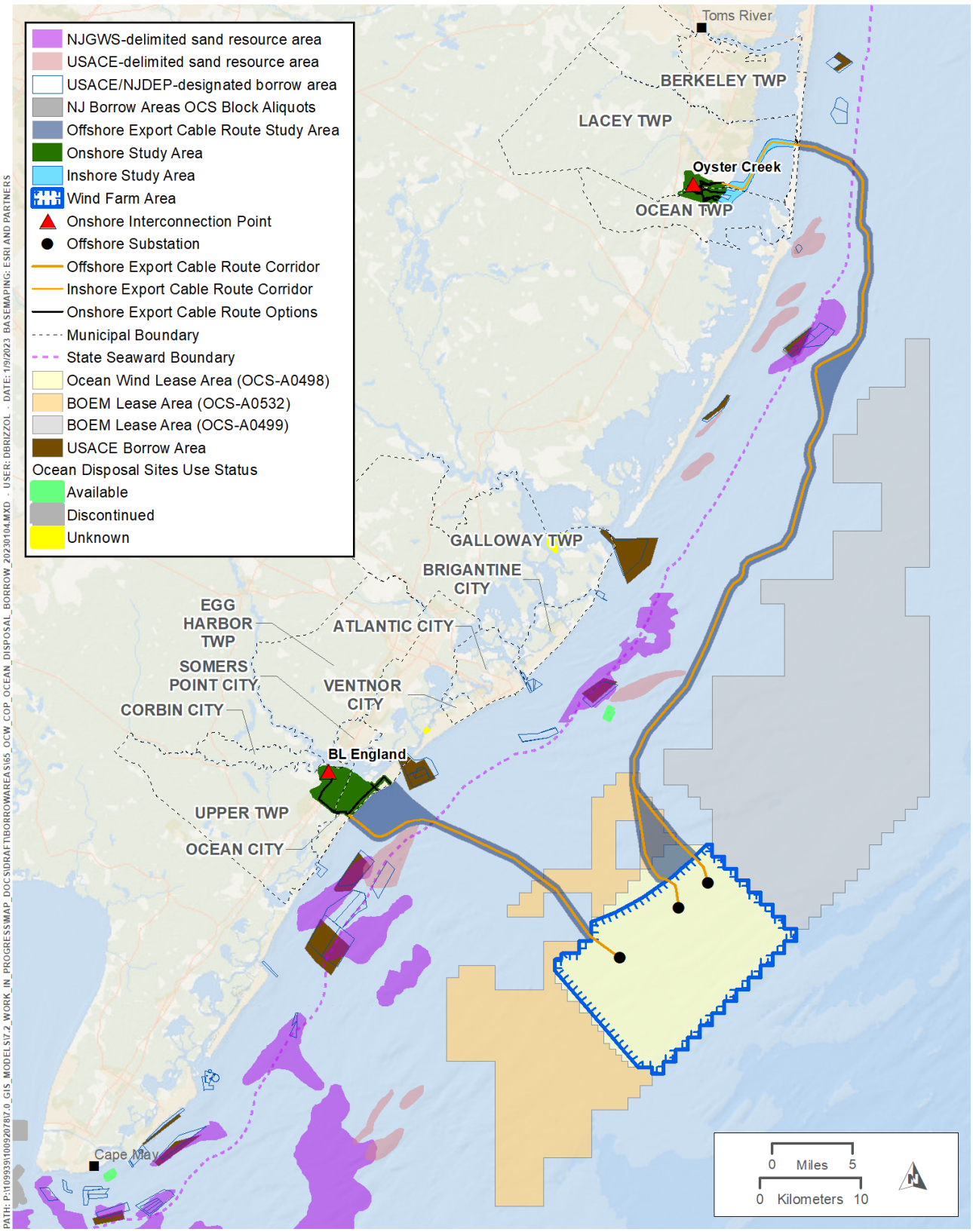


**Figure 3.1.2-7. Ocean disposal and borrow areas (Borrow areas - USACE undated; Ocean disposal sites - marinecadastre.gov).**

7:7-9.15 Intertidal and Subtidal Shallows.

This policy discourages disturbance of shallow-water areas (i.e., permanently or twice daily submerged areas from the spring high water to a depth of 4 ft below MLW). Pursuant to N.J.A.C. 7:7–9.15(e), the installation of submerged infrastructure within intertidal and subtidal shallows is conditionally acceptable, provided: (1) directional drilling is used unless it can be demonstrated that the use of directional drilling is not feasible; (2) where directional drilling is not feasible, there is no feasible alternative route that would not disturb intertidal and subtidal shallows; (3) the infrastructure is located deeply enough to avoid exposure or hazard; and (4) all trenches are backfilled to the preconstruction depth with naturally occurring sediment.

*BL England*

The Project will cross under ISS at the Atlantic Ocean landfall. HDD installation will be used at the landfall to avoid impacts to ISS in these areas. Use of HDD will allow for avoidance of impacts to ISS as the exit pits within the water body are deeper than the lower limit of ISS (4ft below MLW).

*Oyster Creek*

The Project will cross ISS within the prior channel area west of IBSP (**Table 2.2.4-1 and Table 2.3.6-1**). HDD installation will be used at the IBSP Atlantic landfall and may be used at the Lacey Township Holtec Property landfall to avoid impacts to ISS in these areas. Use of HDD will allow for avoidance of impacts to ISS as the exit pits within the water body are deeper than the lower limit of ISS (4ft below MLW; See Appendix C and Appendix S for impacts to ISS areas). If trenchless technology options are not successful or not feasible due to high risk of inadvertent returns, open cut trenching will be used to bury cable. If trenching occurs, trenches will be backfilled to preconstruction contours. Should open cut be required, proper shoreline protection measures will be implemented to prevent erosion due to wave action. The export cable will be buried at target depths that will prevent it from becoming exposed or posing a hazard risk, to the extent practicable.

If necessary, mitigation measures will be implemented in accordance with N.J.A.C. 7:7-17.7. Therefore, the Project is consistent with this policy.

7:7-9.16 Dunes.

This policy protects and preserves ocean and bay front dunes.

*BL England*

The export cables will pass under dunes via HDD at depths where the cables will not be vulnerable to exposure. The export cable will be buried approximately 38 feet below the peak of the dunes on the beach in Ocean City and approximately 26 feet below the MLLW line. The cable will also be buried between 7.5 feet under the dunes and a maximum of 35 feet in the Atlantic Ocean below the beach nourishment project's depth of closure elevation of -22 ft NAVD88(see Appendix C Design Plans).

*Oyster Creek*

The export cables will pass under dunes via HDD, at approximately 50 feet below the dunes at IBSP (Appendix C HDD drawing set) where the cables will not be vulnerable to exposure. Because of the depth of burial, the cables will not be uncovered for operations and maintenance activities in the HDD areas during the operational lifetime of the Project.

Therefore, installation and maintenance will not cause adverse long-term impacts on the natural functioning of the beach and dune system. The export cable will be buried, and the cable route and any operations and maintenance access (such as a manhole) will be located in previously disturbed areas. In addition, the Project is an acceptable activity because it meets the rule on location of linear development (N.J.A.C. 7:7-14.1). Ocean

Wind 1 will continue to coordinate with NJDEP's coastal engineering group and USACE to avoid, minimize, or mitigate impacts to dunes. Therefore, the Project is consistent with this policy.

7:7-9.17 Overwash Areas.

This policy restricts development in overwash areas because of their sensitive nature. However, linear developments are allowed within these areas. The Project will minimize all construction impacts and restore the overwash areas to existing grade following construction. Because the export cable will remain buried, and the cable route and any operation and maintenance points (such as a manhole) will be located in previously disturbed areas and remain flush to the ground surface, installation and maintenance will not cause adverse long-term impacts. Ocean Wind 1 will coordinate with NJDEP's coastal engineering group to avoid, minimize, or mitigate impacts to overwash areas. Therefore, the Project is consistent with this policy.

7:7-9.18 Coastal High Hazard Areas.

This policy restricts development in coastal high-hazard areas, which are flood-prone areas subject to high velocity waters (i.e., FEMA defined Zone V). Portions of the export cable route are located within the FEMA designated Zone VE. The cable and its associated structures will be placed underground and, therefore, will not be subject to high velocity waters. Any permanent aboveground structure will be placed at least 25 ft landward of any shore protection structures such as bulkheads, revetments or seawalls. Prior to construction, the appropriate FHA approvals will be obtained, and the Project will be in compliance with N.J.A.C. 7:13. Therefore, the Project is consistent with this policy.

7:7-9.19 Erosion Hazard Areas.

This policy prohibits development in erosion hazard areas under most circumstances to protect public safety. Landfalls of export cables and infrastructure will not occur in an erosion hazard area. Therefore, this policy not applicable.

7:7-9.20 Barrier Island Corridor.

This policy stipulates that new or expanded development within the oceanfront barrier island corridor comply with the requirements for impervious cover and vegetative cover that apply to the site under N.J.A.C. 7:7-13. The export cable corridors associated with the Project are linear developments that will not be wholly located within or solely serving a development need within the barrier island corridor.

*BL England*

The portions of the Project that fall within the barrier island corridor include the underground cables and their associated components at Ocean City. These have been sited within existing road ROWs to the extent practicable. Impacts to impervious surfaces include HDD and trenching within existing roadways in Ocean City. Construction will take place within the parking lots, where practicable and impacted areas of vegetation will be restored or mitigated for, as appropriate.

*Oyster Creek*

The portions of the Project that fall within the barrier island corridor include the underground cables and their associated components at IBSP. These have been sited within existing parking lots and road ROWs to the extent practicable. However, there will be impacts to wetlands and vegetation on the Bay side of IBSP. Impacts to impervious surfaces include HDD and trenching within the IBSP Swimming Area #2 parking lot, Shore Road and the maintenance area on the west side of IBSP. Construction will take place within the parking lots, where practicable and impacted areas of vegetation will be restored or mitigated for, as appropriate.

The Project will not alter the existing character of New Jersey's developed barrier islands and will not add to the public service costs or hurricane emergency evacuation challenges of these islands. Therefore, the Project is consistent with this policy.

7:7-9.21 Bay Islands.

This policy restricts development on bay islands. The Project will avoid bay islands and no development is proposed on bay islands. Therefore, this policy is not applicable.

7:7-9.22 Beaches.

This policy restricts development on beaches. The export cables will pass under the beach from the Atlantic Ocean via HDD methods, at a depth where the cables will not be exposed. HDD workspace will be located in existing paved areas. The export cable will remain buried, and the cable route and any operations and maintenance access (such as TJBs) will be located in previously disturbed areas.

*BL England*

The export cable landfall workspace and TJB for BL England will be located within paved areas on 35th Street. Therefore, installation and maintenance will not cause adverse long-term impacts on the natural functioning of the beach and dune system because the export cable will remain buried, and the cable route and any operation and maintenance points (e.g., TJBs) will be located in previously disturbed areas and not on beaches.

The export cables will pass under dunes via HDD at depths where the cables will not be vulnerable to exposure. The export cable will be buried approximately 38 feet below the peak of the dunes on the beach in Ocean City and approximately 26 feet below the MLLW line. The cable will also be buried between 7.5 feet under the dunes and a maximum of 35 feet in the Atlantic Ocean below the beach nourishment project's depth of closure elevation of -22 ft NAVD88 (see Appendix C Design Plans).

*Oyster Creek*

At IBSP in the Oyster Creek Project Area, the export cable landfall workspace and TJBs will be installed within Swimming Area #2 parking lot.

Therefore, installation and maintenance will not cause adverse long-term impacts on the natural functioning of the beach and dune system because the export cable will remain buried, and the cable route and any operation and maintenance points (e.g., TJBs) will be located in previously disturbed areas and not on beaches. Furthermore, the Project meets the rule on location of linear development (N.J.A.C.7:7-14.1) and is an acceptable activity under N.J.A.C.7:7-9.22. Therefore, the Project is consistent with this policy.

7:7-9.23 Filled Water's Edge.

Filled water's edge areas are existing filled water, wetlands, or upland areas lying between wetlands or water areas, and either the upland limit of fill or the first paved road/railway landward of the adjacent water area, whichever is closer to the water. This policy seeks to promote water-dependent uses at waterfront areas that have been previously filled or modified for commercial activity. There are no areas of filled water's edge within the Project and therefore, this policy does not apply.

7:7-9.24 Existing Lagoon Edges.

This policy restricts development at lagoon edges, which are defined as existing manmade land areas resulting from the dredging and filling of wetlands, bay bottom and other estuarine water areas for the purpose of creating waterfront lots along lagoons for residential and commercial development. Existing lagoon edges extend upland to the limit of fill, or the first paved public road or railroad generally parallel to the water area,

whichever is less. Because the cable will be placed in road ROWs, existing lagoon edges will not be crossed, as the existing lagoon edge will end at the first paved surface. Therefore, this policy is not applicable.

7:7-9.25 Flood Hazard Areas.

This policy is designed to restrict development in flood hazard areas and to ensure that the waterfront is not pre-empted by uses that could function equally well at inland locations. This Project is located within a regulated FHA according to FEMA Flood Insurance Rate Maps (FIRM). The project is consistent with this policy. For more information on project compliance with FHA regulations, please see Section 3.3.

7:7-9.26 Riparian Zones.

This policy sets the standards for development in a riparian zone. A riparian zone exists along regulated waters, except there is no riparian zone along the Atlantic Ocean nor along any manmade lagoon, stormwater management basin, or oceanfront barrier island, spit or peninsula. The Project is consistent with this policy. For more information on project compliance with FHA and riparian zone regulations, please see Section 3.3.

7:7-9.27 Wetlands.

This policy restricts disturbance in wetland areas and requires mitigation if wetlands are destroyed or disturbed. The policy also prohibits development within wetlands unless the Department can find that the proposed development meets the following conditions:

- Requires water access or is water oriented as a central purpose of the basic function of the activity (this rule applies only to development proposed on or adjacent to waterways). This means that the use must be water dependent;
- Has no prudent or feasible alternative on a non-wetland site;
- Will result in minimum feasible alteration or impairment of natural tidal circulation (or natural circulation in the case of non-tidal wetlands); and
- Will result in minimum feasible alteration or impairment of natural contour or the natural vegetation of the wetlands.

The Project's landfall areas meet the definition of a water dependent activity because the Project requires water access to the Atlantic Ocean and inland bays for cable crossings and is an offshore wind farm.

The routes and installation methods were selected to avoid and minimize impacts to wetlands and other resources to the maximum extent practicable while also incorporating engineering feasibility. N.J.A.C. 7:7a-1.3 defines a "practicable alternative" as other choices available and capable of being carried out after taking into consideration cost, existing technology, and logistics in light of overall project purposes, and may require an area not owned by the applicant which could reasonably have been or be obtained, utilized, expanded, or managed in order to fulfill the basic purpose of the proposed activity. For a more detailed assessment of the alternatives investigated, please see Appendix A.

*BL England*

Trenchless technology options and/or BMPs will be used to further minimize impacts to NJDEP-regulated resources, including wetlands at the Crook Horn Creek/Peck Bay crossing. Site-specific wetland surveys were conducted to inform the design and exact location of the placement of infrastructure to limit impacts to wetlands to the maximum extent practicable. Following these site-specific wetland surveys, Ocean Wind 1 coordinated with NJDEP and USACE to verify the size and location of wetlands. At the western HDD workspace at Crook Horn Creek, the workspace has been revised to avoid the coastal wetland and exclusion fencing will be used to avoid impacts the adjacent coastal wetlands (see Appendix C).

Freshwater wetlands will be temporarily impacted during construction of the onshore export cable through the former golf course to the relocated BL England substation. In addition, forested wetlands in this area will be permanently impacted through the removal of woody vegetation. One stormwater outfall at the substation site will permanently impact 0.007 acre of 1970s Mapped Coastal wetlands associated with grading for the outfall(**Table 2.2.4-1 and Table 2.3.6-1**). Best management practices will be used to minimize impacts during construction and any temporarily impacted areas will be restored per permit conditions following construction. The former coal pile site became available following demolition of portions of the former BL England Generating Station and the substation relocation to the former coal pile is proposed because it will reduce impacts to wetlands and habitat. For more information on the alternatives assessed, please refer to Appendix A. All impacts to the wetlands in this location will be mitigated for in accordance with N.J.A.C. 7:7-17 and N.J.A.C. 7:7A-11. For impact acreage, please refer back to tables in Section 2.

*Oyster Creek*

Trenchless technology options and/or BMPs will be used to further minimize impacts to NJDEP-regulated resources, including wetlands at the Oyster Creek Discharge Channel crossing in Lacey Township. The Holtec Property Landfall will be installed by HDD or open cut and BMPs will be used to minimize impacts. Site-specific wetland surveys were conducted to inform the design and exact location of the placement of infrastructure to limit impacts to wetlands to the maximum extent practicable. Following these site-specific wetland surveys, Ocean Wind 1 coordinated with NJDEP and USACE to verify the size and location of wetlands.

Within the Oyster Creek Project Area, wetland impacts will occur at IBSP near Shore Road as a result of cable duct installation through an emergent wetland community. Cable ducts will be below grade and the area over the top of these ducts will be restored and replanted so permanent impacts will not be incurred. At this location, the two cables will be installed into two TJBs which will be below grade and transitioned into offshore cables. The cables will then be installed into Barnegat Bay shoreline via open cut installation through a berm with fringe wetlands dominated by common reed. Temporary impacts to the wetlands will occur here, but the berm will be restored to previous conditions and the wetlands will be allowed to naturally revegetate.

At the western Barnegat Bay landing, the cable will make landfall in a common reed coastal wetland using either HDD or open cut technology depending on the risk of inadvertent returns during HDD. The temporary workspace used during construction will be the same regardless of the construction method and permanent impacts will be the same. The wetland will be matted during construction activities and two TJBs will be installed below grade and contours will be reestablished, allowing revegetation to occur over top of the TJBs. The only permanent surficial impacts in this area will be the at-grade access manhole covers to the TJBs and permanent winch pads. There will be no impact to tidal hydrology as a result of this work. After installing the cables below grade through a short distance of mapped coastal wetlands and a very small area of palustrine forested wetlands (less than 3,000 square feet [0.059 acres]), the cable will be installed within previously disturbed upland dirt trails, upland forested areas, and paved roads until the Project crosses under Oyster Creek via HDD installation, thereby avoiding wetlands to the west of Route 9 and on the southern shoreline of Oyster Creek. Impacts to coastal and freshwater wetlands will be mitigated for in accordance with N.J.A.C. 7:7-17 and N.J.A.C. 7:7A-11 and potentially require replanting of trees upon coordination with NJDEP.

Small, isolated freshwater wetlands, totaling approximately 1.220 acres in the proposed onshore substation parcel will be filled as a result of the construction (Table 2.3.6-1). The substation was sited based on an existing and valid LOI issued by the Department that did not map these isolated wetlands. Because of the proximity of the substation to the interconnection point, along with the topography in the western portion of the parcel, the substation could not be sited in a different location to avoid impacts to the isolated wetlands. For more information on the alternatives assessed, please refer to Appendix A. All impacts to the wetlands in this

location will be mitigated for in accordance with N.J.A.C. 7:7-17 and N.J.A.C. 7:7A-11. For impact acreage, please refer back to tables in Section 2.

The Project route will avoid and minimize any adverse impacts to wetlands by maintaining wetland buffers, implementing APMs and BMPs for erosion and sediment control, and maintaining natural surface drainage patterns. Ocean Wind 1 will avoid impacting tidal hydrology and wetlands to the maximum extent practicable. Ocean Wind 1 is seeking a permit in accordance with N.J.A.C. 7:7 and N.J.A.C. 7:7A to authorize Project activities within those wetlands regulated under the Wetlands Act of 1970 and the Freshwater Wetlands Protection Act. The Project intends to purchase wetland mitigation credits from a mitigation bank that services the area. The Mitigation Plan will be finalized prior to construction per State requirements. Therefore, the Project will be consistent with this policy.

7:7-9.28 Wetland Buffers.

This policy restricts development in wetland buffer areas in order to protect wetlands. The Project will occur in upland buffers or areas adjacent to wetlands, as well as wetland areas where there is no feasible alternative (**Table 2.3.6-1**).However, the Project will avoid and minimize impacts to wetlands and wetland buffers to the greatest extent possible by siting the majority of the onshore Project components within existing disturbed areas such as the disturbed former coal pile area, roadway rights-of-way and other paved areas such as parking lots, raised berms or trails to the maximum extent practicable. Additionally, the Project will implement APMs and BMPs for soil erosion and sediment control (SESC) and will maintain natural surface drainage features (Appendix S). Ocean Wind 1 conducted site-specific wetland surveys and coordinated with NJDEP and USACE on the size, location, and approvals necessary for development in wetlands and wetland buffers. Project impacts to wetland transition area buffers will be avoided to the maximum extent practicable.

For actions that will require unavoidable impacts to wetland transition area buffers (see impact tables in Section 2), Ocean Wind 1 is seeking permits in accordance with N.J.A.C. 7:7 and N.J.A.C. 7:7A. Therefore, the Project is consistent with this policy.

7:7-9.29 Coastal Bluffs.

This policy restricts development on coastal bluffs. The Project Area does not contain coastal bluffs. Therefore, this policy is not applicable.

7:7-9.30 Intermittent Stream Corridors.

This policy restricts action in intermittent stream corridors. Intermittent stream corridors are areas including and surrounding surface water drainage channels in which there is not a permanent flow of water and which contain an area or areas with a seasonal high-water table equal to or less than one foot. The inland extent of these corridors is either the inland limit of soils with a seasonal high water table depth equal to, or less than one foot, or a disturbance of 25 ft measured from the top of the channel banks, whichever is greater. The Project will occur in upland buffers or areas adjacent to wetlands, but no intermittent stream corridors were identified during site-specific wetland and watercourse delineations. Therefore, this policy is not applicable.

7:7-9.31 Farmland Conservation Areas.

This policy seeks to preserve large parcels of land used for farming. Per N.J.A.C. 7:7–9.31(a), farmland conservation area is defined as, “any contiguous area of 20 acres or more (in single or multiple tracts of single or multiple ownership) with soils in the Capability Classes I, II and III or special soils for blueberries and cranberries as mapped by the United States Department of Agriculture (USDA), Soil Conservation Service (SCS), in National Cooperative Soil Surveys, which are actively farmed, or suitable for farming, unless it can be demonstrated by the applicant that new or continued use of the site for farming or farm dependent purposes is

not economically feasible." The Project does not occur in any area that meets the criteria for farmland conservation area. Therefore, this policy is not applicable.

7:7-9.32 Steep Slopes.

This policy seeks to preserve steep slopes by restricting development in such areas. Restricting development on steep slopes helps to control erosion and reduce flooding downhill. The Project Area does not contain steep slopes. Therefore, this policy is not applicable.

7:7-9.33 Dry Borrow Pits.

This policy restricts the excavation and filling of upland or dry borrow pits. The Project Area does not contain dry borrow pits nor does Ocean Wind 1 propose to use or fill dry borrow pits. Therefore, this policy is not applicable.

7:7-9.34 Historic and Archaeological Resources.

This policy protects the value of historic architectural and archaeological resources and may result in a need for protective measures.

The Project may affect submerged cultural resources within the offshore marine environment along the offshore export cable route. Geophysical surveys were conducted from 2018 through 2022 and will continue through project construction with the goal to identify potential submerged cultural resources. The marine archaeological resources assessment of the HRG data within the PAPE in state waters identified three potential submerged cultural resources within the gradiometer, side-scan sonar, and/or multibeam echosounder datasets along the ECR survey corridor. The proposed cable route has incorporated an avoidance buffer to avoid impacts to these areas. HRG data analysis did not identify any geomorphic features of archaeological interest within the PAPE in state waters (Marine Archaeological Resources Assessment in Appendix N). In addition, Ocean Wind 1 developed and will implement an unanticipated discovery plan for offshore archaeological resources.

Furthermore, cables and infrastructure on land may potentially affect cultural resources within the onshore environment. Ocean Wind 1 conducted a Phase I Archaeological Investigation to evaluate the effects of onshore infrastructure construction on archaeological resources. Site 28-CM-032 has been identified as eligible for listing in the NRHP. The Project will avoid impacts to this site by designing around it. The Oyster Creek Paleoindian Find Spot on the Finninger Farm Parcel has been determined to be potentially significant based on comments provided by the NJ HPO. The location of this resource at the edge of the proposed LOD makes impacts unavoidable. As such, Ocean Wind 1 developed a historic properties treatment plan to conduct additional archaeological investigation of this find spot and an associated 50-foot buffer. All other resources identified were determined ineligible for listing in the NRHP or avoidable and thereby No Adverse Effect. Ocean Wind 1 developed and will implement an Unanticipated Discoveries Plan to avoid and mitigate adverse effects to unknown terrestrial archaeological resources (see Appendix N for draft unanticipated discovery plans). Ocean Wind 1 will coordinate with the relevant State historic and archaeological agencies and tribes through BOEM's Section 106 process. Refer to Appendix N for the Marine and Terrestrial Archaeological Resources Assessment Reports.

Onshore infrastructure may potentially affect architectural resources. Ocean Wind 1 conducted architectural surveys and assessed impacts to historic architectural resources. Impacts to historic architectural resources were minimized to the extent practicable through siting of the Project facilities (e.g., siting onshore substations adjacent to and within existing generation properties where they are consistent with existing conditions, and siting buried onshore infrastructure primarily within road ROWs) and by burying onshore and offshore export cables to minimize impacts to historic architectural resources. Based on the results of the assessment of visual effects to historic properties, findings are recommended as No Adverse Effect on historic properties. Therefore, this Project is consistent with this policy.

7:7-9.35 Specimen Trees.

This policy seeks to protect specimen trees as defined by NJDEP. Specimen trees are the largest known individual trees of each species in New Jersey. The Department's Division of Parks and Forestry maintains a list of these trees (see "New Jersey's Biggest Trees," published by the Department's Division of Parks and Forestry, Summer 1991 for a listing of specimen trees). In addition, large trees approaching the diameter of the known largest tree shall be considered specimen trees. Individual trees with a circumference equal to or greater than 85 percent of the circumference of the record tree, as measured 4.5 ft above the ground surface, for a particular species shall be considered a specimen tree. No old growth trees were observed during wetland delineations. The majority of the Project will be located within existing disturbed areas. The Project will not impact specimen trees or large trees approaching the diameter of a specimen tree. Therefore, the Project is consistent with this policy.

7:7-9.36 Endangered or Threatened Wildlife or Plant Species Habitats

Agency consultations for information regarding threatened, endangered and special concern species and habitats have been coordinated with USFWS, NJDEP Natural Heritage Program (NHP) and the National Oceanic and Atmospheric Administration (NOAA). Desktop reviews have identified several species as potentially occurring within or in the vicinity of the Project Area, as outlined in **Appendix S, Table 3.4.6-1**. Ocean Wind 1 conducted onshore species habitat assessments to determine whether appropriate habitat for threatened and endangered species is present. Habitat assessments are included in Appendix G. Site specific ecological community assessments are included in the Wetland Delineation Report in Appendix I. The Project will avoid habitat for threatened and endangered species to the extent practicable. Ocean Wind 1 has designed facilities and plans to utilize installation methods to minimize impacts where avoidance is not possible and coordinate with relevant agencies to develop BMPs and comply with permit conditions to demonstrate compliance with this rule (see Section 4.4.4 of the Environmental Assessment in Appendix S). In addition, Ocean Wind 1 will implement nearshore marine waters monitoring by approved protected species observers (PSO) to prevent adverse impacts to marine mammals, sea turtles and Atlantic sturgeon. Therefore, the Project is consistent with this policy.

7:7-9.37 Critical Wildlife Habitats.

Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly wintering, breeding, and migrating. Portions of the Project fall within State-priority Important Bird Areas (IBAs) and continental-priority IBAs, which are areas that provide essential habitats for sustaining bird populations; however, the Project is not expected to impact the habitat as impacts will be limited to previously disturbed areas (such as pavement and road ROWs, and existing generation properties), to the extent practicable. In addition, onshore export cables will be buried, and HDD installation is proposed at sensitive habitat areas such as beaches, dunes, and large water body crossings to the extent practicable. In addition, Ocean Wind 1 will continue to coordinate with the USFWS and the NJDEP during the permitting phase of the Project to identify critical wildlife habitats, including known nesting habitats of migratory birds. Appropriate mitigation measures will be taken to avoid impacts and Ocean Wind 1 will work with the NJDEP to implement appropriate seasonal work restriction windows and identify noise ordinance requirements (Appendix S). Therefore, the Project is consistent with this policy.

7:7-9.38 Public Open Space.

This policy encourages the development of new public open spaces and discourages development that might adversely affect existing public open space. Project impacts to public open space resources will be avoided to the maximum extent possible through siting to avoid sensitive areas, trenchless technology options or other

BMPs. Ocean Wind 1 will coordinate with the State for approvals for the use of State lands and construction will be scheduled outside of the high tourism season.

The landfall for BL England will be made from workspace within paved portions of 35th Street and the cable will be installed under the beach using HDD installation technology to avoid impacts to resources and use of the beach to the extent possible. The beach adjacent to 35th Street is used for passive recreation by members of the public. Installation of the cable will occur during the tourism off season so as to minimize impacts to the community to the maximum extent practicable. During construction the immediate vicinity of 35th Street will be temporarily closed as the street will be utilized for the HDD workspace. The temporary closure will allow for the work zone to remain as compact as possible. For all cable installation works planned in Ocean City, access to local residences, businesses, and the beach in Ocean City will be maintained via the adjacent alleys and/or cross streets. During time periods where work is occurring, traffic plans and the final cable work zones will be coordinated with local police, local officials, and other stakeholders. Ocean Wind 1 will work with local residents and businesses during construction to make adjustments as necessary to ensure any impacts are minimized to the maximum extent practicable. Ocean Wind 1 will coordinate construction activities to try to avoid community events (e.g., annual marathons or parades) and develop a construction schedule to minimize activities in the onshore export cable corridors during the peak summer recreation and tourism season, where practicable.

Within IBSP, Ocean Wind 1 sited the cable, selected installation techniques and developed the Project schedule to reduce conflicts with open space. The export cable will remain buried, and the cable route and any operation and maintenance points (such as a manhole) have been sited within previously disturbed areas to the extent practicable. Landfall from the Atlantic Ocean will be made using HDD from a paved parking lot (closed seasonally October through June) to minimize impacts to the beach and dunes. Should trenchless technologies not be feasible, construction will be conducted to remain consistent with the character and purpose of IBSP. The cable route in IBSP is sited within existing paved parking lots and a disturbed maintenance area to minimize impacts on the public open space to the extent practicable. In addition, construction will take place outside of the summer season when use is reduced.

Therefore, the Project is consistent with this policy.

7:7-9.39 Special Hazard Areas.

This policy discourages development in special hazard areas. The substation and portions of the onshore export cable are within areas of known contamination (Appendix S). The Project linear portions will be enrolled under the NJDEP Site Remediation Program (SRP) as a linear construction project (LCP) and handled in accordance with all applicable regulations. Ocean Wind 1 will manage any contamination encountered during Project construction in accordance the NJDEP SRP guidance as well as with the Materials Management Plan (MMP) and Materials Handling Plan (MHP), which will be developed prior to construction. The Project will not include residential and labor-intensive economic development within the special hazard area and all development will include appropriate mitigating measures to protect public health and safety. Therefore, the Project is consistent with this policy.

7:7-9.40 Excluded Federal Lands.

Excluded Federal lands are those lands, the use of which is, by law, subject solely to the discretion of or held in trust by the Federal Government, its officers or agents. Federal lands are outside of the New Jersey Coastal Zone in accordance with Section 304 of the CZMA. The Project Area contains no excluded Federal lands and Federal actions on excluded lands will not occur. Therefore, this policy is not applicable.

7:7-9.41 Special Urban Areas.

This policy seeks to encourage waterfront development that would benefit certain municipalities that receive State aid. The Project may occur in special urban areas; however, development will not adversely affect the

economic well-being of these areas. Secondary impacts of the Project may include an increase in employment opportunities in the Project Area and a temporary stimulating effect on the local economy due to increased demand for goods and services. Furthermore, development of the Project is in the national interest for clean, renewable energy and in compliance with the offshore wind-generated electricity goal set by the State of New Jersey's Executive Order No. 92 (2019). Therefore, the Project is consistent with this policy.7:7-9.42 Pinelands National Reserve and Pinelands Protection Area.

This policy allows the Pinelands Commission to serve as the reviewing agency for actions within the Pinelands National Reserve. Cables and infrastructure will be located within the Pinelands National Reserve.

*BL England*

The BL England onshore export cable corridor passes through Pinelands Management Areas (PMA) including Forest Area with Garden State Parkway Overlay and Regional Growth Area. The proposed BL England substation is now located within the federally designated Pinelands National Reserve Forest Area. While the substation location is within the Forest Area PMA, it is currently devoid of vegetation due to demolition and remediation of the former coal pile and associated facilities. Based on coordination with the Pinelands Commission, the Pinelands Comprehensive Management Plan defines the proposed Project as public service infrastructure (Appendix F). While the onshore export cable route crosses a Forest Area PMA, it is at the Garden State Parkway Crossing in Upper Township which is within the Garden State Parkway Overlay. In an email dated January 4, 2023, the Pinelands Commission indicated that while the BL England substation is within a Forest Management Area, the proposed development remains consistent with the guidance provided in the Pinelands Commission's letter dated December 7, 2021 (Appendix F).

*Oyster Creek*

The Oyster Creek onshore export cable corridor passes through Pinelands Management Areas (PMA) including Forest Area, Forest Area Water, and Rural Development Management Area. Based on coordination with the Pinelands Commission, the Pinelands Comprehensive Management Plan defines the proposed cables as public service infrastructure (Appendix F).

Portions of the Project at IBSP are within a Forest Area PMA and portions within Barnegat Bay are within a Forest Area Water PMA. The landfall and a portion of the onshore cable route at the Holtec Property are within a Forest Area PMA and the remaining export cable route and substation are within a Rural Development Area. The cables are considered public service infrastructure, which is allowed in Rural Development Area PMAs. Based on the letter from the Pinelands Commission in December 2021, the proposed cables are not inconsistent with the Forest Area PMA. The Pinelands Commission notes that within the Pineland Forest Management Area, "…the proposed development does not raise an issue that rises to a level that it causes the proposed development to be inconsistent with the intent, policies and objectives of the National Parks and Recreation Act of 1978 creating the Pinelands National Reserve and the Pinelands Protection Act of 1978." (The Pineland Commission 2021, Appendix F).

Ocean Wind 1 will adhere to the land use standards, guidelines, and regulations of the Pinelands Comprehensive Management Plan and will coordinate with the Pinelands Commission on coastal construction permit applications. The appropriate State permit will be acquired if discharge of dredged or fill materials occurs in freshwater wetlands and/or State open waters per Section 404 of the Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, or under an individual or Statewide general permit per 33 USC 1344 and N.J.S.A. 13:9(B)-6(b). Therefore, the Project is consistent with this policy.

7:7-9.43 Meadowlands District.

This policy allows the New Jersey Meadowlands Commission to serve as the reviewing agency for actions within the Hackensack Meadowlands District. The Project is not located within the Hackensack Meadowlands District. Therefore, this policy is not applicable.

7:7-9.44 Wild and Scenic River Corridors.

This policy recognizes the outstanding value of certain rivers in New Jersey by restricting development to compatible uses.

*BL England*

A portion of the BL England Project Area is located upland and adjacent to the Great Egg Harbor River Wild and Scenic River Federal Boundary designated by the National Parks Service (**Figure 3.1.2-8**). However, the Project does not encroach into the Wild and Scenic River corridor and will avoid impacts that will adversely affect the resources for which the Great Egg Harbor River was designated into the national system through the implementation of BMPs and APMs, such as locating export cable corridors and landfall within existing ROW or previously disturbed/developed lands to the extent practicable. Further, development of the Project will comply with the standards set forth in the Great Egg Harbor River Comprehensive Management Plan adopted pursuant to the National Wild and Scenic Rivers Act for the wild and scenic river corridor. Therefore, the Project is consistent with this policy.

*Oyster Creek*

The Oyster Creek Project is not located within or adjacent to a Wild and Scenic River corridor.

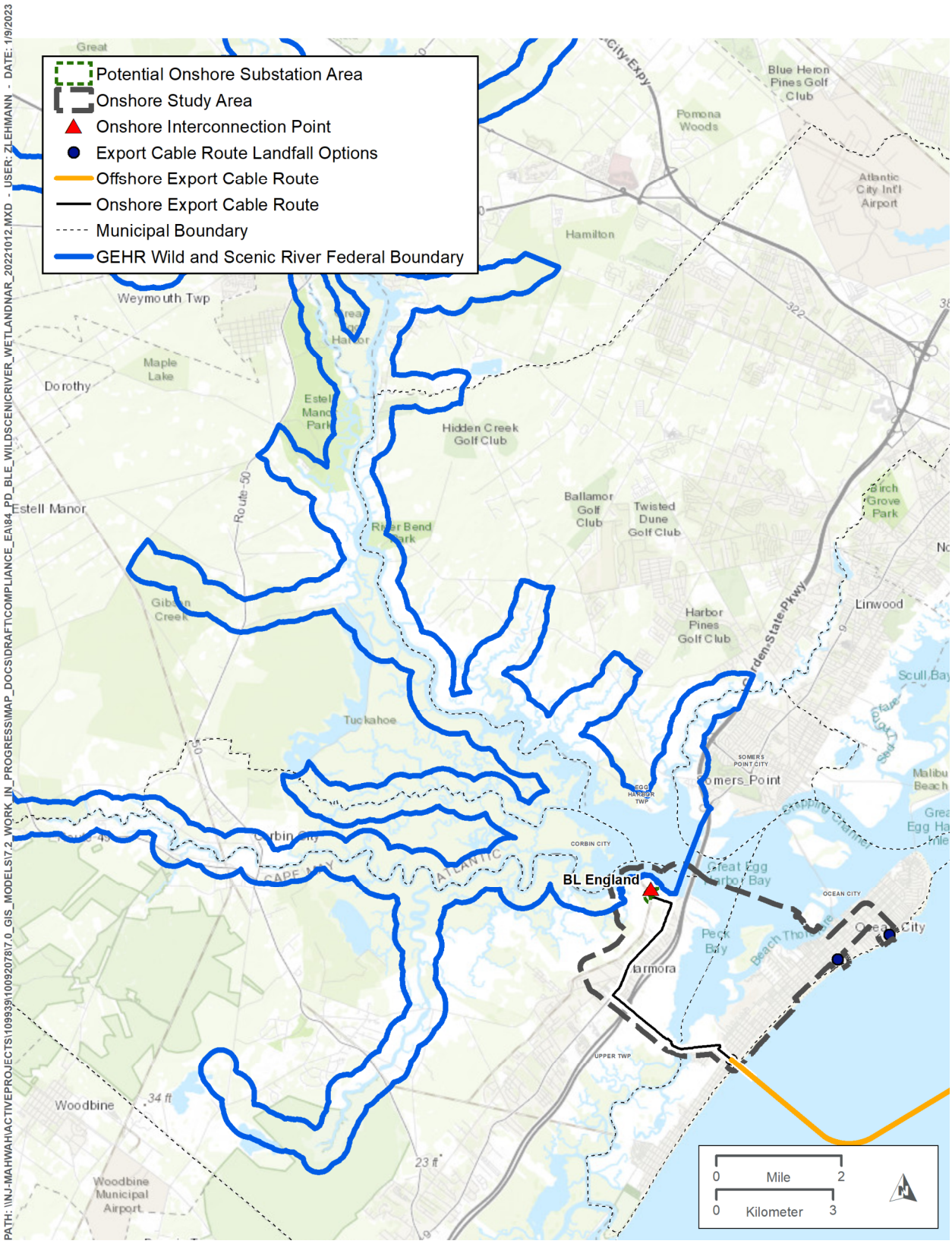


**Figure 3.1.2-8. Great Egg Harbor River Wild and Scenic River Federal Boundary.**

7:7-9.45 Geodetic Control Reference Marks.

This policy discourages disturbance of geodetic control reference marks. The Project may encounter geodetic control reference marks in the export cable corridor from landfall to the onshore substation; however, it is unlikely these geodetic control reference marks will be impacted. If any geodetic control reference mark must be moved, raised or lowered to accommodate construction, the New Jersey Geodetic Control Survey will be contacted at least 60 days prior to disturbance and arrangements will be made to protect the position. If impacts occur, the geodetic control reference marks will be restored to pre-construction conditions and re-surveyed by a New Jersey-licensed surveyor. Therefore, the Project is consistent with this policy.

7:7-9.46 Hudson River Waterfront Area.

This policy sets forth non-industrial and industrial development standards for public access and open space along the Hudson River Waterfront Area and requires development, maintenance, and management of a section of the Hudson Waterfront Walkway coincident with the shoreline of the property development. The Project is not located on the Hudson River waterfront. Therefore, this policy is not applicable.

7:7-9.47 Atlantic City.

This policy sets standards for development in the City of Atlantic City. The Project Area is not located within the municipal boundary of Atlantic City. Therefore, this policy is not applicable.

7:7-9.48 Lands and Waters Subject to Public Trust Rights.

Lands and waters subject to public trust rights are tidal waterways and their shores, lands now or formerly below the MHW line, and shores above the MHW line. Public trust rights include public access, which is the ability of the public to view and pass physically to, from and along the ocean shore and other waterfronts subject to public trust rights, and to use these lands and waters. There is existing public access to the water and the shoreline in the vicinity of the export cable landfalls and onshore export cable corridors; however, the Project will not impact the public's rights of access to or use of natural resources in the Project Area. Portions of the Project are within the waterfront and the waterfront may be impacted during construction; therefore, development will be in accordance with N.J.A.C. 7:7-16.9. Public access during construction activities could pose the potential for both security threats and hazard conditions for members of the public and workers at the site; however, all existing public access to and along the waterfront will be maintained to the maximum extent practicable during construction, including barrier-free access to tidal waterways and their shores where feasible and warranted by the character of the site. The Project will not impede the public's access to the water and shoreline post-construction. Therefore, the Project is consistent with this policy.

The Public Access Law, N.J.S.A. 13:1D-153a, states that if a permit application to NJDEP "provides for a change in the existing footprint of a structure, a change in use of the property, or involves beach replenishment or beach and dune maintenance, the department shall review the existing public access provided to tidal waters and adjacent shorelines at the property and shall require as a condition of the permit or other approval that additional public access to the tidal waters and adjacent shorelines consistent with the public trust doctrine be provided."

The Project involves, among other facilities, the construction of underground export cables that will make landfall at Island Beach State Park in Berkley and Lacey Townships in Ocean County, and the City of Ocean City in Cape May County. Since construction of the underground export cables will be accomplished via horizontal directional drill, there will be no change in the existing footprint of a structure. Nor would there be a change in use of the properties since the surface uses, such as beaches, will remain the same, and the Project does not involve beach replenishment or impact the existing USACE dune. Accordingly, the Public Access Law does not apply to the construction of the underground export cables.

In addition, the Project includes the construction of two onshore electric substations at the Oyster Creek point of interconnection in Lacey Township and the BL England point of interconnection in Upper Township. Both sites are zoned for utility uses, so Ocean Wind is not proposing to change the use of either site. Further, neither substation site is adjacent to tidal waterways, so direct public access to tidal waters from these sites is not possible. Therefore, the Public Access Law does not apply to the construction of the onshore substations.

That being said, Ocean Wind 1 received a deficiency letter on December 28, 2022 from the Department identifying additional information needed for the pending CAFRA application to be deemed complete for review, including a proposal to address the Public Access rule at N.J.A.C. 7:7-16.9(k)3. Ocean Wind 1 will provide a formal response to this deficiency at a later date.

The Project will be in compliance with this policy and any restrictions to public access to the beach will only be temporary during Project construction.

The Law also states that if the regulated activity being proposed is on a marina property, NJDEP shall require that the existing degree of public access to the waterfront and adjacent shoreline be maintained. If the regulated activity affects or diminishes public access on the marina property, the NJDEP shall require equivalent access as a condition of the permit or other approval. Equivalent public access includes access that allows the opportunity to participate in the same activities in the same manner, by the same number of people as the existing public access. The Project is in compliance with this policy as no marina access will be impacted during Project construction.

#### 3.1.3 Subchapter 10 – Standards for Beach and Dune Activities

These standards apply to routine beach maintenance, emergency post-storm beach restoration, dune creation and maintenance, and construction of boardwalks. The NJDEP Division of Coastal Engineering is responsible for administering beach nourishment, shore protection and coastal dredging projects throughout the State. The Project will use HDD to the extent practicable to avoid and minimize impacts to beaches. Ocean Wind 1 is coordinating with NJDEP's coastal engineering group and USACE to avoid impacts to beach maintenance activities and post-storm beach restoration efforts. The current alignment reflects the design based on data collected and coordination to date.

If the Project requires creation of a boardwalk at IBSP for public access, the standards for construction of boardwalks along tidal shorelines will be completed in accordance with N.J.A.C. 7:7-10.5. Construction of a boardwalk will be coordinated with NJDEP's coastal engineering group and USACE. Therefore, the Project is consistent with these standards.

#### 3.1.4 Subchapter 11 – Standards for Conducting and Reporting the Results of an Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment and/or Endangered or Threatened Wildlife Species Habitat Evaluation

This section details the performance and reporting standards for impact assessments and habitat evaluations for endangered and threatened wildlife species. The Project may occur on or adjacent to endangered or threatened wildlife or plant species habitat. Ocean Wind 1 has coordinated with the NJDEP and USFWS and conducted onshore habitat assessments to determine whether appropriate habitat for threatened and endangeredspecies is present. Project habitat evaluations for each wildlife species identified as endangered or threatened used scientific methodology appropriate for each species/group, examined specific attributes that may limit or eliminate its suitability as habitat (i.e., vegetative analysis), and includes an assessment of the area surrounding the site with photographs and/or cover maps. Habitat assessments have been completed for Knieskern's beaked rush, bog turtle and swamp pink, as applicable. Results from the assessments are presented in Appendix G. All habitat impact assessments and evaluations conducted for the Project comply with the standard reporting requirements of N.J.A.C. 7:7-11.4 (Appendix G). In addition,Ocean Wind 1 will

implement offshore and nearshore marine waters monitoring by approved PSO to prevent adverse impacts to marine mammals, sea turtles and sturgeon. Therefore, the Project is consistent with these standards.

3.1.5 Subchapter 12 – General Water Areas

This section categorizes the important uses of General Water Areas and sets conditions or standards of acceptability for certain uses within General Water Areas.

7:7-12.2 Shellfish Aquaculture.

This policy encourages shellfish aquaculture as a means of food production that can be at least as efficient as land-based agriculture provided that it does not unreasonably affect the coastal recreational economy, the coastal ecosystem, or navigation.

*BL England*

There are no lease areas for shellfish aquaculture in the vicinity of the BL England Project. At BL England, the offshore cable route makes landfall at 35th Street using HDD technology and remains within onshore areas to the substation, avoiding any shellfish aquaculture or lease areas.

*Oyster Creek*

Lease areas for shellfish aquaculture occur in the vicinity of the Oyster Creek Project; however, the Project will not impact the aquaculture lease areas. The Project's inshore cable route in Barnegat Bay has been sited away from shellfish lease areas to avoid impacts to shellfish in these areas. Therefore, the Project is consistent with this policy.

7:7-12.3 Boat Ramps.

This policy permits private and public use boat ramps if they are constructed in an environmentally sensitive manner. The Project will not require construction of private or public use boat ramps. Therefore, this policy is not applicable.

7:7-12.4 Docks and Piers for Cargo and Commercial Fisheries.

Docks and piers for cargo and passenger movement and commercial fisheries are structures supported on pilings driven into the bottom substrate or floating on the water surface that are used for loading and unloading passengers or cargo, including fluids, and connected to or associated with either a single industrial or manufacturing facility, or commercial fishing facilities. This policy permits the construction of docks and piers for cargo and passenger movement and commercial fisheries if they will not interfere with navigation and are associated with the aforementioned facilities. No docks and piers for cargo and commercial fisheries are proposed as part of this Project. Therefore, this policy is not applicable.

7:7-12.5 Recreational Docks and Piers.

This policy generally permits the construction of recreational docks and piers, including jet ski ramps, and mooring piles. No recreational docks or piers are proposed as part of this Project. Therefore, this policy is not applicable.

7:7-12.6 Maintenance Dredging.

This policy sets the rules for maintenance dredging. Maintenance dredging is the periodic removal of accumulated sediment from previously legally dredged navigation and access channels, marinas, lagoons, canals, or boat moorings for the purpose of safe navigation.

For a project to be considered maintenance dredging, the applicant shall demonstrate through historical data, including, but not limited to, previously issued dredging permits, previous dredging contracts, historic bathymetric surveys, and/or aerial photography that:

1. The proposed dredge area is limited to the same length and width as a previous dredging operation;
2. The proposed water depth is the same as a previous dredging operation or as historical water depths within the proposed dredge area; and
3. The proposed dredge area has historically been used for navigation or mooring of vessels requiring the proposed water depth

Ocean Wind 1 is proposing dredging within a prior channel west of IBSP in Barnegat Bay. Historic aerials show that the channel was dredged sometime between 1956 and 1963. It is first visible in the 1963 photo and measures approximately 4,900 feet long and about 125-130+/- feet wide in that aerial. The historic navigation chart from 1975 depicts the channel with a depth of 7ft with a note on the chart that the channel was marked by privately maintained seasonal buoys or markers indicating it was used for navigational purposes in the past. The proposed work area for the export cables follows the historic channel feature visible in recent satellite photos. The proposed potential dredge area is about 4,800 feet long and 125 feet wide at the base of the prism and has a proposed depth of 7ft MLLW (ends at the 7ft MLLW contour). Given that the proposed work area falls within the horizontal and vertical extents of the existing channel based on historic aerials and 1975 navigational chart, that the channel was previously used for navigation, The proposed potential dredging is consistent with this policy.

Ocean Wind 1 also proposes to perform maintenance dredging of the Oyster Creek Federal Channel near Barnegat Inlet in order to allow for the safe passage of construction vessels into Barnegat Bay. This channel is regulated by USACE under the Rivers and Harbors Act, Section 408. USACE has also solicited bids to conduct this maintenance dredging. However, the dredging may not be performed prior to construction of the Project within Barnegat Bay. All dredging will be performed in accordance with the authorized depth and width limitations of the channel and coordinated with USACE as part of the Section 408 regulatory review.

Dredged material will be disposed of in accordance with a dredged material disposal plan. Dredged material placement will comply with N.J.A.C. 7:7-12.9 and N.J.A.C. 7:7-15.12.

7:7-12.7 New Dredging.

New dredging is the removal of sediment that does not meet the definition of maintenance dredging at N.J.A.C. 7:7-12.6 or the definition of environmental dredging at N.J.A.C. 7:7-12.8. It also includes the temporary or permanent displacement or removal of sediment for the purpose of installing submerged pipelines and cables. As noted under policy N.J.A.C. 7:7-9.2 Shellfish Habitat, the electric transmission cable installation conducted as part of the Project will not be considered new dredging because the cable to be buried is electric transmission cable, not submerged cable (which the CZM Rules define as telecommunications cable, see N.J.A.C. 7:7-12.21). Dredging will be required at the HDD exit pits below MLW. For areas that require mechanical dredging, the Project will be consistent with N.J.A.C. 7:7-12.7 New Dredging, the general water area rules, and the energy facility use rule (N.J.A.C. 7:7-15.4). The dredged area will cause no significant disturbance to special water or water's edge areas and adverse environmental impacts will be minimized to the maximum extent practical. Dredged material will be disposed of in accordance with a dredged material disposal plan. Dredged material placement will comply with N.J.A.C. 7:7-12.9 and N.J.A.C. 7:7-15.12. Therefore, the Project is consistent with this policy.

7:7-12.8 Environmental Dredging.

This policy sets the rules for environmental dredging. Environmental dredging means new dredging performed in a special hazard area designated as such pursuant to N.J.A.C. 7:7-9.29 specifically to remove contaminated

sediments for the purpose of remediating to an environmental standard as specified in the Department's Technical Requirements for Site Remediation (N.J.A.C. 7:26E). Cable installation will not require environmental dredging.Therefore, this policy is not applicable.

7:7-12.9 Dredged Material Disposal.

These rules set standards for disposal and beneficial use of dredged materials. While dredging is unlikely to occur as part of cable installation in areas where cables are buried via jetting technology, some dredging will be required at HDD exit pits below MLW and in select areas in Barnegat Bay. The dredged material disposal will be in conformance with EPA Guidelines, USACE Guidelines, N.J.A.C. 7:7 Appendix G for the Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters, and applicable State Surface Water Quality Standards at N.J.A.C. 7:9B. The Sediment Sampling and Analysis Plan (SSAP) has been approved by NJDEP. Sampling was conducted in May 2022 and results are presented in Appendix O. Sampling results have been shared with an appropriate disposal facility and a letter of acceptance for the material is also included within Appendix O. The disposal facility will be determined based on sampling results and written consent will be provided to NJDEP once acquired from the facility to document the acceptance of the material. Therefore, the Project is consistent with this policy.

7:7-12.10 Solid Waste or Sludge Dumping.

The dumping of solid waste or sludge is the discharge of solid or semi-solid waste material from industrial or domestic sources or sewage treatment operations into a water area. No solid waste or sludge dumping is proposed as part of this Project. Therefore, this policy is not applicable.

7:7-12.11 Filling.

Filling is defined at N.J.A.C. 7:7-12.11(a) as "the deposition of material including, but not limited to, sand, soil, earth, and dredged material, into water areas for the purpose of raising water bottom elevations to create land areas." The Project will not deposit material with the intent of raising water bottom elevations to create land areas, therefore, will not meet the definition of filling under this rule. Material will not be deposited in lakes, ponds, reservoirs, and open bays at depths greater than 18 ft as defined at N.J.A.C. 7:7-12.1, or in man-made lagoons. Therefore, this policy is not applicable.

7:7-12.12 Mooring.

A boat mooring is a temporary or permanently fixed or floating anchored facility in a water body for the purpose of attaching a boat. Under this rule, moorings are conditionally acceptable in all General Water Areas. Vessels will be temporarily moored for construction of the Project. Within the Project Area, impacts to special areas will be minimized to the maximum extent practicable and moorings will not present a hazard to navigation. The mooring area will be adequately marked and located so as not to hinder navigation in coordination with USCG requirements. Therefore, the Project is consistent with this policy.

7:7-12.13 Sand and Gravel Mining.

This policy generally restricts sand and gravel mining, which is the removal of sand or gravel from the water bottom substrate, usually by suction dredge, for the purpose of using the sand and gravel at another location. No sand or gravel mining is proposed for this Project. Therefore, this policy is not applicable.

7:7-12.14 Bridges.

A bridge is any continuous structure spanning a water body, except for an overhead transmission line. This policy generally permits bridges crossing over bays, rivers, streams, and other water areas because they are often necessary to provide continuity in the transportation system and link isolated land areas between barrier islands. No bridges are proposed as part of the Project. Therefore, this policy is not applicable.

7:7-12.15 Submerged Pipelines.

Submerged pipelines are underwater pipelines that transmit liquids or gas, including crude oil, natural gas, water petroleum products, or sewerage. As defined by N.J.A.C. 7:7-12.15, the Project will not include submerged pipelines. Therefore, this policy is not applicable.

7:7-12.16 Overhead Transmission Lines.

This policy regulates overhead transmission lines, which are wires hung between supporting pylons for transmission from the site of origin to the site of consumption. Overhead transmission lines include electrical, telecommunication, and cable television lines. Overhead lines are prohibited over open bays, semi-enclosed and back bays, lakes, ponds, and reservoirs. Overhead transmission lines are also discouraged over large rivers. Large rivers are defined by N.J.A.C. 7:7-12.1 as waterways with watersheds greater than 1,000 square miles and are limited to the Delaware, Hudson and Raritan Rivers. No overhead transmission lines are proposed as part of the Project. Alternatives considered are discussed in Appendix A. The proposed substations have been sited immediately adjacent to the connection with the existing grid to minimize impacts. The interconnection between the proposed substations and the existing grid will be installed underground with a riser at the existing substations. Therefore, the Project is consistent with this policy.

7:7-12.17 Dams and Impoundments.

Dams and impoundments (i.e., dikes with sluice gates and other structures to control the flow of water) are structures that obstruct natural water flow patterns for the purpose of forming a contained volume of water. The Project will not include the construction of dams and impoundments. Therefore, this policy is not applicable.

7:7-12.18 Outfalls and Intakes.

As defined at N.J.A.C. 7:7-12.8, outfalls and intakes are pipe openings that are located in water areas for the purpose of intake of water or discharge of effluent including sewage, stormwater and industrial effluent. Stormwater management for the Project will utilize outfalls at the substations to discharge stormwater. These outfalls will be operated in accordance with applicable rules of this chapter.

*BL England*

At the BL England onshore substation, stormwater will drain to the northwest and southwest through outfalls that discharge to upland areas and flow into a tidal wetland west of the substation.

*Oyster Creek*

At the Oyster Creek onshore substation, stormwater basins will tie into an existing stormwater outfall just east of the substation property, which will drain into a tidal waterbody just downstream of the dammed pond southeast of the substation into the tidally influenced portion of Oyster Creek.

For more information on stormwater and outfalls, please refer to Appendix M for the Stormwater Management Reports. Adequate measures will be taken to encourage filtration and minimize discharge of pollutants into a water body. Therefore, the Project is consistent with this policy.

7:7-12.19 Realignment of Water Areas.

Realignment of water areas means the physical alteration or relocation of the surface configuration of any water area. The Project will not result in the realignment of water areas. Therefore, this policy is not applicable.

7:7-12.20 Vertical Wake or Wave Attenuation Structures.

This policy generally permits the construction of vertical wake or wave attenuation structures to protect boat moorings, including those at marinas. These structures may be fixed or floating, attached or detached,

depending on the water depth, tidal range, and wave climate. The Project does not include vertical wake or wave attenuation structures. Therefore, this policy is not applicable.

7:7-12.21 Submerged Cables.

This policy governs the installation and long-term maintenance of telecommunications cables, taking into account existing utilities, fishing stakeholders and practices, and burial technology, in order to minimize the conflict between the existing cables and fishing industries. The NJDEP requires submerged cables to meet specific conditions when not located within the Atlantic Ocean (inshore waters) and different conditions when located within the Atlantic Ocean.

Pursuant to N.J.A.C. 7:7-12.21, submerged cables are defined as "underwater telecommunication cables, and shall include all associated structures in the water such as repeaters." However, the Project will include submerged electric transmission export cables, which are not considered "submerged cables" under the CZM Rules. Therefore, this policy is not applicable.

7:7-12.22 Artificial Reefs.

Artificial reefs are man-made structures intended to stimulate the characteristics and functions of natural reefs. This policy generally permits the construction of new or expanded artificial reefs provided that at the time of deployment, and at all times after creation, all conditions of N.J.A.C. 7:7-12.22 are met. Under this rule, artificial reefs do not include shore protection structures, pipelines, fish aggregating devices, and other structures not constructed for the sole purpose of fish habitat. No structures for the sole purpose of fish habitat are proposed as part of the Project. Therefore, this policy is not applicable.

7:7-12.23 Living Shorelines.

Living shorelines address the loss of vegetated shorelines and habitat in littoral zones by providing protection, restoration, or enhancement of these habitats. The Project will impact vegetation along the shoreline on the western side of IBSP and at the western side of Barnegat Bay. Following construction, vegetation will be replanted/enhanced and monitored per permit conditions. Therefore, the Project will comply with this policy.

7:7-12.24 Miscellaneous Uses.

This policy analyzes water dependent uses of water areas not identified in the use rules of N.J.A.C. 7:7-12 or addressed in the use rules of N.J.A.C. 7:7-15 on a case-by-case basis to ensure that adverse impacts are minimized. This policy also discourages non-water dependent uses in all water areas. The Project does not propose uses that are not water dependent in general water areas. Further, the Project's water dependent uses in water areas are in compliance with the use rules defined in N.J.A.C. 7:7-12 and N.J.A.C. 7:7-15. Therefore, the Project will comply with this policy.

### 3.1.6 Subchapter 13 – Requirements for Impervious Cover and Vegetative Cover for General Land Areas and Certain Special Areas

This section defines general land areas (including coastal zones) and sets forth the requirements for impervious cover and vegetative cover, particularly forested cover, on sites in upland development areas. This section does not apply to a linear development that is not wholly within or solely serving a development, nor does it apply to electrical substations. Furthermore, development of the Project is in the national interest for clean, renewable energy and will serve a public need. Therefore, the policies found within this subchapter are not applicable.

### 3.1.7 Subchapter 14 – General Location Rules

The section defines rules on location of linear development, as well as setting criteria for the basic location rule and secondary impacts.

7:7-14.1 Rule on Location of Linear Development.

The rule on location of linear development states that a linear development shall comply with the specific location rules to determine the most acceptable route, to the maximum extent practicable. The electric transmission cable installation and alignment complies with the CZM location rules for determining the most acceptable route (see Appendix A). The onshore portions of the Project have been sited within existing ROW and previously disturbed habitat to the extent possible to avoid and minimize impacts to sensitive resources; mitigation may be required where impacts cannot be avoided (e.g., wetlands at the substation). Appropriate measures will be used to mitigate environmental impacts (Appendix S). There will be no permanent or long-term loss of unique or irreplaceable areas. Mitigation will be carried out in coordination with the regulations and with cooperating agencies to offset any permanent impacts to regulated resources. Therefore, the Project is in compliance with this policy.

7:7-14.2 Basic Location Rule.

The basic location rule is intended to ensure development promotes public health, safety, and welfare; protects public and private property, wildlife, and marine fisheries; and preserves, protects, and enhances the natural environment. As previously discussed, the Project has been sited within existing ROW and previously disturbed habitat wherever possible to protect public and private property, wildlife, and marine fisheries. Where impacts cannot be avoided, appropriate measures will be used to mitigate environmental impacts (Appendix S). Therefore, the Project is in compliance with this policy.

7:7-14.3 Secondary Impacts.

Secondary impacts are the effects of additional development likely to be constructed as a result of the approval of a particular proposal. Secondary impacts resulting from implementation of the Project include, but are not limited to, impacts to traffic along some roads and highways; impacts to terrestrial habitat that could potentially result in reduced foraging and breeding habitat and potential individual mortality for some species; temporary displacement of benthic species due to habitat change and increased turbidity, and indirect mortality; and indirect noise and vibration. These impacts will be minor and short-term. Avoidance and mitigation measures will be implemented to minimize impacts wherever possible. Additional secondary impacts include a temporary, minor increase in employment opportunities in the Project Area and a temporary stimulating effect on the local economy due to increased demand for goods and services. Therefore, the Project is consistent with this subchapter and complies with its policies.

3.1.8 Subchapter 15 – Use Rules

7:7-15.2 Housing.

These rules set standards for housing construction in the coastal area. The Project does not involve housing construction. Therefore, this policy is not applicable.

7:7-15.3 Resort/Recreational.

Resort/recreation uses include the wide range of small and large developments attracted to and often dependent upon locations along the coast. These include hotels, motels, marinas, boating facilities, campgrounds, amusement piers, parks and recreational structures such as boathouses, natural areas, open space for active and passive recreation, and linear paths for bicycling and jogging. This policy sets standards for resort and recreational uses in the coastal area. No resort or recreation uses are proposed as part of this Project. Therefore, this policy is not applicable.

7:7-15.4 Energy Facility.

These rules set standards for energy facility development in the coastal area. Energy facilities include facilities, plants or operations for the production, conversion, exploration, development, distribution, extraction, processing, or storage of energy or fossil fuels. Energy facilities also include onshore support bases and marine terminals. The Project is a water dependent offshore renewable energy generation facility. The Project will require the construction of two onshore substations near the interconnection points with the existing grid to allow for distribution of the power.

*BL England*

The BL England substation uses portions of the parcel that have been previously developed, maintained, and disturbed in association with the BL England Generating Station to minimize potential impacts. As described in Section 2, use of this site also reduces the need for upgrades to the existing grid to accommodate the power, reducing secondary impacts.

*Oyster Creek*

The Oyster Creek substation uses a parcel that has been previously developed, maintained, and disturbed in association with the Oyster Creek Generating Station to minimize potential impacts.

As described in Section 2, use of these sites also reduce the need for upgrades to the existing grid to accommodate the power, reducing secondary impacts. The proposed installation technologies minimize potential for restrictions on access to lands and waters under public trust. Ocean Wind 1 will comply with N.J.A.C. 7:7-15.4(r)1viii, where these policies dictate designs, surveys, and time restrictions on wind turbine operation required to minimize adverse effects on birds, bats, and marine organisms. Therefore, the Project is consistent with this policy.

7:7-15.5 Transportation.

These rules set standards for road construction and the development of public transport facilities, bicycle and footpaths, and parking facilities in the waterfront or coastal area. No public transportation facilities, bicycle or foot paths are proposed.

*BL England*

The Project will require construction of a permanent access road at the BL England substation. The new access road construction will comply with the rule on the location of linear development (N.J.A.C. 7:7-14.1). The Project will also require onshore cable burial within existing public roadway rights-of-way.

*Oyster Creek*

The Project will require construction of a permanent access road at the substation and to the TJBs at the landfall on the Holtec Property for construction and operation activities. The new access road construction will comply with the rule on the location of linear development (N.J.A.C. 7:7-14.1). The Project will also require onshore cable burial within existing public roadway rights-of-way and parking lots at IBSP.

Following installation, these roadways and parking lots will be backfilled and restored to pre-existing conditions and there will be no permanent impacts to transportation. Therefore, the Project is consistent with this policy.

7:7-15.6 Public Facility.

These rules set standards for public facilities (e.g., solid waste facilities, public utilities) in the coastal area.

"Public facilities include a broad range of public works for production, transfer, transmission, and recovery of water, sewerage, and other utilities. The presence of adequate infrastructure makes possible future development and responds to the needs created by present development."

Infrastructure facilities (other than solid waste or wastewater treatment facilities) are conditionally acceptable provided:

"1. The Public Facility would serve a demonstrated need that cannot be met by an existing public facility at the site or region.

2. Alternate Technologies, including conservation, are an impractical or infeasible approach to meeting all or part of the need for the public facility.

3. The public facility would not generate significant secondary impacts inconsistent with the chapter."

**The Project would serve a demonstrated need**

The proposed Project would serve a demonstrated need that cannot be met by an existing public facility at the site or region. As described in Section 1.3 of the application, the purpose of the Project is to develop an offshore wind generation project within the BOEM Lease Area OCS-A 0498, that meets the need to deliver competitively priced renewable energy and additional capacity in accordance with State and regional renewable energy demands and goals. On June 21, 2019, the NJBPU selected the Ocean Wind 1 Project to develop the offshore wind farm proposed in this application. The project will help New Jersey achieve its renewable energy generation goals as outlined in the Draft 2019 New Jersey Energy Master Plan, Policy Vision to 20504, released in June 2019. Construction is expected to commence in 2023, and the Project is scheduled to have first power in 2024.

**Alternate technologies and conservation are impractical to meet the demonstrated need for the Project**

As described in the Alternatives Analysis (Appendix A) of Ocean Wind 1's application, under the No Action alternative, the Ocean Wind 1 Project would not be constructed. Implementing the No Action alternative would not support an increase in New Jersey renewable energy use and access to New Jersey renewable energy generation, to meet the demand outlined by the Renewable Portfolio Standard. If the proposed facilities are not constructed, the benefits of the Project would not occur, including development of BOEM Lease Area OCS-A 0498 to meet the need to deliver competitively priced renewable energy and additional capacity to meet State and regional renewable energy demands and goals; replacement of fossil fuel energy generation with renewable energy generation; and air quality benefits. Ocean Wind 1 would not be able to supply the 4,851 gigawatt-hours (GWh) per year of renewable energy production to NJBPU pursuant to the 2019 Power Purchase Agreement resulting from the NJBPU's competitive selection process.

Energy conservation is the prevention of the wasteful use of energy to ensure its continuing availability. Energy conservation reduces the demand or growth in demand for energy. It is possible that the development and implementation of additional conservation measures could have an effect on the demand for energy. However, it is expected that the capacity saved would result in reductions in other non-renewable energy generation in an effort to meet Assembly Bill 3723, which passed in the State Senate on May 23, 2018, and set goals that 35 percent of kilowatt hours sold by each electric power supplier and each basic generation service provider be from renewable energy in New Jersey by 2025, 50 percent by 2030, and 100 percent by 2050.

[4] Available at https://nj.gov/emp/pdf/Draft%202019%20EMP%20Final.pdf.

Alternative forms of energy could be used to meet increased demand for power in New Jersey. Potential alternative energy sources include natural gas, coal, oil, nuclear energy, and other renewable energy sources such as solar, onshore wind, and geothermal energy.

New Jersey's energy goals include reduction of non-renewable energy generation in New Jersey; therefore, these fossil fuel generation processes are not consistent with New Jersey's goals. New Jersey's energy goals include reduction of non-renewable energy generation in New Jersey; therefore, these fossil fuel generation processes are not consistent with New Jersey's goals. Natural gas-fired and coal-fired generation would not meet the purpose of the Project, which is to deliver competitively priced renewable energy and additional capacity to meet State and regional renewable energy demands and goals per the 2019 Power Purchase Agreement with NJBPU.

While nuclear power generation has the positive benefits of limiting air emissions of criteria pollutants, nuclear generation in New Jersey has declined in recent years. Nuclear powered generation made up 42 percent of generation in New Jersey in 2020 (EIA 2022[5]). Nuclear power supplied the majority of generation in New Jersey until 2015, when natural gas-fired generation overtook nuclear generation (EIA 2022). In 2017, the Oyster Creek single reactor nuclear power plant closed, reducing nuclear generation in New Jersey. Nuclear generation would not meet the purpose of the Project, which is to deliver competitively priced renewable energy and additional capacity to meet State and regional renewable energy demands and goals per the 2019 Power Purchase Agreement with NJBPU.

Renewables provided 8 percent of generation in New Jersey in 2020 (EIA 2022). The majority (>80 percent) of the renewable generation was solar generation and by mid-2021 solar capacity in New Jersey totaled almost 3,000 megawatts (MW) (EIA 2022). Biomass accounted for 15 percent and wind for 4.5 percent of renewable energy generation in 2020(EIA 2022). While other renewable energy generation is New Jersey is expected to expand, New Jersey mandated 3,500 MW of offshore wind capacity by 2030 and raised the goal to 7,500 MW by 2035. In September 2022, Governor Murphy signed Executive Order 307, increasing New Jersey's offshore wind energy goal to 11,000 MW by 2040. Under the New Jersey Offshore Wind Economic Development Act, the NJBPU is required to establish an OREC program requiring a percentage of electricity sold in the state be derived from offshore wind energy, in order to support at least 1,100 MW of generation from qualified projects. On June 21, 2019, the NJBPU selected the Ocean Wind Project and subsequently entered into a Power Purchase Agreement with Ocean Wind for 4,851 GWh/year of energy production. The Project is expected to be operational in 2024.

**The Project would not generate significant secondary impacts**

Secondary impacts are the effects of additional development likely to be constructed as a result of the approval of a particular proposal. The proposed Project is not expected to generate additional development. Secondary impacts may include an increase in employment opportunities in the Project Area and a temporary stimulating effect on the local economy due to increased demand for goods and services. Ocean Wind 1 would hire local workers to the extent practical. Ocean Wind 1 would also hire non-local workers with specialized skills. Any non-local workers would require temporary housing accommodations. Temporary housing is readily available in the study area, as indicated by the large number of housing units for seasonal, occupational, or occasional use, and numerous hotels, motels, campgrounds, and RV parks. Use of this temporary housing by the non-local workforce would result in a beneficial economic impact in the vicinity of the Project.

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[5] U.S. Energy Information Administration (EIA) 2022. New Jersey Energy Profile. Online at: https://www.eia.gov/state/print.php?sid=NJ accessed October 24, 2022.

The Project would serve a demonstrated need that cannot be met by an existing public facility at the site or region; alternate technologies, including conservation, are an impractical approach to meeting all or part of the need for the public facility; and the Project would not generate significant secondary impacts inconsistent with this chapter. Therefore, the Project is consistent with this policy.

7:7-15.7 Industry.

These rules set standards for industrial uses in the coastal area. The Project will require the construction of an electric generating facility offshore on the OCS and transmission facilities from the OCS to the onshore interconnection to the electric grid. The facility will comply with all applicable location and resource rules, including N.J.A.C. 7:7-9.16 and 9.30, which reserve the water's edge for water dependent uses; N.J.A.C. 7:7-16.11, which requires that the use be compatible with existing uses in the area or adequate buffering be provided; N.J.A.C. 7:7-9.48, the lands and waters subject to public trust rights rule; and the public access rule, N.J.A.C. 7:7-16.9. Furthermore, the onshore substation facility will be located at an existing utility or industrial sites. Therefore, the Project is consistent with this policy.

7:7-15.8 Mining.

These rules set standards for mining in the coastal area. The Project does not involve mining operations. Therefore, this policy is not applicable.

7:7-15.9 Port.

These rules set standards for port uses and port-related development in the coastal area. The standards are designed to ensure that port facilities retain their economic vitality. The Project will involve temporary construction laydown areas and construction at ports in New Jersey and elsewhere. The Project's use will benefit, and activities will be consistent with port operations. Therefore, the Project is consistent with this policy.

7:7-15.10 Commercial Facility.

These rules set standards for commercial facilities (e.g., hotels, casinos, retail trade, convention centers) in the coastal area. The Project does not involve construction of such facilities. Therefore, this policy is not applicable.

7:7-15.11 Coastal Engineering.

These rules set standards for non-structural, hybrid, and structural protection and storm damage reduction measures for the protection of shorelines, the maintenance of dunes, and provides for beach nourishment. The NJDEP Division of Coastal Engineering is responsible for administering beach nourishment, shore protection and coastal dredging projects throughout the State. Ocean Wind 1 will coordinate with NJDEP's Coastal Engineering group to avoid impacts to State-administered beach nourishment, shore protection structures, coastal dredging, aids to navigation, and bayshore floodgate facilities. The Project will avoid wet borrow pits (**Figure 3.1.2-7**). The Project does not include dry borrow pits nor does Ocean Wind 1 propose to use or fill dry borrow pits. Therefore, the Project is consistent with this policy.

7:7-15.12 Dredged Material Placement on Land.

These rules set standards for disposal and beneficial use of dredged materials. Dredging is expected to occur within a small portion of a channel in Barnegat Bay and at HDD exit pits below MLW and as part of cable installation within parts of the Project Area where cable burial via jetting technology is not feasible. In addition, dredging may be required within the federal channel in Barnegat Bay.

Disposal of dredged material on land will comply with State and Federal regulations. Pre-dredged sediment sampling and analysis has been conducted. It is anticipated that material will be excavated, stockpiled, dewatered and transported to an approved facility. However, based on the pre-dredging sediment analysis, Ocean Wind 1 is evaluating potential upland placement and/or beneficial use of the dredged material as it is

encouraged under the CZM regulations (see Appendix O). Therefore, the Project is consistent with this policy.

7:7-15.13 National Defense Facilities.

These rules set standards for the location of defense facilities in the coastal zone. The Project will not include the construction of any new defense facilities or the expansion of existing facilities. Therefore, this policy is not applicable.

7:7-15.14 High Rise Structures.

These rules set standards for high-rise structures in the coastal zone. The high-rise structure rule does not apply to utility structures with a demonstrated need or wind turbines. The Project does not include construction of high-rise structures in the coastal zone. Therefore, this policy is not applicable.

3.1.9 Subchapter 16 – Resource Rules

7:7-16.2 Marine Fish and Fisheries.

This rule sets standards of acceptability to cause minimal interference with the reproductive and migratory patterns of estuarine and marine species of finfish and shellfish, including the catching, taking, or harvesting of marine fish. Construction of submerged cables and pipelines are conditionally acceptable provided that the activity complies with the General Water Area rules at N.J.A.C. 7:7-12. Per Section 3.1.5 above, the Project will comply with the rules set forth in N.J.A.C. 7:7-12. During construction, there may be short term temporary impacts to water quality and noise, as well as collision risks associated with vessel strikes, but APMs and BMPs will be employed to minimize turbidity and fish will be expected to avoid the area during construction (Appendix S). Seabed disturbance including suspended sediment/sedimentation and direct mortality of sessile or slow-moving organisms could occur. Additionally, SAV surveys have been completed (Appendix L) to further delineate SAV beds. Another survey will occur six months prior to construction to characterize SAV beds potentially impacted by the Project and post construction surveys to document impacts and monitor recovery will occur. SAV seasonal work restriction windows and mitigation measures may be implemented upon coordination with the NJDEP and NMFS during permit review. The proposed cable route will avoid and minimize moderate to high density shellfish habitat, as defined in 7:7-9.2. Mitigation, in accordance with N.J.A.C. 7:7-17.9, may be necessary. In addition, APMs and BMPs will be implemented to reduce turbidity and the Project is sited and designed to avoid, minimize, and mitigate potential impacts (Appendix S). Therefore, the Project is consistent with this policy.

7:7-16.3 Water Quality.

This rule sets standards for coastal development to limit effects on water quality. Construction of the Project could temporarily increase suspended sediments and turbidity within the water column. Compliance with NJDEP water quality standards will be coordinated with NJDEP Division of Water Quality and Office of Sediment Dredging and Technology through permit conditions. As previously stated, a WQMP will be developed in coordination with State and Federal agencies and consistent with monitoring plans developed for other submarine cable projects prior to the start of construction. BMPs, including the following, will be employed during construction to limit effects to water quality. Dredging will be accomplished using a closed clamshell "environmental" bucket dredge. Should site conditions prevent the use of an environmental clamshell bucket, Ocean Wind 1 will propose an alternative dredge bucket or dredging method for review and approval by NJDEP. Dredging will be limited to an authorized Project depth and a volume per proposed permit. The dredge will be operated to control the rate of descent of the bucket to maximize the vertical cut of the clamshell bucket while not penetrating the sediment beyond the vertical dimension of the open bucket (i.e., overfilling the bucket). This will reduce the amount of free water in the dredged material, avoid overfilling the bucket, and minimize the number of dredge bucket cycles needed to complete the dredging contract. Dredge buckets will

be lifted in a continuous motion through the water column and into the barge to prevent loss of dredged material into the water.

During jetting activities, water quality will be monitored in accordance with a water quality monitoring plan that will be developed in coordination with State and Federal agencies and consistent with monitoring plans developed for other submarine cable projects. Jetting operations will be conducted in a manner (e.g., adjusting speed and water pressure) so as to minimize impacts of suspended sediment to water quality, to the extent practicable, while achieving the target burial depth of 4 ft below the seabed.

During construction, water quality could be impacted by inadvertent spills or releases to surface waters from equipment vessels, such as sewage, solid waste or chemicals, solvents, oils, and greases. These potential impacts will be minimized by implementing APMs including an approved oil spill response plan, Inadvertent Returns Contingency Plan (Appendix P), and by requiring vessel operators used for construction to have a vessel-specific spill response plan in the event of an accidental release.

Furthermore, Project construction will be limited in area and temporary in nature, and APMs and BMPs will be used (Appendix S). Therefore, the Project is consistent with this policy.

7:7-16.4 Surface Water Use.

This rule sets standards for coastal development to limit demands on surface water. The Project will not increase demands on surface water. Therefore, this policy does not apply.

7:7-16.5 Groundwater Use.

This rule sets standards for coastal development to limit effects on groundwater supplies. The Project will not use or impact groundwater supplies. The Project will, however, likely involve dewatering during construction. The appropriate permits will be acquired from the NJDEP Division of Water Supply and Geoscience and NJDEP Division of Water Quality prior to construction. Any dewatering will be localized to the area of active construction, affecting only a small area, and will have minimal localized impact to groundwater. The discharge from dewatering will be monitored during construction to ensure the water does not pool on the ground surface. The Project's anticipated groundwater withdrawal demand, alone and in conjunction with other groundwater diversions proposed or existing in the region, will not cause salinity intrusions into the groundwaters of the zone, degrade groundwater quality, significantly lower the water table or piezometric surface, or significantly decrease the base flow of adjacent water sources. While the Project crosses WHPAs for non-public water supply wells, the project will be located within the ROW of existing public roads and paved parking lots at the crossings. The cable will be buried to a target depth of 4 ft and APMs (including implementation of approved SWPPP and a SPCC plan) will be followed to minimize impacts.

Groundwater withdrawals will not exceed the aquifer's safe yield. All appropriate approvals regarding construction dewatering will be obtained from State and Federal agencies as appropriate prior to commencement of construction activities. Therefore, the Project is consistent with this policy.

7:7-16.6 Stormwater Management.

This rule sets standards for coastal development to limit effects of stormwater runoff. The Project meets the definition of "major development" at N.J.A.C. 7:8-1.2 and will comply with the Stormwater Management Rules at N.J.A.C. 7:8. To protect environmentally sensitive water and land areas within the coastal zone, Ocean Wind 1 will comply with the Stormwater Management Rules' standards and obtain all appropriate stormwater approvals from the Department prior to construction. See Appendix M for the SWM Reports that details stormwater analysis for the substations. Therefore, the Project is consistent with this policy.

7:7-16.7 Vegetation.

This rule sets standards for coastal development to protect vegetation. The Project will require clearing and grading at the maintenance area at IBSP, at the Holtec Property along the Oyster Creek onshore ECR, and at the substation locations, which could result in temporary or permanent impacts to vegetation. Temporarily disturbed areas will be restored to pre-existing contours and vegetation will become reestablished via natural succession or by replanting with native species, to the extent practicable, once construction activities are completed. A replanting plan will be developed in coordination with the NJDEP and consistent with Federal mitigation/restoration requirements and submitted to NJDEP for approval prior to construction. Therefore, the Project is consistent with this policy.

7:7-16.8 Air Quality.

This rule sets standards for coastal development with requirements that projects meet applicable air quality standards. During construction, operation, maintenance, and decommissioning activities associated with the Project, air quality may be affected. Equipment will be operated in accordance with applicable air quality standards. EPA designated New Jersey the Corresponding Onshore Area for the Project. Upon receipt of the Notice of Intent submitted per 40 CFR Part 55, EPA conducted a consistency review of regulations in the Corresponding Onshore Area and published a Final Rule to incorporate New Jersey air pollution control requirements applicable to OCS Sources as of October 6, 2021, into 40 CFR Part 55, Appendix A (87 FR 11962, March 3, 2022). The Project will comply with all applicable regulations in 40 CFR Part 55.

The air emissions from the Project will be offset by the Project's displacement of fossil fuel-generated electricity on the regional power grid.The Project will have a long-term positive impact on air quality by replacing generation that results in higher emissions, such as fossil fuels. Therefore, the Project is consistent with this policy.

7:7-16.9 Public Access.

This rule requires that coastal development adjacent to the waterfront provide perpendicular and linear access to the waterfront to the extent practicable, including both visual and physical access. Public access during construction activities could pose the potential for both security threats and hazard conditions for members of the public and workers at the site; however, all existing public access to and along the waterfront will be maintained to the maximum extent practicable. HDD installation is proposed at the landfall locations on the waterfront to minimize impacts to beaches, including access. The Public Access Law is discussed under 7:7-9.48 Land and Waters Subject to Public Trust Rights.

*BL England*

HDD installation is proposed at the landfall locations on the waterfront to minimize impacts to beaches, including access. At BL England, HDD workspace will be within 35th Street and access to that portion of 35th Street will be temporarily restricted, but public access to the waterfront will be available from 34th Street (where a public restroom/changing building is located at the beachfront) or from 36th Street. In addition, the work at the landfall will be scheduled outside of the summer season when waterfront use is reduced to minimize impacts to the extent practicable. During HDD activities, the beach will remain open for access as there will be no temporary workspace required on the beaches or dunes.

*Oyster Creek*

At IBSP, the HDD workspace will be within the southern auxiliary parking lot of Swimming Area #2 south of the park office. Additional parking lots immediately north of the park office and a portion of the Swimming Area #2 parking lot will remain available for access to the beach. Public access to the waterfront will remain available through other parking lots. In addition, the work at the landfall will be scheduled outside of the summer season

when waterfront use is reduced and when Swimming Area #2 parking areas are closed (October 1 through early June), to minimize impacts to the extent practicable. Furthermore, during HDD activities, the beach will remain open for access as there will be no temporary workspace required on the beaches or dunes.

The Project will be installed below the beach and dunes and, therefore, will not block views or restrict access after installation. In addition, Ocean Wind 1 received a deficiency letter on December 28, 2022 from the Department identifying additional information needed for the pending CAFRA application to be deemed complete for review, including a proposal to address the Public Access rule at N.J.A.C. 7:7-16.9(k)3. Ocean Wind 1 will provide a formal response to this deficiency at a later date. Therefore, the Project is consistent with this policy.

7:7-16.10 Scenic Resources and Design.

This rule sets standards for new coastal development to be visually compatible with its surroundings. The Project will involve temporary coastal development at landfall workspace sites and other onshore ECR installation workspace sites, and permanent development for onshore substations; however, export cables will be located underground to minimize visual impacts. The Project also will use existing ROW and industrial zoned areas, wherever possible. Each substation is sited in previously disturbed areas adjacent to a decommissioned power generation facility. The substations were designed to be compatible with the setting. Therefore, the Project is consistent with this policy.

7:7-16.11 Buffers and Compatibility of Uses.

This rule sets standards for adequate buffers between uses found to be incompatible. There is potential for existing land use in the vicinity of the Project to be impacted. The Project will avoid impacts or changes to land use by utilizing existing ROWs and industrial zoned areas. If necessary, Ocean Wind 1 will coordinate with State, Federal, county and municipal agencies or private groups on land use standards, guidelines, and regulations for buffers, including the standards for wetland buffers (N.J.A.C. 7:7- 9.28). Therefore, the Project is consistent with this policy.

7:7-16.12 Traffic.

This rule sets standards for coastal development so as not to disturb traffic systems. Existing traffic patterns may be temporarily impacted during construction. Ocean Wind 1 will designate and utilize construction onshore vehicle traffic routes, construction parking areas, and carpool/bus plans to minimize potential impacts. Traffic disturbance will be limited to specific areas and will be temporary. Therefore, the Project is consistent with this policy.

7:7-16.13 Subsurface Sewage Disposal Systems.

This rule sets standards for subsurface sewage disposal systems in the coastal zone. The Project does not involve sewage disposal. Therefore, this policy is not applicable.

7:7-16.14 Solid and Hazardous Waste.

This rule defines solid and hazardous waste and sets standards for handling and disposal of such wastes. Ocean Wind 1 will prepare waste management plans and hazardous materials plans, as appropriate, for each Project facility and will collect and properly dispose of all construction debris, both from marine and onshore environments. Therefore, the Project is consistent with this policy.

3.1.10 Subchapter 17 - Mitigation

This subchapter defines requirements for the type, location, and amount of mitigation for resources lost or impacted. Ocean Wind 1 will obtain the necessary permits to address potential impacts on environmental resources and establish appropriate and practicable mitigation and monitoring measures in coordination with regulatory agencies. Mitigation will be conducted in accordance with N.J.A.C. 7:7 and 7A to compensate for

resources impacted and ecological loss during Project construction. The Project will require mitigation for SAV, ISS water, riparian zone and wetlands. All mitigation will consider the ecologic resource being impacted and the most appropriate and practicable means for mitigation. The amount of mitigation required will be evaluated pursuant to N.J.A.C. 7:7-17.4 and a mitigation proposal will be developed per N.J.A.C. 7:7-17.7. For more on mitigation, see Section 4.

## 3.2 Statement of Project Compliance with Stormwater Management Rules (N.J.A.C. 7:8)

Per N.J.A.C. 7:8-1.2, a Major Development is defined, in general, as any development that individually or collectively disturbs one or more acres of land, creates one-quarter acre or more of imperious surface or creates one-quarter acre or more of regulated motor vehicle surface.

### 3.2.1 BL England

The proposed activities associated with BL England substation will result in the permanent disturbance of 16.82 acres. The proposed Project will have a decrease of impervious surface by 0.76 acres, from 16.04 acres of existing impervious surfaces to 15.28 acres of proposed impervious surfaces including gravel areas. The post-development improvements will result in a decrease in impervious surface. In accordance with NJDEP Stormwater Rules, a site with a decrease in impervious surface and located in a tidal zone is exempt from compliance with the requirements for water quality, quantity, and recharge. Proposed drainage areas will sheet flow into sheet flow into grass swales and convey runoff along the existing retaining wall to scour holes located at the downstream ends of each swale, then discharging into the existing wetlands.

The ECR for the proposed project that runs through Upper Township and Ocean City is exempt from stormwater management measures for major developments in accordance with N.J.A.C. 7:8-5.2(d)1 as it is a linear development consisting of the construction of an underground utility line and Ocean Wind 1 will revegetate and restore disturbed areas back to existing conditions.

Per N.J.A.C. 7:8-5.6(b)4- tidal flood hazard areas, stormwater runoff quantity analysis in accordance with N.J.A.C. 7:8-5.6(b)1-3 is not required if the design engineer demonstrates through hydrologic and hydraulic analysis that the increased volume, change in timing or increased rate of the stormwater runoff, or any combination of the three will not result in additional flood damage below the point of discharge of the Major Development. In order to demonstrate that the increased volume and rate of the stormwater runoff for the various storm events will not result in additional flood damage, the available flood storage for the Project Area was analyzed and compared to the increase in run off volume generated by the proposed improvements. This analysis demonstrates that the additional runoff volume generated from the proposed improvements does not result in additional flood damage below the point of discharge.

In accordance with N.J.A.C 7:8-5.4, groundwater recharge volume (GRV) is determined based on the increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm event. Due to the decrease in impervious surface and the reduction of runoff during the 2-year storm event, groundwater recharge is not required. Per the Annual Groundwater Recharge Analysis of the New Jersey Groundwater Recharge Spreadsheet (NJGRS), based on proposed land use coverages, there is no post-development annual recharge deficit at the site. As such, the site meets the groundwater recharge requirement.

### 3.2.2 Oyster Creek

The Oyster Creek Substation portion of the Project proposes the permanent disturbance of 10.11 acres, the creation of 1.70 acres of impervious surface and the creation of 0.89 acres of new regulated motor vehicle surface (16-foot-wide macadam drive path). Therefore, stormwater management facilities are required to comply with the groundwater recharge, runoff quantity and water quality standards as outlined in N.J.A.C. 7:8. To meet these standards, four (4) small-scale surface infiltration basins and swales are proposed.

The export cables portion of the proposed Project are exempt from stormwater management measures for major developments in accordance with N.J.A.C. 7:8-5.2(d)1 as it is a linear development consisting of the construction of an underground utility line that will revegetate and restore disturbed areas back to existing conditions.

Per N.J.A.C. 7:8-5.6(b)4 – tidal flood hazard areas, stormwater runoff quantity analysis in accordance with N.J.A.C. 7:8-5.6(b)1-3 is not required if the design engineer demonstrates through hydrologic and hydraulic analysis that the increased volume, change in timing, or increased rate of the stormwater runoff, or any combination of the three will not result in additional flood damage below the point of discharge of the major development.

The proposed stormwater management system discharges into the existing inlet to the southeast of the site that discharges into the tidally influenced portion of the Oyster Creek. Approximately 1,800 feet downstream from this discharge pipe, the Oyster Creek is piped under Discharge Drive through five (5) 48" RCP pipes. Beyond this point, the Oyster Creek flows under a bridge on Route 9 and directly out to the Barnegat Bay. The pre- and post-construction rates of runoff have been calculated to demonstrate that the increase in the rate of runoff will not result in additional flood damage downstream from the 36" discharge pipe. The area between the 36" discharge pipe and the five pipes crossing under Discharge Drive is undeveloped and located in the Environmental Conservation District of Ocean Township.

At the new Oyster Creek Substation, the Project proposes the creation of approximately 0.89 acres of new regulated motor vehicle surface and 1.70 acres of impervious surface and is subject to stormwater runoff quality requirements outlined in N.J.A.C. 7:8-5.5. The four (4) small-scale infiltration basins are proposed to meet the water quality requirements for the proposed substation improvements.

Per the Annual Groundwater Recharge Analysis of the NJGRS, the post-development annual recharge deficit is 151,985 cubic feet. The annual recharge volume provided by the four (4) small-scale infiltration basins is 245,441 cubic feet, which exceeds the annual recharge deficit of 151,985 cubic feet as well as the runoff volume of 31,779 cubic feet generated by the proposed new impervious surface during a 10-year storm event. Therefore, the stormwater management system meets the groundwater recharge requirements outlined in N.J.A.C. 7:8-5.4(b)1i. Based on the calculations and proposed stormwater conveyance systems, the Project is in compliance with the Stormwater Management Rules.

## 3.3 Statement of Project Compliance with Flood Hazard Area Control Act Rules (N.J.A.C. 7:13)

### 3.3.1 Subchapter 11 – Area Specific Requirements for Individual Permits

N.J.A.C. 7:13-11.1 Requirements for a Regulated Activity Within a Channel.

*N.J.A.C.7:13-11.1 (a) This section sets forth specific design and construction standards that apply to any regulated activity proposed in a channel. The Flood Hazard Area Control Act Rules define "channel" to be a linear topographic depression that continuously or intermittently confines and/or conducts surface water, not including transient erosional gullies and other ephemeral features that temporarily form after heavy rainfall. A channel can be naturally occurring or can be of human origin through excavation or construction, in which case it is referred to as "manmade." A channel includes both bed and banks.*

*N.J.A.C.7:13-11.1 (b) The Department shall issue an individual permit for a regulated activity in a channel only if all rules of 7:13-11.1(b) are satisfied.*

For complete description of activities within and around channels please refer to the description of the proposed Project in Section 2. The Project cannot be accomplished without crossing underneath channels.

Disturbance of the channels has been eliminated wherever possible, making perpendicular crossings to the extent practicable. All disturbed areas will be stabilized. No mining of the channel is proposed. The Project will preserve aquatic habitat through use of HDD technology, when feasible, as described below.

*BL England*

By definition, minor Project activities will occur underneath Crook Horn Creek at Roosevelt Bridge. The installation of underground cables beneath Crook Horn Creek using HDD, will avoid impacts to the channel.

*Oyster Creek*

The cable installation cannot be accomplished without disturbances to the waters of Barnegat Bay. HDD across Barnegat Bay is not feasible.

Additionally, the Oyster Creek channel will be utilized for two HDD conduit transfers from the staging area. The staging area is onshore at the Holtec Property south of the existing paved access road to the Barnegat Bay HDD workspace. No temporary or permanent impacts to the channel are anticipated. The conduit will be transferred on rollers to the water where it will be floated and pulled by tugboat out to the installation location within Barnegat Bay. No dredging will be necessary as the channel provides adequate vessel depths.

There is a possibility of inadvertent return of drilling mud associated with HDD. Ocean Wind 1 has prepared and will implement an Inadvertent Returns Contingency Plan that includes measures to prevent inadvertent returns and minimize impacts to environmentally sensitive areas in the event of an inadvertent return (Appendix P).

*N.J.A.C. 7:13-11.1(c) Channel modification is not proposed as part of this project. Therefore, this portion of the regulation does not apply.*

*N.J.A.C. 7:13-11.1(d) Construction equipment is not proposed for activities within a channel. Therefore, this portion of the regulation does not apply.*

*N.J.A.C. 7:13-11.1(e) Vehicles are not proposed to be operated within a channel. Therefore, this portion of the regulation does not apply.*

*N.J.A.C. 7:13-11.1(f) No proposed dumping or discarding of material that could be carried during a storm or obstruct normal flow of water will occur during this project. Therefore, this policy does not apply.*

Based on the information above, the Project is consistent with this portion of the regulation.

N.J.A.C. 7:13-11.2 Requirements for a Regulated Activity Within a Riparian Zone.

*N.J.A.C. 7:13-11.2(b) The Department shall issue an individual permit for any regulated activity or project that results in clearing, cutting, and/or removal of vegetation in a riparian zone only if:*

1. *The basic purpose of the regulated activity or project cannot be accomplished onsite without clearing, cutting, and/or removal of vegetation in the riparian zone;*
2. *Clearing, cutting, and/or removal of riparian zone vegetation is minimized*
3. *All existing onsite impervious surface located within 25 feet of the top of bank is removed and the riparian zone is replanted with vegetation in accordance with (z)*
4. *The requirements for each specific regulated activity described in (g) through (y) below are satisfied, including mitigation in accordance with N.J.A.C. 7:13-13, as applicable*
5. *All areas from which riparian zone vegetation is temporarily cleared, cut, or removed are replanted in accordance with (z)*
6. *All additional requirements for each specific regulated activity described elsewhere in this chapter are satisfied*

*BL England*

The portion of the Project at landfall for BL England does not have a riparian zone because the water body is the Atlantic Ocean. On the eastern side of Peck Bay, a riparian zone would not apply as it is part of the barrier island complex. The riparian zones associated with the western side of Peck Bay at the Project crossing are anticipated to be 50 ft because Peck Bay does not meet the criteria under 1 and 2 above under the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13). There are no proposed temporary or permanent impacts to the Peck Bay riparian zone as part of the Project.

*Oyster Creek*

The portion of the Oyster Creek Project on IBSP does not have riparian zones because it is a barrier island complex. Barnegat Bay is a Category 1 water that would have an associated 300-foot riparian zone at the Holtec property along the western shoreline of the Bay. However, this riparian zone would not apply as the southeastern portion of the Holtec Property is made up of mapped coastal wetlands. The riparian zones associated the Oyster Creek Discharge Channel, its tributaries and with the manmade ditches on the Holtec property are anticipated to be 50 ft.

The Project will require a 50 ft temporary workspace for the installation of cables underground within riparian zones, some clearing will occur within the Holtec Property in the Project Area (see Appendix C and Appendix S). The Project will not be feasible without this clearing. Clearing will be minimized wherever possible. The Project has been sited, to the extent practicable, within disturbed areas such as upland dirt trails and paved areas. Riparian zones will be replanted in accordance with (z) of this subchapter and mitigation will be performed if necessarily in accordance with N.J.A.C. 7:13-13.

*N.J.A.C. 7:13-11.2(c) The Department shall issue an individual permit for a regulated activity that results in clearing, cutting, and/or removal of vegetation within 25 feet of any top of bank only in the following circumstances:*

1. *The regulated activity lies within an actively disturbed area adjacent to a lawfully existing bulkhead, retaining wall, or revetment along a tidal water or impounded fluvial water;*
2. *Clearing, cutting, and/or removal of riparian zone vegetation within 25 feet of a top of bank is necessary to undertake riparian zone, freshwater wetlands, and/or habitat restoration and enhancement activities;*
3. *Clearing, cutting, and/or removal of riparian zone vegetation within 25 feet of a top of bank is necessary to undertake sediment removal activities in accordance with N.J.A.C. 7:13-12.15; or*
4. *Clearing, cutting, and/or removal of riparian zone vegetation within 25 feet of a top of bank is necessary to construct, reconstruct, or improve a structure that crosses a regulated water or requires proximity to a regulated water*

The regulated activity within the Holtec Property in Lacey Township will take place within an actively disturbed area (upland berms and trails) that lies adjacent to a lawful existing system of berms and retaining walls along a tidal water body. Site disturbance dates back to the 1960s when the landowner excavated a network of ditches and constructed a retaining wall to channel the drainage to the tidal wetlands in the southeastern portion of the property. Clearing, cutting and/or removal of riparian zone vegetation within 25 ft of top of bank is necessary to install underground cable on the Holtec Property within the riparian zone as set forth in N.J.A.C. 7:13-11.2(c)4. The area of vegetation cleared, cut, and/or removed within the riparian zone is the minimum necessary to successfully implement the Project.

*N.J.A.C. 7:13-11.2(d) The Department shall issue an individual permit for a regulated activity that results in clearing, cutting, and/or removal of vegetation within 150 feet of the top of bank along a regulated water with a 300-foot riparian zone, only if the applicant demonstrates that:*

1. *There is no practicable alternative to the regulated activity that would have less adverse impacts on regulated areas and which would not significantly compromise other environmental resources;*
2. *The regulated activity results in the minimum feasible alteration or impairment of the riparian or aquatic ecosystem; and*
3. *The regulated activity is in the public interest, as determined by the Department in consideration of the following:*
    - *i. The public interest in preservation of natural resources and the interest of the property owners in reasonable economic development;*
    - *ii. The extent of the public and private need for the proposed regulated activity;*
    - *iii. The practicability of using reasonable alternative locations and methods to accomplish the purpose of the proposed regulated activity;*
    - *iv. The extent and permanence of the beneficial or detrimental effects that the proposed regulated activity may have on the public and private uses for which the property is suited;*
    - *v. The functions and values provided by the riparian zone proposed to be impacted; and The probable individual and cumulative impacts of the regulated activity on public health, safety, and welfare, and the environment.*

The riparian zones, where they exist, are 50 ft. Barnegat Bay is a Category 1 water that would have an associated 300-foot riparian zone at the Holtec property along the western shoreline of the Bay. However, this riparian zone would not apply as the southeastern portion of the Holtec Property is made up of mapped coastal wetlands. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(e) Table 11.2 establishes the maximum allowable area of riparian zone vegetation that can be temporarily or permanently cleared, cut, and/or removed associated with the regulated activities identified at (g) through (y) below without Department approval based upon additional justification as set forth in (g)1, (h)1, (i)2, (j)1, (k)1, (q)1, (t), (u)1, (v), or (w)1 below or Department approval of a hardship exception. Where the regulated activity located within a 300- foot riparian zone, is an activity identified at (r), (s), or (y) below, or the total amount of clearing, cutting, and/or removal of riparian zone vegetation exceeds the limits in Table 11.2, mitigation is required in accordance with N.J.A.C. 7:13-13.4. Activities within riparian zones that are not subject to the limits set forth in Table 11.2 are identified in (f) below.*

Per N.J.A.C. 7:13-11.2(z), all riparian zone vegetation that is cleared, cut, and/or removed to conduct a regulated activity, access an area where regulated activities will be conducted, or otherwise accommodate a regulated activity will be replanted immediately after completion of the regulated activity, unless prevented by seasonal weather, in which case the vegetation shall be replanted as soon as conditions permit.

Impacts to riparian zones within the Oyster Creek Project Area are totaled in **Table 3.3.1-1.**

**Table 3.3.1-1. Maximum allowable area of Riparian Zone Vegetation that can be temporarily or permanently cleared, cut, and/or removed without additional justification and/or a Hardship Exception Request (N.J.A.C. 7:13-11.2).**

| Proposed Regulated Activity | See Subsection Below for Additional Requirements | Allowable Disturbance Based on the Width of the Riparian Zone | Proposed Disturbance |
|---|---|---|---|
| **Utility Line** | | | |
| New | **(k)** | 117,960 $ft^2$ (30 $ft^2$ per linear foot of utility line) (Approximately 3,950 linear feet of underground utility lines proposed within riparian zone) | **71,246** $ft^2$ **(1.636 acres)** |

*N.J.A.C. 7:13-11.2(f) The following regulated activities are not subject to the limits set forth in Table 11.2 and shall not be included when calculating the total area of vegetation to be cleared, cut, and/or removed under (e)1 above:*

3. *Any temporary clearing, cutting, and/or removal of riparian zone vegetation within an actively disturbed area, provided all disturbed areas are adequately stabilized and replanted with vegetation in accordance with (z) below*

The portion of the Project that crosses the Holtec Property in Lacey Township adjacent to the network of ditches will require clearing. However, this clearing takes place in an actively disturbed upland trail. The trails are regularly used by the public to drive ATVs and dirt bikes and for access for hunting (tree stands observed), and by the landowner for general property access and maintenance. The area will be adequately stabilized during construction and replanted following construction. Therefore, this portion of the regulation does not apply. Nevertheless, the proposed riparian zone clearing is far below the allowable disturbance of new utility lines from Table 11.2 of the regulations (71,246ft$^2$ of an allowable 117,960 ft$^2$).

*N.J.A.C. 7:13-11.2(g)* The proposed Project does not involve construction of a new railroad or public roadway. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(h)* The proposed Project does not involve construction a new private roadway or the expansion, reconstruction, or improvement of a lawfully existing private roadway. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(i) The Department shall issue an individual permit for the restoration to a stable condition of a bank or channel that has become eroded, unstable, ecologically degraded, and/or enclosed within a structure, which results in clearing, cutting, and/or removal of riparian zone vegetation, only if:*

1. *For a Project to stabilize and/or restore a bank and/or channel with vegetation in accordance with N.J.A.C. 7:13-12.14(c)1 and/or using soil bioengineering in accordance with N.J.A.C. 7:13-12.14(c)2, the applicant demonstrates that the area of vegetation cleared, cut, and/or removed within the riparian zone is the minimum necessary to successfully implement the Project;*

The Project will stabilize and/or restore a bank and/or channel with vegetation in accordance with N.J.A.C. 7:13-12.14(c)1 using soil bioengineering in accordance with N.J.A.C. 7:13-12.14(c)2.

2. *For a Project to stabilize a bank and/or channel using revetments, retaining walls, or other armoring in accordance with N.J.A.C. 7:13-12.14(c)3, the total area of vegetation cleared, cut, and/or removed within the riparian zone does not exceed the limits set forth in Table 11.2 above, unless the applicant demonstrates that the bank or channel cannot feasibly be stabilized without exceeding these limits; and*

Because the riparian zone is an actively disturbed area, and it will be stabilized during construction and replanted in accordance with (z) of this subchapter, the limits set forth in Table 11.2 do not apply.

3. *For a Project to restore a regulated water that is enclosed by a structure to a natural condition in accordance with N.J.A.C. 7:13-12.14(d), only the limits set forth in Table 11.2 for access to the Project shall apply*.

The Project will not restore a regulated water enclosed by a structure to a natural condition and, therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(j)* The proposed Project does not involve the construction or reconstruction of a stormwater discharge, including the stormwater pipe leading to the discharge as well as any associated conduit outlet

protection and/or conveyance swale that will result in the clearing, cutting and/or removal of riparian zone vegetation. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(k) The Department shall issue an individual permit to construct a new aboveground or underground utility line, which results in clearing, cutting, and/or removal of riparian zone vegetation, only if:*

1. *The total area of riparian zone vegetation to be cleared, cut, and/or removed does not exceed the limits set forth in Table 11.2 above, unless the applicant demonstrates that there is a compelling public need to construct the utility line that cannot feasibly be accomplished without exceeding these limits;*

The total area of riparian zone vegetation to be cleared, cut, and/or removed does not exceed the limits set forth in Table 11.2 of N.J.A.C. 7:13-11.2(f).

2. *The applicant demonstrates, pursuant to N.J.A.C. 7:13-12.8(c)1 through 4, that clearing, cutting, and/or removal of riparian zone vegetation is unavoidable;*

The total area of riparian zone vegetation to be cleared, cut, and/or removed is unavoidable as demonstrated in Appendix A.

3. *The area of riparian zone vegetation that is cleared, cut, and/or removed is the minimum necessary to meet the applicable requirements of the New Jersey Board of Public Utilities and all other State and Federal requirements governing the construction of the utility line;*

The area of riparian zone vegetation that is cleared, cut, and/or removed is the minimum necessary to meet the applicable requirements of the NJBPU and all other State and Federal requirements governing the construction of a utility line.

4. *Staging, storing, and stockpiling materials and equipment shall, to the maximum extent practicable, be accomplished outside the riparian zone. Where it is necessary to conduct these activities in the riparian zone, these activities, as well as access to the utility line during construction, shall, to the maximum extent practicable, be undertaken in actively disturbed areas;*

Staging, storing, and stockpiling materials will take place outside the riparian zone.

5. *To the maximum extent practicable, forested areas are not disturbed; and*

Where it is necessary to conduct these activities in the riparian zone, these activities, as well as access to the utility line during construction, will limit clearing and disturbance to forested riparian zone areas to the minimum area required to conduct the proposed activities. The riparian zone along the Oyster Creek ECR that is proposed to be disturbed is currently made up of an actively disturbed upland sand trail with some grasses that ranges from approximately 6 to 10 feet wide and is lined with shrubs dominated by highbush blueberry (*Vaccinium corymbosum*) for an additional 10-20 feet on either side of the trail. Tree clearing will be limited wherever practicable.

6. *No trees within 25 feet of any top of bank are cleared, cut or removed, unless the applicant demonstrates that such disturbance cannot feasibly be avoided to conduct the Project.*

Trees within 25 feet of the top of bank within the Holtec Property are scarce. Trees within 25 feet of the top of bank will only be cleared as necessary if disturbance cannot be avoided. All riparian zone vegetation that is cleared, cut and/or removed to conduct the regulated activities described above, will be mitigated for and replanted in accordance with permit conditions.

*N.J.A.C. 7:13-11.2(l)* The proposed Project does not involve the reconstruction, replacement, repair, or maintenance of an existing aboveground or underground utility line. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(m)* The proposed Project does not involve the construction of a new single-family home or duplex, or the reconstruction of a lawfully existing single-family home or duplex, including the creation of any lawn or landscaped area around the building. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(n)* The proposed Project does not involve the construction of an addition to a lawfully existing single-family home or duplex, or the construction of an accessory structure to an existing single-family home or duplex, such as a barn, deck, detached garage, fence, pool, or shed. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(o)* The proposed Project does not involve the construction of a public access area along a tidal water. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-11.2(p) The Department shall issue an individual permit for the construction of a water dependent development, as defined in the Coastal Zone Management Rules at N.J.A.C. 7:7-1.5, along a tidal water, which results in clearing, cutting, and/or removal of riparian zone vegetation, only if:*

1. *The water dependent development is designed in accordance with the Coastal Zone Management Rules, N.J.A.C. 7:7; and*

The Project has been designed in accordance with the CZM Rules, see Section 3.1 above.

2. *For any proposed water dependent development, the applicant demonstrates that there is no other feasible location onsite to construct the development that would reduce or eliminate the area of riparian zone vegetation to be cleared, cut, and/or removed.*

The total area of riparian zone vegetation to be cleared, cut, and/or removed is unavoidable as demonstrated in Appendix A.

*N.J.A.C.7:13-2(q)* The proposed Project does not involve the construction of an individual subsurface sewage disposal system that serves one new single-family home or duplex, or to repair or alter a lawfully existing, malfunctioning individual subsurface sewage disposal system that serves any building. Therefore, this portion of the regulation does not apply.

*N.J.A.C.7:13-2(r)* The proposed Project does not involve the investigation, cleanup, or removal of hazardous substances. Therefore, this portion of the regulation does not apply.

*N.J.A.C.7:13-2(s)* The proposed Project does not involve a solid waste landfill closure and post-closure plan. Therefore, this portion of the regulation does not apply.

*N.J.A.C.7:13-2(t)* The proposed Project does not involve the construction of a trail and/or boardwalk for use by pedestrians, bicycles, and other non-motorized methods of transport. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-2(u)* The proposed Project does not involve construction of a footbridge. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-2(v)* The proposed Project is not a flood control Project. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-2(w)* The proposed Project does not involve removal of sediment and/or debris from a regulated water which will result in the clearing, cutting, and/or removal of riparian zone vegetation. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-2(x)* The proposed Project does not involve removal of existing fill or an existing structure. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-2(y)* The proposed Project activities are listed in (g) through (x) above. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-2(z) All riparian zone vegetation that is cleared, cut, and/or removed to conduct a regulated activity, access an area where regulated activities will be conducted, or otherwise accommodate a regulated activity shall be replanted immediately after completion of the regulated activity, unless prevented by seasonal weather, in which case the vegetation shall be replanted as soon as conditions permit. Portions of the riparian zone occupied by an authorized structure need not be replanted.*

1. *Except as provided in (z)2 below, the vegetation replanted shall:*

    i. *Consist of vegetation of equal or greater ecological function and value as the vegetation that was cleared, cut, or removed. For example, herbaceous vegetation may be replaced with the same type of vegetation or with trees, but the trees in forested areas must be replaced with trees of equal or greater density and ecological function and value; and*

All riparian zone vegetation that is cleared, cut and/or removed to conduct the regulated activities described above, will be mitigated for and replanted in accordance permit conditions.

    ii. *Consist of native, non-invasive vegetation, except in an actively disturbed area. In an actively disturbed area, the vegetation may be replaced with the same type of vegetation that was cleared, cut, or removed, or with another kind of vegetation typical of an actively disturbed area. For example, lawn grass may be replaced with garden plants or agricultural crops.*

Native, non-invasive vegetation will be used during replanting.

2. *In cases where replanting in accordance with (z)1 above would interfere with continued access to or maintenance of a structure that is required by Federal, State, or local law, the vegetation replanted shall meet the requirements of (z)1 above to the extent feasible.*

All riparian zone vegetation that is cleared, cut, or removed will be replanted with vegetation that is equal or greater ecological function and value to the extent feasible in accordance with (z)1 above.

N.J.A.C. 7:13-11.3 Requirements for a Regulated Activity Within a Floodway.

*N.J.A.C. 7:13-11.3(a) This section sets forth specific design and construction standards that apply to any regulated activity proposed in a floodway*

*N.J.A.C. 7:13-11.3(b) Except as provided in (c) below, the Department shall not issue an individual permit for the following activities:*

1. *The placement of any aboveground structure in or above a floodway;*

No activities will occur nor will any above ground structures be constructed within the floodway as part of the HDD construction. There will be no placement of aboveground structures in or above a floodway.

2. *Any regulated activity that would result in the placement of fill in a floodway;*

There will be no placement of fill in a floodway.

3. *Any regulated activity that would raise the ground elevation in a floodway; or*

There will be no regulated activity that will raise the ground elevation in a floodway.

4. *Any regulated activity that would obstruct the passage of floodwaters in a floodway.*

There will be no regulated activity that will obstruct the passage of floodwaters in a floodway. No activities will occur within the floodway as part of the HDD construction.

*N.J.A.C. 7:13-11.3(c) Notwithstanding (b) above, the Department shall issue an individual permit for the following regulated activities in a floodway, provided all other requirements of this chapter are satisfied for each activity:*

1. *The Project does not involve construction or conversion of a building on a pier in the Hudson River. Therefore, this portion of the regulation does not apply.*
2. *The proposed Project does not involve the elevation or reconstruction of a lawfully existing building. Therefore, this portion of the regulation does not apply.*
3. *The proposed Project does not involve construction of a horizontal and/or vertical additional to a lawfully existing building. Therefore, this portion of the regulation does not apply.*
4. *The proposed Project does not involve the construction of a water control structure. Therefore, this portion of the regulation does not apply.*
5. *The proposed Project does not involve the construction of a stormwater outfall structure. Therefore, this portion of the regulation does not apply.*
6. *The proposed Project does not involve the construction of a retaining wall or bulkhead. Therefore, this portion of the regulation does not apply.*
7. *The proposed Project does not involve the restoration and/or stabilization of a bank or channel which requires the placement of fill in a floodway. Therefore, this portion of the regulation does not apply.*
8. *The proposed Project does not involve the placement of dredged material adjacent to the water from which the material was removed. Therefore, this portion of the regulation does not apply.*
9. *The proposed Project does not involve the placement of fill in an isolated shallow depression or other area that does not contribute to the hydraulic capacity of the floodway. Therefore, this portion of the regulation does not apply.*
10. *The proposed Project does not involve the placement of fill in a portion of a manmade impoundment of water. Therefore, this portion of the regulation does not apply.*

The Project does not involve any activities within a floodway. Therefore, this portion of the regulation does not apply.

N.J.A.C. 7:13-11.4 Requirements for a Regulated Activity Within a Flood Fringe.

*N.J.A.C. 7:13-11.4(d) The following regulated activities (or combination of regulated activities) are not subject to the flood storage volume displacement limits of this section, provided the activity is not associated with a major Highlands development:*

1. *Any activity located in a tidal flood hazard area;*
2. *Any activity that displaces no more than five cubic yards of flood storage volume;*
3. *The reconstruction, enlargement, or other improvement of a lawfully existing railroad, public roadway, or driveway that serves only one single-family home or duplex, provided flood storage volume displacement is minimized;*
4. *The construction of a new driveway across a regulated water provided:*
   - ii. *The driveway serves only one single-family home or duplex, which is not being constructed as part of a larger residential subdivision or multi-unit development;*
   - iii. *The lot on which the single-family home or duplex is being constructed was not created or subdivided after November 5, 2007;*

iv. *The applicant demonstrates that there is developable land onsite that cannot feasibly be accessed without crossing the water, including accessing the site through neighboring properties; and*
v. *Any flood storage volume displacement resulting from the driveway is minimized.*

FEMA Flood Insurance Rate Map (FIRM) Panels **(**described in Appendix S and further discussed in the FHA Verification Report in Appendix K) show that the Project is in a tidally and fluvially influenced floodplain. Pursuant to N.J.A.C. 7:13-11.4(d), the proposed activities located in a tidal flood hazard area are not subject to the flood storage volume displacement limits of this rule. The area south of the Oyster Creek substation, downstream of the impounded pond, is within a fluvial floodplain. However, because all Project components in this area are underground, they are not subject to flood storage volume calculations.

N.J.A.C. 7:13-11.5 Requirements for a Regulated Activity in or Along a Regulated Water with Fishery Resources.

*N.J.A.C. 7:13-11.5(a)This section sets forth specific design and construction standards that apply to any regulated activity proposed in the channel and/or riparian zone of a regulated water containing fishery resources. Per N.J.A.C. 7:13-11.5(b) NJDEP shall issue an individual permit for a regulated activity in the channel and/or riparian zone of a regulated water containing fishery resources only if the Project activity meets timing restrictions.*

*N.J.A.C. 7:13-11.5(b) The waters identified by the Department as containing fishery resources are listed in the Department's Surface Water Quality Standards at N.J.A.C. 7:9B, and are further supplemented by the following reports as updated, which are included here by reference. Copies of these reports are available from the Department at the website set forth at N.J.A.C. 7:13-1.4:*

1. *"Classification of New Jersey Waters as Related to Their Suitability for Trout";*
2. *"List of Waters Stocked with Trout by the New Jersey Division of Fish and Wildlife"; and*
3. *"Locations of Anadromous American Shad and River Herring During Their Spawning Period in New Jersey's Freshwaters Including Known Migratory Impediments and Fish Ladders."*

*BL England*

Within the Project Area, Crook Horn Creek/Peck Bay is not identified as NJDEP-regulated fishery resources, including trout maintenance or trout production resources per the NJDEP Surface Water Quality Standards (N.J.A.C. 7:8).

*Oyster Creek*

Within the Oyster Creek Project Area, Barnegat Bay is identified as a Category 1 water. By definition, Category 1 waters are designated 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 characteristics including exceptional fisheries resources.

Schedule will be coordinated with NJDEP and NMFS during permit review and Ocean Wind 1 will comply with permit conditions. Additionally, SESC and BMPs will be utilized throughout the duration of construction in upland and within surface waters where applicable. No impacts are anticipated on fisheries resources as part of this Project.

*N.J.A.C. 7:13-11.5(c) The Department shall issue an individual permit for a regulated activity in the channel and/or riparian zone of a regulated water containing fishery resources only if the following requirements are satisfied:*

1. *Except as provided in (e) below, the activity meets the timing restrictions of (d) below;*

Ocean Wind 1 will coordinate with the NJDEP, NMFS, USACE and BOEM with regard to schedule and will comply with permit conditions and APMs as detailed in Appendix S.

2. *No logs or boulders that provide fish habitat are removed from the channel, unless the Department determines that such removal is necessary to accomplish the Project; and*

No logs or boulders that provide fish habitat are proposed for removal from the channel.

3. *Low-flow aquatic passage is maintained in the channel throughout the entire area of disturbance during and after the performance of the regulated activity. In order to provide low-flow aquatic passage, the depth of flow in the modified channel during low-flow conditions must be equal to or greater than pre-Project conditions. Where feasible, the applicant shall also provide low-flow aquatic passage in areas that do not currently contain low-flow aquatic passage.*

Low-flow aquatic passage will be maintained in the channel throughout the entire area of disturbance during and after the performance of the regulated activity.

*N.J.A.C. 7:13-11.5(d) Except as provided at (e) below, certain activities are prohibited during times when fish are breeding or are especially sensitive to disturbance. The following activities are prohibited during the restricted periods listed in Table 11.5 of N.J.A.C. 7:13-11.5 below:*

1. *Any construction, excavation, filling or grading in the channel; and*

Ocean Wind 1 will coordinate with the NJDEP, NMFS, USACE and BOEM with regard to project schedule and will comply with permit conditions and APMs as detailed in Appendix S.

2. *Any construction, excavation, filling, or grading in the riparian zone, unless the applicant demonstrates that appropriate soil erosion and sediment control measures, as determined by the local Soil Conservation District having jurisdiction over the site, are in place to prevent sediment from reaching the channel.*

The Project will implement APMs and BMPs for erosion and sediment control measures, as determined by the local Soil Conservation Districts having jurisdiction over the site to prevent sediment from reach the channel.

*N.J.A.C. 7:13-11.5(e) The Department shall reduce, extend, or otherwise modify a timing restriction listed in Table 11.5 at N.J.A.C. 7:13-11.5 if it determines that one or more of the following requirements is satisfied:*

1. *Potential adverse impacts to fishery resources are likely to be reduced if a regulated activity occurs during a restricted time period rather than during an unrestricted time period;*

2. *A regulated activity is subject to more than one restricted time period, the combined effect of which would limit the regulated activity to fewer than 183 calendar days per year. In such a case, the Department shall allow the regulated activity to occur for up to 183 calendar days, provided the applicant demonstrates that additional measures shall be taken to reduce potential adverse impacts to fishery resources to a level acceptable to the Department. Note that the 183-calendar-day period during which the Department determines that activities may occur need not be consecutive. For example, the Department may determine that restricting activities for three months in the spring and three months in the fall best protects fishery resources in a particular case;*

3. *The observance of a timing restriction would adversely impact public health, safety, and/or welfare, and the applicant demonstrates that additional measures are taken where necessary to reduce adverse impacts to fishery resources to an acceptable level; or*

4. *Due to the nature of the Project or an unusual circumstance onsite, the timing restriction must be modified in order to prevent a substantial adverse impact to the fishery resource or to the environment.*

Ocean Wind 1 will coordinate the construction schedule and activities with NJDEP, USFWS, NMFS, USACE and BOEM and will comply with permit conditions. Multiple time of year restrictions for different species will apply, specifically within Barnegat Bay and will likely exceed 183 calendar days. Given the anticipated Project duration, Ocean Wind 1 will work to identify suitable periods during which construction can be conducted and have the least impacts to threatened or endangered species and other species with time of year restrictions. Ocean Wind 1 will coordinate with these agencies during permit review on potential relief from time of year restrictions, as necessary.

*N.J.A.C. 7:13-11.5(f)* The proposed Project activities are not located in waters under the Delaware River Basin Commission jurisdiction. Therefore, this portion of the regulation does not apply.

N.J.A.C. 7:13-11.6 Requirements for a Regulated Activity in or Affecting a Present or Documented Habitat for Threatened and Endangered Species

*N.J.A.C. 7:13-11.6(d) The Department shall issue an individual permit for a regulated activity only if the activity will not destroy, jeopardize, or adversely modify a present or documented habitat for threatened or endangered species, and shall not jeopardize the continued existence of any local population of a threatened or endangered species.*

The Project will not destroy, jeopardize or adversely modify a present or documented habitat for threatened or endangered species, nor will it jeopardize the continued existence of any local population. During construction, Ocean Wind 1 will employ the necessary APMs and comply with permit conditions to avoid and minimize any impacts to listed species within construction work areas including timing restrictions. For further information on threatened and endangered species and proposed APMs, please see Appendix S.

*N.J.A.C. 7:13-11.6(e) The Department shall require a survey and/or a habitat assessment for threatened or endangered species as part of an environmental report, as described at N.J.A.C. 7:13-18.8(b), for an individual permit for any regulated activity which is likely to do either of the following:*

1. *Disturb an area known to contain a threatened or endangered species; or*
2. *Disturb any habitat that could support a threatened or endangered species.*

As discussed in Appendix S, State and Federally listed species with the potential to occur within the Project area have been identified based on the coordination with the NJDEP NHP, USFWS, and NMFS. Based on this coordination, Ocean Wind 1 conducted species-specific surveys for the Federally threatened and State endangered bog turtle (*Glyptemys muhlenbergii*), swamp pink (*Helonias bullata*), and Federally threatened and State endangered Knieskern's beaked-rush (*Rhynchospora knieskernii*). See Appendix G for agency coordination regarding threatened and endangered species. Appendix S provides a discussion of habitat for threatened and endangered species.

*N.J.A.C. 7:13-11.6(f)* The proposed Project has contacted the NJDEP NHP regarding threatened and endangered species. Therefore, the Project is in compliance with this portion of the regulation.

*N.J.A.C. 7:13-11.6(g) The Department shall restrict a regulated activity during times of year when a threatened or endangered species is especially sensitive to disturbance, such as during mating or migratory periods. The Department shall not limit the regulated activity to fewer than 183 calendar days per year under this section. Note that the 183-day period during which the Department determines that activities may occur need not be consecutive. For example, the Department may determine that restricting activities for three months in the spring and three months in the fall best protects a threatened or endangered species in a particular case.*

Ocean Wind 1 will coordinate the construction schedule and activities with NJDEP, USFWS, NMFS, USACE and BOEM and will comply with permit conditions. Multiple time of year restrictions for different species will apply, specifically within Barnegat Bay and will likely exceed 183 calendar days. Given the anticipated Project

duration, Ocean Wind 1 will work to identify suitable periods during which construction can be conducted and have the least impacts to threatened or endangered species and other species with time of year restrictions. Ocean Wind 1 will coordinate with these agencies during permit review on potential relief from time of year restrictions, as necessary.

**N.J.A.C. 7:13-12 Requirements for Various Regulated Activities**

3.3.1 Subchapter 12 – Activity-Specific Requirements for Individual Permits

N.J.A.C. 7:13-12.1 Requirements that Apply to all Regulated Activities.

This section sets forth design and construction standards that apply to any regulated activity proposed in any regulated area. The Project will not cause a significant and adverse effect to the following resources listed in **Table 3.3.2-1** below. Any potential impact listed will be mitigated for and all APMs will be implemented as described in Appendix S including sediment control measures installed around the proposed construction sufficient to prevent sediment from entering any riparian zone or channel outside the construction area.

**Table 3.3.2-1. Applicability to New Jersey's FHA Rules October 5, 2021.**

| Resource | Applicable | Not Applicable |
|---|---|---|
| Water quality | X | |
| Aquatic biota | X | |
| Water supply | | X |
| Flooding | X | |
| Drainage | X | |
| Channel stability | X | |
| Threatened and endangered species or their current or documented historic habitats | X | |
| Navigation | X | |
| Energy production | X | |
| Fishery resources | X | |

*N.J.A.C. 7:13-12.1(c) A permittee shall obtain all necessary approvals from the local Soil Conservation District prior to commencing any activity approved in an individual permit issued under this chapter.*

Ocean Wind 1 will obtain the necessary approvals from the counties Soil Conservation Districts prior to commencing any proposed activity.

*N.J.A.C. 7:13-12.1(d) A permittee shall obtain all necessary approvals from the USDA Natural Resource Conservation Service prior to commencing any activity designed or overseen by the NRCS, which is approved in an individual permit issued under this chapter.*

Approval from the USDA Natural Resource Conservation service is not required for the Project. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12(e) If neither the Soil Conservation District nor the USDA Natural Resource Conservation Service has jurisdiction over an activity approved in an individual permit issued under this chapter, the permittee shall commence the activity only if the following requirements are met:*

1. *Sediment control measures shall be installed around the proposed construction sufficient to prevent sediment from entering any riparian zone or channel outside the construction area;*

2. *If construction is proposed in a channel, sediment control measures, such as coffer dams, shall be installed around the activity sufficient to prevent flowing water from coming in contact with construction for the duration of the project where feasible;*
3. *All slopes shall be graded and stabilized to prevent post-construction erosion; and*
4. *Permanent, native, non-invasive plant species shall be established on all exposed soils immediately following construction. The applicant shall monitor and maintain all such vegetation for at least three growing seasons to ensure proper establishment and survival.*

Approvals from the local Soil Conservation Districts are required. Therefore, the Project is in compliance with this portion of the regulation.

*N.J.A.C. 7:13-12(f) The Department shall issue an individual permit for a regulated activity that adversely impacts a property not owned by an applicant as set forth in (g) below, only if the applicant demonstrates that one or more of the following requirements are satisfied for each adversely impacted property.*

3. *The applicant has obtained an easement that encompasses the entire area that will be adversely impacted by the proposed activity, which specifically allows the applicant to undertake the proposed activity;*

The Project will obtain easements encompassing the entire area that will be adversely impacted by the proposed activity which will specifically allow the applicant to undertake the proposed activities. Therefore, the Project is in compliance with this portion of the regulation.

*N.J.A.C. 7:13-12(g) The Department shall consider a regulated activity to adversely impact a property not owned by an applicant if the activity meets one or more of the following. For the purpose of determining compliance with (g)4 and 5 below, calculations shall be rounded to the nearest 0.1 feet.*

As discussed above under N.J.A.C. 7:13-12(f)3, Ocean Wind 1 will obtain easements encompassing the entire area that will be adversely impacted by the proposed activity which will specifically allow the applicant to undertake the proposed activities. Therefore, the Project is in compliance with this portion of the regulation.

*N.J.A.C. 7:13-12(h)* The Project will not result in a significant change in the cross-sectional area and/or hydraulic capacity of a channel or floodway as detailed in the FHA Report in Appendix K. Therefore, the Project is in compliance with this portion of the regulation.

*N.J.A.C. 7:13-12(i) Where this chapter requires consideration of potential offsite flooding impacts, the following events shall be analyzed:*

1. *The flood hazard area design flood;*
2. *The 100-year flood;*
3. *The 50-year flood;*
4. *The 25-year flood;*
5. *The 10-year flood; and*
6. *The two-year flood.*

Because the Project is within tidal and fluvial FHA areas, it does require consideration of potential offsite flooding impacts. Appendix K provides more specific details regarding consideration of offsite flooding. Therefore, the Project is in compliance with this policy.

N.J.A.C. 7:13-12.2 Requirements for Stormwater Management.

*N.J.A.C. 7:13-12.2 (b) The Department shall issue an individual permit for a regulated activity associated with a major development only if the requirements of the Stormwater Management rules at N.J.A.C. 7:8 are satisfied.*

This rule states that all requirements for the Stormwater management rules at N.J.A.C. 7:8 must be met if the regulated activity is associated with a major development. The Project is a major development, as defined by NJDEP, as it disturbs one or more acres of land, creates one-quarter acre or more of regulated impervious surface and creates one-quarter acre or more of regulated motor vehicle surface. All stormwater basins located within or discharging within an FHA will meet the necessary requirements. All stormwater calculations are detailed in Appendix M. Therefore, the Project will be consistent with this policy.

*N.J.A.C. 7:13-12.2(c) The Department shall issue an individual permit for a stormwater management basin located within or discharging within a flood hazard area only if the following requirements are satisfied:*

1. *The basin is designed and constructed to function properly during both flood and non-flood conditions;*

The basins are designed and will be constructed to function properly during both flood and non-flood conditions. Therefore, the Project is in compliance with this portion of the regulation.

2. *The effects of flooding and tailwater conditions on any proposed discharge are accounted for in the stormwater management calculations for the proposed basin. Tailwater conditions refer to situations where the discharge pipe will be submerged during a flood in such a way that floodwaters prevent the basin from draining properly. The effects of flooding and tailwater conditions are of particular concern in one or more of the following cases:*

    i. *The basin will be overtopped and flooded during the flood hazard area design flood, because it is not feasible to construct the emergency spillway in accordance with (c)3 below;*

    ii. *The drainage area of the basin is similar in size to the drainage area of the water receiving the proposed discharge;*

    iii. *The basin reaches its maximum storage volume during or near the time flooding peaks within the water receiving the proposed discharge; or*

    iv. *The elevation of the lowest discharge orifice or weir in the basin lies below the flood hazard area design flood elevation;*

Flooding and tailwater conditions will not occur as a part of this Project based on the supporting calculations provided in Appendix K and M.

3. *If a basin is proposed within the flood hazard area, the emergency spillway shall be constructed above the flood hazard area design flood elevation where feasible, in order to prevent floodwaters from overtopping the berm and flooding the basin; and*

An emergency spillway is not required for the Project. Therefore, this portion of the regulation is not applicable.

4. *If the elevation of the lowest discharge orifice or weir in the basin lies below the flood hazard area design flood elevation, the discharge pipe shall be equipped with mechanical devices where appropriate to prevent floodwater from backing up the pipe into the basin.*

The elevation of the lowest discharge orifice or weir in the basin does not lie below the flood hazard area design flood elevation. Therefore, this portion of the regulation is not applicable.

<u>N.J.A.C. 7:13-12.3 Requirements for Excavation, Fill and Grading Activities.</u>

*N.J.A.C.-12.3(a) This rule sets forth the specific design and construction requirements that apply for any excavation, fill or grading in any regulated area.*

The Project will involve excavation, filling and/or grading activities. Excavation will be required for onshore cable installation activities and substation construction.

*N.J.A.C.-12.3(b) The Department shall issue an individual permit for excavation, fill and/or grading only if the following requirements are satisfied:*

1. *The overland flow of stormwater is not impeded and floodwaters can freely enter and exit the disturbed area, unless the area is graded to impound water for a stormwater management structure that meets the requirements of the Stormwater Management rules at N.J.A.C. 7:8;*

Any fill will consist of naturally occurring material and will be placed to minimize adverse environmental impacts and will not impede with overland flow of stormwater.

2. *Any slope of greater than 50 percent (a ratio of two horizontal to one vertical) is stabilized using soil bioengineering, retaining walls, rip-rap or other appropriate slope protection;*

Per Appendix C, there will be no slope greater than 50 percent. Therefore, this portion of the policy is not applicable.

3. *The excavation, fill and/or grading does not endanger the integrity of any existing structure;*

The Project will involve excavation, filling, and grading activities. Excavation will be required for onshore cable installation activities and substation construction. None of these activities will impact or endanger the integrity of any existing structure.

Therefore, the Project is in compliance with this portion of the regulation.

4. *All excavated material is disposed of lawfully.*

All materials will be handled and disposed of in accordance with all local, State and Federal laws. Therefore, the Project will be consistent with this policy.

N.J.A.C. 7:13-12.4 Requirements for Structure.

*N.J.A.C. 7:13-12.4(a) This rule sets forth specific design and construction standards to any structure proposed in a regulated area.*

The new substations proposed as part of this Project will constitute structures as defined by this rule.

*N.J.A.C. 7:13-12.4(b) The Department shall issue an individual permit to construct or reconstruct a structure only if the entire structure is designed and constructed to:*

1. *Resist impact from water and debris during the flood hazard area design flood;*

The buildings will be constructed to resist impact from water and debris during the flood hazard area design flood. Please see Appendix K for further information. Therefore, this Project will be in compliance with this portion of the regulation.

2. *Resist uplift, flotation, collapse and displacement due to hydrostatic and hydrodynamic forces resulting from the flood hazard area design flood;*

The Project was designed and will be built to resist impacts from hydrostatic and hydrodynamic forces from the flood hazard area design flood. Please see Appendix K for further information. Therefore, this Project is in compliance with this portion of the regulation.

3. *Resist overturning and sliding pressure, as well as pressure from the freeze/thaw cycle of the soil; and*

The Project was also designed to resist overturning and sliding pressure from the freeze/thaw cycle of soil. Please see Appendix K for further information. Therefore, the Project will be consistent with this policy.

4. *If the structure is located in or adjacent to a channel, resist undermining caused by channel erosion.*

No structures will be located in or adjacent to a channel and will not be at risk of channel erosion. Therefore, this portion of the rule does not apply.

N.J.A.C. 7:13-12.5 Requirements for a Building.

*N.J.A.C. 7:13-12.5(a) This rule sets forth specific design and construction standards to construct any building in an FHA.*

The buildings proposed as part of the Project are new onshore substations.

*N.J.A.C. 7:13-12.5(b) The Department shall issue an individual permit to construct, elevate, enlarge, or reconstruct a building of any kind, only if the following requirements are met:*

1. *The building is designed to resist hydrostatic and hydrodynamic loads and effects of buoyancy resulting from flooding to at least one foot above the flood hazard area design flood elevation; and*

The new buildings to be constructed will be designed to resist hydrostatic and hydrodynamic loads and effects of buoyancy resulting from flooding to at least one foot above the FHA DFE (Please refer to Appendix K for additional information).

2. *All applicable requirements set forth in (c) through (t) below are satisfied.*

Project consistency with this condition is provided below.

*N.J.A.C. 7:13-12.5(c) The Department shall issue an individual permit to construct, elevate, enlarge, or reconstruct a building only if the following setbacks are satisfied, unless the building lies adjacent to a lawfully existing bulkhead, retaining wall, or revetment along a tidal water, in which case the following setbacks do not apply:*

1. *Any new building is located at least 25 feet from any top of bank;*

The new buildings will not be located in a floodway and will be constructed at least 25 ft from the top of bank for any regulated water.

2. *If an existing building is to be enlarged, such as through the construction of an addition, the enlarged portion of the building is located at least 25 feet from the top of bank, unless the applicant meets the requirements of (d) below; and*

The Project does not involve the construction of a building enlargement. Therefore, this portion of the regulation does not apply.

3. *If an existing building located less than 25 feet from the top of bank is to be elevated or reconstructed, the building shall be relocated so that it is situated at least 25 feet from the top of bank, unless the applicant meets the requirements of (d) below.*

The Project does not involve elevation or reconstruction of a building. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(d) In cases where compliance with the requirements of (c)2 and/or 3 above is not feasible, the applicant shall:*

1. *Demonstrate in writing the reasons why compliance with (c)2 and/or 3 above, as appropriate, is not feasible; and*

2. *Provide an engineering certification confirming that the location of proposed construction is stable and suitable for the proposed building, and not subject to erosion or undermining due to its proximity to the top of bank*

The portion of N.J.A.C. 7:13-12.5(c)2 and 3 above do not apply to the Project and as such, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(e) The Department shall issue an individual permit for the construction of a new building in a floodway, only if the following requirements are satisfied:*

1. *The building is located on a pier in the Hudson River;*

The Project does not involve construction of a building located on a pier in the Hudson River. Therefore, this portion of the regulation does not apply.

2. *The requirements of the Department's Coastal Zone Management Rules at N.J.A.C. 7:7-9.46 are met; and*

The Project's compliance with the CZM rules is provided in Section 3.1 above. Therefore, the Project is in compliance with this portion of the regulation.

3. *The applicant provides an engineering certification confirming that the proposed building is designed to resist hydrostatic and hydrodynamic loads and effects of buoyancy resulting from flooding to at least one foot above the flood hazard area design flood elevation.*

The buildings will be designed and built to resist impacts from hydrostatic and hydrodynamic loads and effects of buoyancy resulting from flooding to at least one foot above the flood hazard area design flood elevation. See Appendix K and M for engineering calculations. Therefore, the Project will be consistent with this portion of the regulation.

*N.J.A.C. 7:13-12.5(f)* The Project does not involve conversion of a building for a different use. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(g)* The Project does not involve elevation or reconstruction of a lawfully existing building in a floodway. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(h)* The Project does not involve the construction of a horizontal and/or vertical addition to a lawfully existing building in a floodway. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(i)* The Project does not involve the construction of habitable buildings. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(k)* The Project does not involve the substantial improvement of a lawfully existing habitable building that has been subject to substantial damage as a result of fire, flooding, or other natural disaster. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(l)* The Project does not involve the elevation, enlargement, or otherwise modification of all or a portion of a lawfully existing building. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(m)* The Project does not involve the construction, elevation, enlargement, or otherwise modification of a habitable building that was constructed in violation of this chapter. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(n)* The Project does not involve conversion of an existing building into a single-family home, duplex, multi-residence building, or critical building. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(o)* The Project does not involve construction of a critical building or multi-residence building. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(p)* The Project does not involve construction of an enclosure that lies below the lowest floor of a habitable building. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(q)* The Project does not involve construction of a new single-family home or duplex. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.5(r)* The Project does not involve the construction of an enclosure that lies below the lowest floor of a habitable building under *N.J.A.C. 7:13-12.5(*p) above. Therefore, this portion of the regulation does not apply.

N.J.A.C. 7:13-12.6 Requirements for Railroad, Roadway and Parking Area.

No railroads or roadways are proposed as part of the Project. Parking areas within a fluvial FHA are not proposed. Therefore, this regulation is not applicable.

N.J.A.C. 7:13-12.7 Requirements for a Bridge or Culvert.

*This rule sets forth design and construction standards for any bridge or culvert proposed in a regulated area.*

Culverts associated with stormwater have been designed to meet these requirements (Appendix M). Therefore, the Project will be compliance with this portion of the regulation.

N.J.A.C. 7:13-12.8 Requirements for a Utility Line.

*N.J.A.C. 7:13-12.8(a) This rule sets forth specific design and construction standards that apply to any utility line in any regulated area.*

The utility line will be constructed using HDD wherever feasible or trenched either onshore underground or under the seabed. The cable will not be permanently placed directly on the bed of any water body. Access manholes will be installed in portions of the Project area to allow for access to the cables during the operation of the Project. The manholes will be constructed at least 10 ft from any top of bank, will have watertight covers, and will be flush with the ground. The cable will be buried at a target depth of 4 ft below ground surface (bgs).

*N.J.A.C. 7:13-12.8(b) The Department shall issue an individual permit to construct or reconstruct a utility line in a regulated area only if the following requirements are satisfied:*

1. *All disturbed areas in the flood hazard area are restored to pre-construction topography;*

All areas disturbed as a result of the installation of the underground electrical transmission line in the flood hazard area will be restored to pre-construction topography. Therefore, the Project is in compliance with this portion of the regulation.

2. *The applicant provides an engineering certification confirming that any utility line that conveys a gas or liquid is sealed to ensure that there will be no leakage or discharge in a regulated area; and*

The Project does not include a utility line that conveys a gas or liquid. Therefore, this portion of the regulation does not apply.

3. *Except in the immediate vicinity of a crossing of a regulated water, the utility line shall not be constructed within 10 feet of any top of bank, unless the Project lies adjacent to a lawfully existing bulkhead, retaining wall, or revetment along a tidal water.*

The Project will not be constructed within 10 feet of any top bank. Therefore, the Project is in compliance with this portion of the regulation.

*N.J.A.C. 7:13-12.8(c) The Department shall issue an individual permit to construct or reconstruct a utility line across or under a channel or water only if the following requirements are satisfied, as applicable:*

1. *The applicant demonstrates that it is not feasible to directionally drill or "jack" the proposed utility line under the channel or water under permit-by-rule 36 at N.J.A.C. 7:13-7.36;*
2. *The applicant demonstrates that it is not feasible to construct the utility line within a roadway that already crosses the channel or water under permit-by-rule 37 at N.J.A.C. 7:13-7.37;*
3. *The applicant demonstrates that it is not feasible to attach the utility line to a bridge that already crosses the channel or water under permit-by-rule 38 at N.J.A.C. 7:13-7.38;*

The Alternatives Analysis in Appendix A demonstrates that it is not feasible to construct the utility line within a roadway that already crosses the channel or water. Per Appendix A, it is not feasible to attach the utility line to a bridge that already crosses the channel. HDD will be utilized to cross regulated waters where feasible (at Peck Bay and Oyster Creek crossing). Open trenching within FHAs will be within previously disturbed areas and will be restored to pre-construction conditions. Therefore, the Project will be consistent with this policy.

4. *The excavation of an open trench across a channel or water resulting in contact with flowing water is avoided. If the excavation of an open trench is unavoidable, the following requirements shall be met;*
    i. *Any trench in a channel, water or riparian zone, is no more than 20 feet wide, unless the applicant demonstrates that such a width is not feasible and a wider trench is necessary for safe construction;*
    ii. *The normal flow of the channel or water is piped or diverted around the open trench during construction where possible so that sediment cannot enter the regulated water; and*
    iii. *The trench is backfilled to the pre-excavation ground elevation using native substrate upon completion of the crossing;*

Open trenching across a channel or water resulting in contact with flowing water will not occur as part of this project.

5. *A utility line that conveys a gas or liquid is protected.*

The Project does not involve a utility line that conveys a gas or liquid. Therefore, this portion of the regulation does not apply.

6. *A utility line that does not convey a gas or liquid is covered by at least three feet of stable material consisting of native substrate in the channel or water, where feasible; and*

The Project does not involve a utility line that conveys a gas or liquid. Therefore, this portion of the regulation does not apply.

7. *The following requirements are satisfied for each utility line that crosses a channel or water, unless the applicant demonstrates that one or more of these requirements is not feasible or that another configuration would pose less risk to life, property and the environment:*
    i. *Each utility line is placed nominally horizontal under the entire channel or water, and remains so beyond each bank for a distance equal to twice the height of the bank, or 10 feet, whichever is greater. If there is no discernible bank, the utility line shall remain nominally horizontal for at least 10 feet beyond the normal edge of water;*
    ii. *The inclined portion of each utility line approaching the channel or water has a slope no greater than 50 percent (a ratio of two horizontal to one vertical); and*

iii. *Encasement extends under the entire channel or water and 10 feet beyond each top of bank. If there is no discernible bank, the utility line shall be encased for at least 10 feet beyond the normal edge of water.*

Each utility line will be placed nominally horizontal under the entire channel or water and will remain so beyond each bank for a distance equal to twice the height of the bank or 10 ft, whatever is greater. The inclined portion of the utility line approaching the channel or water will not have a slope greater than 50 percent as shown in Appendix C. Encasement extends under the entire channel and 10 feet beyond each top of bank.

*N.J.A.C. 7:13-12.8(d) The Department shall issue an individual permit to construct or reconstruct a utility line above a channel or floodway, which is not attached to a roadway or railroad crossing, or which is attached to such a crossing but does not meet permit-by-rule 38 at N.J.A.C. 7:13-7.38.*

The Project does not involve the construction or reconstruction of a utility line above a channel or floodway, which is not attached to a roadway or railroad crossing, or which is attached to such a crossing but does not meet permit-by-rule 38 at N.J.A.C. 7:13-7.38. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.8(e) The Department shall issue an individual permit to construct or reconstruct a manhole associated with a utility line in a regulated area only if the following requirements are satisfied:*

1. *The manhole is constructed at least 10 feet from any top of bank;*

Access manholes will be installed in portions of the Project Area to allow for access to the cables during the operation of the Project. The manholes will be constructed as least 10 ft from any top of bank. Therefore, the Project is in compliance with this portion of the regulation.

2. *Any manhole in a flood hazard area has a watertight cover;*

Each manhole will have a watertight cover. Therefore, the Project is in compliance with this portion of the regulation.

3. *The top of a manhole in a floodway is flush with the ground; and*

The top of a manhole in a floodway will be flush with the ground. Therefore, the Project is in compliance with this portion of the regulation.

4. *The top of a manhole in a flood fringe is flush with the ground, where possible.*

The top of all manholes in any flood fringes will be flush with the ground. Therefore, the Project is in compliance with this portion of the regulation.

*N.J.A.C. 7:13-12.8(f) The Department shall issue an individual permit for the placement of a cable directly on the bed of a channel or water only if the following requirements are satisfied:*

*1. The channel or water is large enough in both width and depth that the cable will not interfere with navigation and/or the normal flow of the channel or water; and*

*2. The cable is laid with enough slack so that it can be easily moved.*

The Project does not propose placement of a cable directly on the bed of a channel or water. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.8(g) The Department shall issue an individual permit that allows, over the five-year term of the permit, the necessary and periodic maintenance, repair, or replacement of any section of a lawfully existing above or below ground utility line in a regulated area only if the following requirements are satisfied:*

1. *The applicant submits an application for an individual permit which, in addition to the normal application requirements, includes the following:*

i. *The exact location of the utility line network that is the subject of the application, identified on USGS quad maps; and*

Should periodic maintenance, repair, or replacement of any section of the proposed utility be necessary, the exact location of the utility line network will be identified on USGS quad maps for the individual permit application. Therefore, the Project is in compliance with this portion of the regulation.

ii. *A detailed description of the types of maintenance, repair, and/or replacement activities that can be expected to occur during the duration of the individual permit, such as construction details of typical, anticipated activities and associated construction sequences;*

The Project permit application includes a detailed description of duct bank installation (see Section 2.1.3.2.). However, the proposed Project activities do not include maintenance, repair, and/or replacement activities. Should such activities be required, a separate emergency permit or other authorization will be applied for. Therefore, the Project is in compliance with this portion of the regulation.

*2. The applicant agrees to provide public notice pursuant to N.J.A.C. 7:13-19 at least five working days before performing any repair or replacement;*

Ocean Wind 1 will provide public notice pursuant to N.J.A.C. 7:13-19 at least five working days before performing any repair or replacement work. Therefore, the Project will be in compliance with this portion of the regulation.

3. *The applicant agrees to replant all disturbed areas in the riparian zone with native, noninvasive plant species after each repair or replacement;*

Disturbed areas in the riparian zone will be replanted per permit conditions. Therefore, the Project will be in compliance with this portion of the regulation.

4. *The applicant agrees to restore all disturbed areas in the flood hazard area to preconstruction topography after each repair or replacement; and*

Ocean Wind 1 agrees to restore all disturbed areas in the FHA to preconstruction topography after each repair or replacement

5. *The applicant agrees to submit a report to the Department each January which includes the following:*

i. *A description of each repair or replacement that occurred during the previous calendar year;*

Ocean Wind 1 will provide a description of each repair or replacement that occurred during the previous calendar year each January.

ii. *Color photographs of each regulated area before and after each repair or replacement; and*

Ocean Wind 1 will provide color photographs of each regulated area before and each repair or replacement.

iii. *The fee for each repair or replacement, as provided at N.J.A.C. 7:13-20.*

Ocean wind 1 will include the fee for each repair or replacement as provided at N.J.A.C. 7:13-20. Therefore, the Project is in compliance with this portion of the regulation.

<u>N.J.A.C. 7:13-12.9 Requirements for a Stormwater Outfall Structure.</u>

*N.J.A.C. 7:13-12.9(a) This section sets forth specific design and construction standards that apply to any stormwater outfall structure proposed in any regulated area.*

The section below contains compliance statements with N.J.A.C. 7:13-12.9. For more information on Stormwater Management, please see Appendix M.

*N.J.A.C. 7:13-12.9(b) The Department shall issue an individual permit to construct or reconstruct a stormwater outfall structure only if the following requirements are satisfied:*

1. *The structure is built with a concrete headwall or flared-end section with footings that extend no less than three feet below grade;*

Outfalls associated with the substation will be constructed with a concrete headwall or flared-end section with footings that extend no less than three ft below grade. Therefore, the Project is in compliance with this portion of the regulation.

2. *The structure does not obstruct flow in a channel or floodway;*

The structure will not obstruct flow in any channel or floodway. Therefore, the Project is in compliance with this portion of the regulation.

3. *The structure includes adequate conduit outlet protection where required by the Standards for Soil Erosion and Sediment Control in New Jersey at N.J.A.C. 2:90, as determined by the local Soil Conservation District having jurisdiction over the site;*

The structure will include adequate conduit outlet protection where required by the Standards for Soil Erosion and Sediment Control in New Jersey at N.J.A.C. 2:90. Therefore, the Project is in compliance with this portion of the regulation.

4. *If the structure includes a rip-rap apron, a three feet deep by three feet wide rip-rap toe wall is constructed at the end of the apron; and*

Rip-rap aprons have been designed with a three feet deep by three feet wide rip-rap toe wall constructed at the end of the apron. Therefore, this portion of the regulation does not apply.

5. *The structure does not interfere with the normal flow of the channel or threaten to change the dimensions or location of the channel. For example, a large discharge of stormwater into a small channel, or a discharge situated at a significant angle to the normal flow in a channel, may cause the channel to move over time, interfere with the direction of flow and/or cause increased erosion or deposition of sediment within the channel.*

The structure will not interfere with the normal flow of the channel or threaten to change the dimensions or location of the channel. Therefore, the Project is in compliance with this portion of the regulation.

N.J.A.C. 7:13-12.10 Requirements for a Low Dam.

*This section sets forth specific design and construction standards that apply to the construction, replacement, repair, or removal of a low dam in any regulated area.*

The Project does not include a low dam; therefore, this policy is not applicable.

N.J.A.C. 7:13-12.11 Requirements for a Dam.

*This set of rules sets forth specific design and construction standards for the construction, replacement, repair, or removal of a dam that serves as a component of a stormwater management basin within any regulated area.*

The Project does not include a dam; therefore, this policy is not applicable.

N.J.A.C. 7:13-12.12 Requirements for a Flood Control Project.

*This set of rules sets forth specific design and construction standards that apply to any flood control Project proposed in a regulated area.*

The Project is not a flood control Project. Therefore, this policy is not applicable.

N.J.A.C. 7:13-12.13 Requirements for a retaining wall or bulkhead.

*This set of rules sets forth specific design and construction standards that apply to any retaining wall or bulkhead which is located within a regulated water, a floodway, or within 25 ft of any top of bank. It does not apply to any retaining wall or bulkhead in a tidal flood hazard area that is authorized under a valid coastal permit or is exempt from requiring a coastal permit under N.J.A.C. 7:7-2.4(d)6.*

The Project is within a tidal FHA and all proposed activities are regulated under this CAFRA IP application. Therefore, the Project will be consistent with this policy.

N.J.A.C. 7:13-12.14 Requirements for a Bank Stabilization and Channel Restoration.

This set of rules sets forth specific design and construction standards that apply to any bank stabilization or channel restoration project proposed in any regulated area. The Project will comply with regulations set forth for in N.J.A.C. 7:13-12.14 for bank stabilization.

*N.J.A.C. 7:13-12.14(b) The Department shall issue an individual permit under this section only if the following requirements are satisfied:*

1. *The applicant provides:*

   i. *A complete written description of the existing erosion, instability, or ecological degradation including:*

      *(1) A history of the site and the watershed;*

Where open cut is used for landfall, Ocean Wind 1 will restore the shoreline following cable installation and conduct multi-year monitoring to confirm shoreline stabilization. In the event that shoreline vegetation does not become reestablished or the shoreline is not considered stable, Ocean Wind 1 will evaluate shoreline protection and shoreline stabilization measures.

      *(2) An explanation of any previous attempts to stabilize or restore the bank or channel; and*

There have been no previous attempts by Ocean Wind 1 to stabilize the bank at this location.

      *(3) The likely causes of any erosion, instability, or ecological degradation proposed to be remedied;*

Based on discussion with the NJDEP Parks and Forestry Service, the bank has been eroded by previous storm events such as Superstorm Sandy. The only protection from erosion control from storm events and future sea level rise to Barnegat Bay is the invasive common reed.

   ii. *A demonstration of why the selected stabilization or restoration methods (as described at (c) below) are the most suitable for the site. At a minimum, this demonstration should include and discuss the following:*

(N) *The location of any headcut in the channel if present. A headcut is a sudden change in elevation in the stream bed, which usually occurs at the leading edge of a forming gully, and is indicative of erosive forces that are likely to continue to wash away the natural channel;*

There are no headcuts present within the Project Area. Therefore, this portion of the regulation is not applicable.

      *(2) Any upstream or downstream stressors that may have contributed to and/or exacerbated any erosion, instability or ecological degradation, which should be addressed as part of the project;*

The area of wetlands along the western shore of IBSP will need to be cleared for construction, leaving the bank and shore vulnerable to continued erosion. Ocean Wind 1 proposes to restore the shoreline following cable installation and conduct multi-year monitoring to confirm shoreline stabilization. In the event that shoreline vegetation does not become reestablished or the shoreline is not considered stable, Ocean Wind 1 will evaluate shoreline protection and shoreline stabilization measures. Any restoration of the shoreline vegetation will be in accordance with permit conditions. The bank will be restored to pre-existing contours.

*(3) How future development in the watershed could impact the bank and/or channel and the proposed stabilization and/or restoration;*

Future development in this portion of the watershed is not anticipated to impact the bank and the proposed stabilization. Restoration of the shoreline vegetation will be in accordance with permit conditions and Ocean Wind 1 will conduct multi-year monitoring to confirm shoreline stabilization. In the event that shoreline vegetation does not become reestablished or the shoreline is not considered stable, Ocean Wind 1 will evaluate shoreline protection and shoreline stabilization measures.

*(4) The anticipated lifetime of the proposed stabilization or restoration; and*

The restored shoreline will remain in place for the life of the Project.

*iii. A maintenance and monitoring plan to ensure the success of the proposed stabilization or restoration, which includes:*

(N) *An action plan in case of future failure of the project; and*

An action plan in case of future failure will be developed as part of the proposed Project's mitigation and restoration plan and submitted to NJDEP for review and comment prior to construction. Therefore, the Project is in compliance with this portion of the regulation.

*(2) A plan to reduce the likelihood of future erosion, instability and ecological degradation onsite;*

Ocean Wind 1 proposes to restore the shoreline following cable installation and conduct multi-year monitoring to confirm shoreline stabilization. In the event that shoreline vegetation does not become reestablished or the shoreline is not considered stable, Ocean Wind 1 will evaluate shoreline protection and shoreline stabilization measures. Any restoration of the shoreline vegetation will be in accordance with permit conditions. The bank will be restored to pre-existing contours. This will reduce the likelihood of future erosion, instability, and ecological degradation of the site. Therefore, the Project is in compliance with this portion of the regulation.

*N. The project is designed by an individual with experience in fluvial geomorphology (and soil bioengineering if used on site), as evidenced by documentation supplied with the individual permit application; and*

This Project is designed by an individual with experience in fluvial geomorphology and soil bioengineering. Documentation is supplied in Appendix R.

*N. In cases where nuisance flooding is a related issue, flood capacity outside the regulated water is increased by terracing the overbank areas where appropriate, so that the channel is not forced to convey excessive flows.*

Nuisance flooding is not a related issue in this area of the Project. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.14(c) The Department shall issue an individual permit to restore to a stable condition a bank or channel, which has become eroded, unstable, and/or ecologically degraded, only if the project is accomplished as follows:*

1. *Where feasible, a localized eroded bank or destabilized channel is restored solely by cutting back the bank to a stable slope and planting with native, non-invasive plant species suitable for stabilization. Generally, a slope of no greater than 50 percent (a ratio of two horizontal to one vertical) is recommended to stabilize an eroded bank;*

The Project requires the clearing of the invasive common reed at the western shoreline landfall at IBSP. As discussed above, this area is prone to shoreline erosion and storm damage. Where open cut is used for landfall, Ocean Wind 1 will restore the shoreline following cable installation and conduct multi-year monitoring to confirm shoreline stabilization. In the event that shoreline vegetation does not become reestablished or the shoreline is not considered stable, Ocean Wind 1 will evaluate shoreline protection and shoreline stabilization measures..

*N. Where the applicant demonstrates that cutting the bank and planting vegetation as described in (c)1 above cannot adequately restore the channel and/or fully prevent erosion due to excessive channel velocity, soil bioengineering shall be used to stabilize the eroded bank and/or restore the channel. In designing soil bioengineering installations, the existing soil characteristics, the bank and/or channel's physical structure, and the hydrologic conditions on site shall be considered; and*

As discussed in 12.14(c)1 above, planting native, non-invasive plants may not be suitable in this location for bank stabilization. Where open cut is used for landfall, Ocean Wind 1 will restore the shoreline following cable installation and conduct multi-year monitoring to confirm shoreline stabilization. In the event that shoreline vegetation does not become reestablished or the shoreline is not considered stable, Ocean Wind 1 will evaluate shoreline protection and shoreline stabilization measures..

*N. Where the applicant demonstrates that, given the velocity and configuration of the adjacent channel and/or other conditions of the site, vegetation and/or soil bioengineering alone are not adequate to stabilize the bank and/or restore the channel, the use of revetments, retaining walls, or other armoring to stabilize the bank or channel is conditionally acceptable.*

Where open cut is used for landfall, Ocean Wind 1 will restore the shoreline following cable installation and conduct multi-year monitoring to confirm shoreline stabilization. In the event that shoreline vegetation does not become reestablished or the shoreline is not considered stable, Ocean Wind 1 will evaluate shoreline protection and shoreline stabilization measures.

*N.J.A.C. 7:13-12.14(d)* The proposed Project does not involve restoration to a natural condition a regulated water that is significantly ecologically degraded. Therefore, this portion of regulation does not apply.

N.J.A.C. 7:13-12.15 Requirements for a Sediment and Debris Removal from a regulated water.

This section sets forth specific standards that apply to any proposed sediment and debris removal from a regulated water.

*N.J.A.C. 7:13-12.15(b) The Department shall issue an individual permit for the removal of sediment and debris from a regulated water only if the following requirements are satisfied:*

1. *The applicant demonstrates that there is a documented history of flooding, a mosquito control problem, or other threat to public health, safety, or welfare that necessitates removal of sediment and/or debris from the regulated water;*

2. *Except for activities along an impounded regulated water, such as a lake, pond, or reservoir, the material to be removed from the regulated water consists solely of accumulated silt, sediment, and debris. Removal of material beyond or below the natural limits of a linear regulated water constitutes a channel modification and is subject to the requirements at N.J.A.C. 7:13-11.1(c);*
3. *In order to minimize the downstream transport of sediment during dredging, all areas being dredged are isolated from flowing water where possible. Means of isolation include erecting temporary berms or sheet-piles around the areas being dredged and, for a linear regulated water such as a stream or river, pumping flow around the work area, or, if flow within the regulated water is low, by blocking off the areas being dredged and allowing the sediment to settle. For an impounded regulated water, sediment transport can be reduced by lowering the water level, plugging the downstream discharge of the water, and/or pumping the incoming water around the impoundment; and*
4. *The applicant properly disposes of all material removed from the regulated water. Removed sediment can be disposed of in a regulated area provided the requirements at (d) below are satisfied. All removed trash and debris shall be disposed of in accordance with all applicable Federal, State, and local requirements outside any flood hazard area or riparian zone.*

The Project involves the potential dredging of sediments in the Atlantic Ocean and Barnegat Bay for cable installation. Following construction, the offshore pit in the Atlantic will be allowed to naturally infill. This is expected to occur quickly due to dynamic wave action and sediment transport within the offshore environment. In Barnegat Bay the areas of disturbance will be backfilled with suitable material to pre-construction contours as required by permit conditions. Sediment transport will be minimized to the extent practicable through use of APMs and BMPs and as required by permit conditions. Water quality will be monitored during construction to ensure the project does not exceed surface water quality standards.

*N.J.A.C. 7:13-12.15(c)* The proposed Project does not involve the removal of sediment and debris from an impounded regulated water, such as a lake, pond, or reservoir. Therefore, this portion of the regulation does not apply.

*N.J.A.C. 7:13-12.15(d) The Department shall issue an individual permit to deposit sediment that has been removed from a regulated water, only if the following requirements are satisfied:*

1. *The applicant demonstrates that the transport of the sediment out of the regulated area is not economically or physically feasible, and/or would cause greater environmental damage than depositing the sediment within the regulated area;*
2. *The sediment is disposed of in accordance with all applicable Federal, State and local laws;*
3. *The sediment is deposited at least 25 feet from any top of bank;*
4. *The placement of the sediment does not interfere with the positive overland drainage of the receiving area; and*
5. *Sediment deposited in a floodway is placed no more than three inches deep.*

The sediments removed from the regulated water will be disposed of at an appropriate upland disposal facility in coordination with State and Federal regulations. The disposal will be at least 25 feet from top of bank, will not interfere with the positive overland drainage of the receiving area and will not be deposited in a floodway that is more than three inches deep.

*N.J.A.C. 7:13-12.15€* The proposed Project does not require to repeatedly remove sediment and debris from a regulated water during the term of the permit. Therefore, this portion of this regulation does not apply.

*N.J.A.C. 7:13-12.15(f)* The Department may require testing of dredged material if there is reason to suspect

that the material is contaminated.

The Project has submitted a SSAP to the Department (Appendix O). The SSAP has been approved by NJDEP; Sampling was conducted in May 2022 and results are presented in Appendix O. Sampling results have been shared with an appropriate disposal facility and a letter of acceptance for the material is also included within Appendix O. Therefore, the Project is in compliance with this portion of the regulation.

*BL England*

The export cable route landfall is proposed within 35th Street in Ocean City, NJ. One HDD exit pit in the Atlantic Ocean is proposed. Dredging to a depth of approximately 9.2 ft below seabed with a total volume of 6,682 CY is anticipated.

*Oyster Creek*

Dredging immediately west of IBSP in Barnegat Bay prior channel may be required to remove soft infilled sediment that has been deposited since the last dredging event which could prevent operation of jet sleds or impede vessel movement. The extent to which dredging of infilled sediments may be required within the prior channel is still being developed. Up to a meter of sediment may be required to be dredged to facilitate cable installation (53,328 CY).

Landfall at the Holtec Property will involve HDD consisting of two exit pits and up to approximately 2,200 linear ft of excavation through water depths less than eight ft deep. The Two exit pits will require a total excavation volume of approximately 12,117 CY. Additional dredging for cable installation may require an additional 39,919 CY. Should open cut be the selected method of cable installation, the HDD exit pits would not be required, however an additional 24,232 CY of material may need to be removed. Placement alternatives have been analyzed and based on sample core results, proposed dredged material and waste management will be handled by the contractor. All removed trash and debris shall be disposed of in accordance with all applicable Federal, State, and local requirements outside any flood hazard area or riparian zone. Dewatering will be determined after the contractor and equipment is determined.

The Project will comply with all necessary requirements set forth in N.J.A.C. 7:13-12.15.

N.J.A.C. 7:13-12.16 Requirements for the Storage of Unsecured Material.

Storage of unsecured material is not proposed as part of the Project. All materials that could be moved by flood waters will be properly secured during construction staging. Therefore, this policy is not applicable.

N.J.A.C. 7:13-12.17 Requirements for the Investigation, Cleanup, or Removal of Hazardous Substances.

*N.J.A.C. 7:13-12.17(a) This set of rules sets forth the requirements for the investigation, cleanup, or removal of hazardous substances as defined in the Department's Discharges of Petroleum and other Hazardous Substances rules, N.J.A.C. 7:1E, Appendix A, and/or pollutants, as defined in the New Jersey Pollutant Discharge Elimination System (NJPDES) Rules, N.J.A.C. 7:14A, where proposed in any regulated area.*

This Project does not involve the investigation or cleanup of hazardous substances. Linear Project activities will be conducted under the guidance of a Licensed Site Remediation Professional (LSRP) as a Linear Construction Project (LCP). Per Appendix S, there is known contamination at BL England and Oyster Creek Substations under the NJDEP SRP. Hazardous materials will be disposed of during construction in accordance with local, State and Federal regulations. Any hazardous materials encountered during construction will either be stockpiled or will be direct loaded for offsite disposal.

*N.J.A.C. 7:13-12.17(b) The Department shall issue an individual permit for the investigation, cleanup, or removal of hazardous substances only if the Department determines, or a licensed site remediation*

*professional pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C, certifies, that:*

1. *The project complies with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, and the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C;*

If hazardous substances are found within any portion of the Project site, the Project will comply with Technical Requirements for Site Remediation, N.J.A.C. 7:26E, and the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C. Therefore, the Project is in compliance with this portion of the regulation.

2. *In order to minimize the potential that hazardous substances will be transported offsite by floodwaters during the conduct of site remediation activities, all material necessary to facilitate the investigation, cleanup, or removal of hazardous substances is stored and stockpiled as follows:*

    i. *Outside any floodway;*

All material necessary to facilitate the investigation, cleanup, or removal of hazardous substances will be stored and stockpiled outside of any floodway. Therefore, the Project is in compliance with this portion of the regulation.

    ii. *As far as practicable from any regulated water;*

All material necessary to facilitate the investigation, cleanup, or removal of hazardous substances will be stored and stockpiled as far as practicable from any regulated water. Therefore, the Project is in compliance with this portion of the regulation.

    iii. *Where practicable, within flood-resistant containment areas; and*

All material necessary to facilitate the investigation, cleanup, or removal of hazardous substances will be stored and stockpiled within flood-resistant containment areas, where practicable. Therefore, the Project is in compliance with this portion of the regulation.

    iv. *Where such material does not meet the Residential Direct Contact Soil Remediation Standards at N.J.A.C. 7:26D, above the 10-year flood elevation;*

All material necessary to facilitate the investigation, cleanup, or removal of hazardous substances will be stored and stockpiled above the 10-year flood elevation if the materials do not meet the Resident Direct Contact Soil Remediation Standards at N.J.A.C. 7:26D. Therefore, the Project is in compliance with this portion of the regulation.

3. *In order to minimize the potential that hazardous substances will be transported offsite by floodwaters after the completion of site remediation activities, the following requirements are satisfied:*

    i. *To the maximum extent practicable, all material permanently placed within a flood hazard area meets the Residential Direct Contact Soil Remediation Standards at N.J.A.C. 7:26D;*

Materials are not expected to be permanently placed within an FHA. If material placement within an FHA is required, the Resident Direct Contact Soil Remediation Standards at N.J.A.C. 7:26D will be adhered to. Therefore, the Project is in compliance with this portion of the regulation.

    ii. *To the maximum extent practicable, the permanent placement of any material that does not meet the Residential Direct Contact Soil Remediation Standards at N.J.A.C. 7:26D is limited to areas situated outside any floodway and above the 10- year flood elevation; and*

Materials are not expected to be permanently placed within an FHA. If material placement within an FHA is required, any material that does not meet the Resident Direct Contact Soil Remediation Standards at N.J.A.C. 7:26D will be situated outside any floodway and above the 10-year flood elevation. Therefore, the Project is in compliance with this portion of the regulation.

iii. *Any material that does not meet the Residential Direct Contact Soil Remediation Standards at N.J.A.C. 7:26D is stabilized and/or covered with suitable material such that the material will not be eroded, displaced, or transported offsite during the flood hazard area design flood.*

Any material that does not meet the Residential Direct Contact Soil Remediation Standards (RDCSRS) at N.J.A.C. 7:26D will be stabilized and/or covered with suitable material such that the material will not be eroded, displaced, or transported offsite during the flood hazard area design flood. Material will be handled in accordance with the NJDEP Site Remediation Technical Requirements, site specific Materials Management Plan (MMP) and Materials Handling Plan (MHP). Therefore, the Project is in compliance with this portion of the regulation.

N.J.A.C. 7:13-12.18 Requirements for the Placement, Storage or Processing of Hazardous Substances.

*N.J.A.C. 7:13-12.18(a) This section sets forth specific requirements that apply to the proposed placement, storage, or processing of hazardous substances in any regulated area, which is not associated with the investigation, cleanup, or removal of hazardous substances pursuant to N.J.A.C. 7:13-12.17.*

During construction if any hazardous substances are encountered, they will be temporarily properly stockpiled, covered and disposed of or in situ waste class sampling to allow for direct load into roll off containers for proper disposal.

*N.J.A.C. 7:13-12.18(b) A lawfully existing facility established on or before November 5, 2007, may be eligible to place, store, or process hazardous substances under permit-by-rule 52 for the placement, storage, or processing of hazardous substances at N.J.A.C. 7:13-7.52, provided the size or capacity of the facility is not increased. In addition, the placement of a fuel or storage tank may be authorized in certain circumstances under permit-by-rule 22 for the construction of a fuel tank at N.J.A.C. 7:13-7.22 or general permit 8 for the placement of storage tanks at N.J.A.C. 7:13-9.8. All other placement, storage, or processing of hazardous substances in a regulated area is subject to this section.*

*N.J.A.C. 7:13-12.18(c) The Department shall issue an individual permit for the placement, storage, or processing of hazardous substances in a regulated area only if the following requirements are satisfied:*

1. *Hazardous substances are not placed, stored, or processed in a floodway;*

Hazardous substances will not be placed, stored or processed in a floodway. Therefore, the Project is in compliance with this portion of the regulation.

2. *The placement, storage, or processing of hazardous substances is necessary for the normal conduct of a facility, which is operating in compliance with all Federal, State, and local requirements. The individual permit application shall include copies of all relevant State permits, licenses, and authorizations in order to demonstrate that the facility is operating lawfully;*

Any placement, storage, or processing of hazardous substances necessary for the normal conduct of a facility will operate in compliance with all Federal, State, and local requirements. All relevant State permits and licenses will be included with this permit application to demonstrate that the facility is operating lawfully. Therefore, the Project is in compliance with this portion of the regulation.

3. *The applicant demonstrates that the hazardous substances cannot feasibly be placed, stored or processed outside the flood hazard area and riparian zone onsite;*

If the hazardous substances cannot feasibly be placed, stored or processed outside the flood hazard area and riparian zone onsite, Ocean Wind 1 will adhere to 4, 5, and 6 below. Therefore, the Project is in compliance with this portion of the regulation.

4. *The hazardous substances to be placed, stored, or processed onsite are isolated from floodwaters by constructing flood-resistant berms around the substances, or by situating the substances within a flood-resistant containment area, so that in the event of a flood, the hazardous substances will not be transported offsite by floodwaters;*

The hazardous substances to be placed, stored, or processed onsite will be isolated from floodwaters by constructing flood-resistant berms around the substances, and/or by situating the substances within a flood-resistant containment area, so that in the event of a flood, the hazardous substances will not be transported offsite by floodwaters. Therefore, the Project is in compliance with this portion of the regulation.

5. *The applicant discloses the maximum volume of hazardous substances to be placed, stored, or processed in the flood fringe and includes this volume in calculating the maximum flood storage displacement volume on site pursuant to N.J.A.C. 7:13-11.4; and*

Ocean Wind 1 shall disclose the maximum volume of hazardous substances to be placed, stored, or processed in the flood fringe and includes this volume in calculating the maximum flood storage displacement volume on site pursuant to N.J.A.C. 7:13-11.4. Therefore, the Project is in compliance with this portion of the regulation.

6. *The Department determines that the placement, storage or processing of hazardous substances in the flood hazard area and riparian zone will not pose a threat to the environment or to public health, safety or welfare.*

Ocean Wind 1 will adhere to the Department's determination of the placement, storage, or processing of hazardous substances in the flood hazard area and riparian zone. The proposed Project is not anticipated to place, store, or process hazardous substances that could pose a threat to the environment or to public health, safety, or welfare within the flood hazard area or riparian zone. Therefore, the Project is in compliance with this portion of the regulation.

N.J.A.C. 7:13-12.19 Requirements for the Solid Landfill Closure.

*This set of rules sets forth the requirements for activities authorized under a solid waste landfill closure and post-closure plan or disruption approval issued by the Department under N.J.A.C. 7:26-2A.8 and 2A.9, when the activities are proposed in any regulated area.*

The Project does not require solid waste landfill closure. Therefore, this policy is not applicable.

N.J.A.C. 7:13-12.20 Requirements for the Placement, Storage, or Processing of Solid Waste or Recycle Materials.

*This set of rules sets forth the requirements that apply to the proposed placement, storage, or processing of solid waste in a regulated area not associated with a solid waste landfill closure and the placement of recyclable materials in a regulated area.*

The Project does not require the placement, storage or processing of solid waste or recycle materials. Therefore, this policy is not applicable.

N.J.A.C. 7:13-12.21 Requirements for the Removal of Existing Fill or an Existing Structure.

*This section sets forth specific standards that apply to any proposed removal of existing fill or an existing structure in any regulated area.*

No existing fill from a floodway or regulated area is proposed to be removed as part of this Project. Therefore, this policy is not applicable.

## 3.4 Freshwater Wetland Compliance Statement

3.4.1 Project Line Delineation and/or Line Verification Letters of Interpretation (LOIs) (N.J.A.C. 7:7A-4)

*BL England*

A FWW LOI: Line Verification request was submitted to NJDEP by Pete Murray, c/o RC Cape May Holding LLC. dated October 14, 2008 and revised August 17, 2018 by the Hyland Design Group, inc. The NJDEP verified the LOI (file number 0511-03-0011.4, activity number FWW180001).

In order to receive a full FWW LOI: Line verification for the Project, HDR wetland scientists conducted multiple wetland and watercourse delineations. HDR conducted delineations for BL England Property golf course and Roosevelt Boulevard from September 16 to 17, 2019. The wetland delineation report and LOI: Line Verification request was submitted September 14, 2021.

On November 16, 2021, HDR met with USACE and NJDEP representatives in the field for wetland and watercourse line verification at BL England. The wetland lines on the attached figures and plans are representative of those that were discussed in the field with USACE, NJDEP and HDR wetland scientists. It was agreed with NJDEP that HDR will submit the line verification LOI as part of this permit application after revising the wetland delineation lines per the field walk through. An additional wetland delineation at Roosevelt Boulevard south of the bridge was conducted on March 21, 2022 by HDR wetland scientists.

HDR conducted a field survey to verify the LOI wetland boundary at and adjacent to the substation relocation site in the former coal pile area on June 15, 2022. Wetland scientists verified the tidal wetland boundary along the western side of the former coal pile. No new wetlands were identified within the substation relocation area. Supplemental information for wetland and watercourse delineations can be found within Appendix I.

*Oyster Creek*

A FWW LOI: Line Verification request was submitted to NJDEP for Block 1001, lot 4.05 in Lacey Township, dated January 20, 2017 and revised June 27, 2017 and a verification confirmed wetlands on August 15, 2017 (file number 1512-17-0013.1, activity number FWW 170001).

On November 3, 2021, HDR met with USACE and NJDEP representatives in the field for wetland and watercourse line verification for the Oyster Creek substation and access road. The wetland lines on the attached figures and plans are representative of those that were discussed in the field with USACE, NJDEP and HDR wetland scientists. It was agreed with NJDEP that HDR will submit the line verification LOI as part of this permit application after revising the wetland delineation lines per the field walk through. NJDEP reviewed wetland surveys for IBSP and those updates are included in the wetland delineation report included in Appendix I.

3.4.2 General Provisions for Individual Permits (N.J.A.C. 7:7A-10.1)

*N.J.A.C. 7:7A-10.1 (a) A regulated activity or project subject to an individual permit shall meet the applicable requirements below:*

1. *Requirements for all individual permits at N.J.A.C. 7:7A-10.2;*
2. *For a non-water dependent activity, the requirements at N.J.A.C. 7:7A-10.3, except if the activity disturbs only State open waters that are not special aquatic sites; and*

3. *For a non-water dependent activity in an exceptional resource value wetland or trout production water, the requirements at N.J.A.C. 7:7A-10.4.*

*N.J.A.C. 7:7A-10.1 (b) The Department shall not consider a mitigation proposal in determining whether an individual permit will be issued for a project.*

*N.J.A.C. 7:7A-10.1(c) Each individual permit applies to the entire site upon which permitted activities occur. An applicant shall not segment a project or its impacts by applying for general permit authorization for one portion of the project and applying for an individual permit for another portion of the project. Similarly, an applicant shall not segment a project or its impacts by separately applying for individual permits for different portions of the same project.*

*N.J.A.C. 7:7A-10.1(d) In some cases, a regulated activity that requires an individual permit and is located in an area under the jurisdiction of the Pinelands Commission also requires approval by the Pinelands Commission, in accordance with the Pinelands Comprehensive Management Plan (CMP). For information on freshwater wetlands in the Pinelands, contact the Pinelands Commission at (609) 894-7300 or through its website at https://www.nj.gov/pinelands.*

The Project will meet the requirements for all individual permits at N.J.A.C. 7:7A-10.1, described below. As the Project is within the Pinelands National Reserve area, consultation with the Pinelands Commission was conducted as part of the Project permit preparation.

In a letter dated December 7, 2021, the Pinelands Commission notes that the Pinelands Comprehensive Management Plan defines the proposed cables as public service infrastructure (Appendix F). The Pinelands Commission indicates that public service infrastructure is a permitted land use in the Pineland Forest Management Area noting, "…the proposed development does not raise an issue that rises to a level that it causes the proposed development to be inconsistent with the intent, policies and objectives of the National Parks and Recreation Act of 1978 creating the Pinelands National Reserve and the Pinelands Protection Act of 1978." (The Pineland Commission 2021). The memorandum is provided in Appendix F. Therefore, the Project will be consistent with this policy.

3.4.3 Standard Requirements for all Individual Permits (N.J.A.C. 7:7A-10.2)

*N.J.A.C. 7:7A-10.2(a) This section sets forth requirements that apply to all activities to be covered by an individual permit, including both water dependent activities and non-water dependent activities.*

*N.J.A.C. 7:7A-10.2(b) The Department shall issue an individual freshwater wetlands or open water fill permit only if the regulated activity:*

1. *Has no practicable alternative which would meet the requirements at (b)1i and ii below:*
    i. *The alternative would have a less adverse impact on the aquatic ecosystem or would not involve a freshwater wetland or State open water; and*
    ii. *The alternative would not have other significant adverse environmental consequences, that is, it shall not merely substitute other significant environmental consequences for those attendant on the original proposal;*

The Project has no practicable alternative that (1) will have a less adverse impact on the aquatic ecosystem or will not involve a freshwater wetland or State open water; and (2) will not have other significant adverse environmental consequences. As defined in N.J.A.C. 7:7A-1.3, "practicable alternative" means other choices available and capable of being carried out after taking into consideration cost, existing technology, and logistics in light of overall project purposes, and may require an area not owned by the applicant which could reasonably

have been or be obtained, utilized, expanded, or managed in order to fulfill the basic purpose of the proposed activity.

Ocean Wind 1 proposes the BL England substation at the former coal pile site to minimize impacts to wetlands and habitat. Subsequent to the substation relocation, Ocean Wind reduced the construction and stormwater outfall footprint to minimize wetland impacts at the substation to 0.007 acre of permanent impact to coastal wetland associated with grading for on stormwater outfall. The former golf course site would have resulted in 0.653 acres of permanent impact to emergent and forested freshwater wetlands. Locating the substation at the former coal pile site will eliminate impacts to wetlands at the substation. Approximately 0.090 acres of temporary impacts non-tidal freshwater wetlands and 0.243 acres of permanent impact to forested freshwater wetlands (associated with conversion to non-forested wetland) within the former golf course area will occur during installation of the onshore export cable.

Please refer to Appendix A for the Alternatives Analysis. The Alternatives Analysis did not identify a practicable alternative that will have less adverse impact on the aquatic ecosystem or will not involve a freshwater wetland, and will not have other significant environmental consequences while taking into consideration cost, existing technology, logistics, and real estate in light of the overall project purpose. Other alternatives were deemed less favorable when balancing all resource impacts including not only environmental impacts, but impacts to community (recreation and tourism), construction feasibility, cost, technology available, and real estate negotiations. Therefore, the Project is in compliance with this portion of the regulation.

2. *Will result in the minimum feasible alteration or impairment of the aquatic ecosystem including existing contour, vegetation, fish and wildlife resources, and aquatic circulation of the freshwater wetland and hydrologic patterns of the HUC 11 in which the activity is located;*

The proposed Project will result in the minimum feasible alteration or impairment of the aquatic ecosystem including existing contour, vegetation, fish and wildlife resources, and aquatic circulation of the freshwater wetland and hydrologic patterns of the HUC 11 in which the activity is located. Potential adverse impacts to the aquatic ecosystem will be mitigated, and BMPs and APMs will be implemented to minimize and avoid impacts on local populations of threatened and endangered species. Therefore, the Project is in compliance with this portion of the regulation.

3. *Will not destroy, jeopardize or adversely modify a present or documented habitat for threatened or endangered species; and shall not jeopardize the continued existence of a local population of a threatened or endangered species;*

Potential adverse impacts to the aquatic ecosystem will be mitigated, and BMPs and APMs will be implemented to minimize and avoid impacts on local populations of threatened and endangered species. Coordination with USFWS, NMFS and the NJDEP NHP is ongoing to ensure the Project will not modify habitat or jeopardize listed species. See Appendix S for potential impacts and APMs to avoid and mitigate for any potential impacts.

4. *Will not be likely to result in the destruction or adverse modification of a habitat which is determined by the Secretary of the United States Department of the Interior or the Secretary of the U.S. Department of Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, 16 U.S.C. § 1531 et seq.;*

Coordination with USFWS, NMFS and the NJDEP NHP has been conducted to ensure the Project will not modify habitat or jeopardize listed species. See Appendix S for potential impacts and APMs to avoid and mitigate for any potential impacts.

5. *Will not cause or contribute to a violation of any applicable State water quality standard;*

The Project will not cause or contribute to a violation of any applicable State water quality standards or contribute to significant degradation of ground or surface water. Ocean Wind 1 will comply with all water quality compliance permit conditions.

6. *Will not cause or contribute to a violation of any applicable toxic effluent standard or prohibition imposed pursuant to the Water Pollution Control Act;*

The Project will comply with the Water Pollution Control Act and 40 C.F.R. 230.10(c) and will not cause any violation of toxic effluent State and Federal water quality standards or contribute to significant degradation of ground or surface water. Ocean Wind 1 will comply with all water quality compliance permit conditions.

7. *Will not violate any requirement imposed by the United States government to protect any marine sanctuary designated pursuant to the Marine Protection, Research and Sanctuaries Act of 1972, 33 U.S.C. §§ 1401 et seq.;*

The Project will not occur in any marine sanctuaries. Therefore, this portion of the regulation does not apply.

8. *Will not cause or contribute to a significant degradation, as defined at 40 C.F.R. 230.10(c), of ground or surface waters;*

The Project will not contribute to significant degradation of ground or surface water. Therefore, the Project is in compliance with this portion of the regulation.

9. *Will not adversely affect a property that is listed or is eligible for listing on the New Jersey or National Register of Historic Places unless the applicant demonstrates to the Department that the proposed activity avoids or minimizes impacts to the maximum extent practicable or the Department determines that any impact to the affected property would not impact the property's ability to continue to meet the criteria for listing at N.J.A.C. 7:4-2.3 or otherwise negatively impact the integrity of the property or the characteristics of the property that led to the determination of listing or eligibility. The Department shall not issue a conditional permit if it finds that the mitigation proposed is inadequate to compensate for the adverse effect. Any permit for an activity which may adversely affect a property listed or eligible for listing on the New Jersey or National Register of Historic Places shall contain conditions to ensure that any impact to the property is minimized to the maximum extent practicable and any unavoidable impact is mitigated;*

    i. *If the permittee, before or during the authorized work, encounters a possible historic property, as described at N.J.A.C. 7:7A-19.5(l), that is or may be eligible for listing on the New Jersey or National Register, the permittee shall preserve the resource, immediately notify the Department and proceed as directed by the Department;*

Ocean Wind 1 has demonstrated that the proposed activities will avoid or minimize any potential adverse effects to properties that are listed or eligible for listing on the New Jersey or National Register of Historic Places to the maximum extent possible (Appendix N and Appendix S). For any proposed impact, Ocean Wind 1 will minimize impacts to the maximum extent possible. Further details of investigations completed in accordance with Section 106 by Ocean Wind 1 for the Project can be found in Appendix N, Marine and Terrestrial Archaeological Resources Assessment Reports.

10. *Will not violate the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq., or implementing rules at N.J.A.C. 7:13;*

The Project will comply with the FHA regulations at N.J.A.C. 7:13, as demonstrated in Section 3.3, above. The Project will be consistent with the applicable approved WQMP (208 Plan) adopted under the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and with the Stormwater Management rules at N.J.A.C. 7:8, as detailed in Section 7.8, below.

11. *Is otherwise lawful;*

The Project is lawful.

12. *Is in the public interest, as determined by the Department in consideration of the following:*

    i. *The public interest in preservation of natural resources and the interest of the property owners in reasonable economic development. In determining whether a proposed activity is in the public interest, the Department shall consider, as one source of guidance, the goals, strategies, policy objectives and policies of the New Jersey State Development and Redevelopment Plan, adopted and/or readopted by the State Planning Commission pursuant to the New Jersey State Planning Act, N.J.S.A. 52:18A-196 et seq., and the State Planning Act rules, N.J.A.C. 5:85;*

    ii. *The relative extent of the public and private need for the proposed regulated activity;*

    iii. *Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods, to accomplish the purpose of the proposed regulated activity;*

    iv. *The extent and permanence of the beneficial or detrimental effects which the proposed regulated activity may have on the public and private uses for which the property is suited;*

    v. *The quality and resource value classification pursuant to N.J.A.C. 7:7A-3.3 of the wetland, which may be affected and the amount of freshwater wetlands to be disturbed;*

    vi. *The economic value, both public and private, of the proposed regulated activity to the general area; and*

    vii. *The functions and values provided by the freshwater wetlands and probable individual and cumulative impacts of the regulated activity on public health and fish and wildlife;*

The Project is in the public interest because it will provide a renewable energy source. The Project will promote and help New Jersey achieve its renewable energy generation goals as outlined in the *Draft 2019 New Jersey Energy Master Plan, Policy Vision to 2050*, released in June 2019. Ocean Wind 1 will create over 3,000 direct jobs through development and an approximately three-year construction cycle. Upon startup the Project will power approximately 500,000 New Jersey homes and promote and help New Jersey achieve its ambitious renewable energy generation goal of supplying more than 1.5 million New Jersey homes with offshore wind power. For more information on the Project's purpose and need, please see Section 1.3 and for more information on wetland resources classification, please see Appendix S.

13. *Will not involve a discharge of dredged material or a discharge of fill material, unless the material is clean, suitable material free from toxic pollutants in toxic amounts, which meets Department rules for use of dredged or fill material;*

The Project does not involve a discharge of dredged material or a discharge of fill material. Any dredged material will be disposed of in accordance with dredged material disposal plan. Dredged material placement will comply with N.J.A.C. 7:7-12.9 and N.J.A.C. 7:7-15.12. If any discharge of fill material is necessary, the material will be free from toxic pollutants in toxic amounts and meets Department rules for the use of dredged or fill material. For more details on dredging associated with the Project, please see Section 2 and Appendix O.

14. *Is consistent with the applicable approved Water Quality Management Plan (208 Plan) adopted under the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., unless the activities are not subject to the Department's Water Quality Management Planning rules at N.J.A.C. 7:15; and*

The Project will be consistent with the applicable approved Water Quality Management Plan (208 Plan) adopted under the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq.

15. *In accordance with N.J.A.C. 7:7A-2.7, is part of a project that in its entirety complies with the Stormwater Management rules at N.J.A.C. 7:8.*

*(c) The following shall apply to the Department's consideration of whether an alternative is practicable under (b)1 above:*

1. *An alternative shall be practicable if it is available and capable of being carried out after taking into consideration cost, existing technology, and logistics in light of overall project purposes;*

   i. *In considering cost in accordance with (c)1 above, the Department shall consider the acquisition history of the property as a whole and the amount, nature, and date of investments that the applicant has made in the property as a whole; and*

2. *An alternative shall not be excluded from consideration under this provision merely because it includes or requires an area not owned by the applicant which could reasonably have been or be obtained, utilized, expanded, or managed in order to fulfill the basic purpose of the proposed activity.*

The Project has no practicable alternative that (1) will have a less adverse impact on the aquatic ecosystem or will not involve a freshwater wetland or State open water; and (2) will not have other significant adverse environmental consequences. As defined in N.J.A.C. 7:7A-1.3, “practicable alternative” means other choices available and capable of being carried out after taking into consideration cost, existing technology, and logistics in light of overall project purposes, and may require an area not owned by the applicant which could reasonably have been or be obtained, utilized, expanded, or managed in order to fulfill the basic purpose of the proposed activity.

Please refer to Appendix A for the Alternatives Analysis. The Alternatives Analysis did not identify a practicable alternative that will have less adverse impact on the aquatic ecosystem or will not involve a freshwater wetland, and will not have other significant environmental consequences while taking into consideration cost, existing technology, logistics, and real estate in light of the overall project purpose. Other alternatives were rejected due to significant environmental impacts, including greater impacts to SAV, shellfish habitat, ISS, benthic habitats through dredging, and disruption to local communities when compared to the proposed route.

The proposed Project will result in the minimum feasible alteration or impairment of the aquatic ecosystem including existing contour, vegetation, fish and wildlife resources, and aquatic circulation of the freshwater wetland and hydrologic patterns of the HUC 11 in which the activity is located. Potential adverse impacts to the aquatic ecosystem will be mitigated, and BMPs and APMs will be implemented to minimize and avoid impacts on local populations of threatened and endangered species. Coordination with USFWS, NMFS and the NJDEP NHP has been conducted to ensure the Project will not modify habitat or jeopardize listed species. See Appendix S for potential impacts and APMs to avoid and mitigate for any potential impacts.

### 3.4.4 Additional Requirements for a Non-Water Dependent Activity in a Wetland or Special Aquatic Site (N.J.A.C. 7:7A-10.3)

In addition to meeting the requirements of N.J.A.C. 7:7A-10.2, a non-water dependent activity in a freshwater wetland or special aquatic site shall meet the requirements of this section. Although the overall Project is a water-dependent activity, the onshore portions at the proposed substations are non-water dependent.

*N.J.A.C. 7:7A-10.3(b) There shall be a rebuttable presumption that there is a practicable alternative to a non-water dependent activity in a freshwater wetland or in a special aquatic site, which alternative does not involve a freshwater wetland or special aquatic site, and that such an alternative would have less of an impact on the aquatic ecosystem.*

Appendix A discusses the Project alternatives and how the basic purpose cannot reasonably be accomplished using one or more other sites in the general region that will avoid or reduce the adverse impact on an aquatic ecosystem. Appendix A, Alternatives Analysis, also discusses how the Project cannot be reasonably be accomplished should there be a reduction in size, scope and configuration. Ocean Wind 1 analyzed other potential alternatives and selected the routes that avoid or reduce the adverse impact on freshwater wetlands impacted by the Project and will mitigate for impacts in accordance with N.J.A.C. 7:7A-11. Therefore, the Project will be consistent with this policy.

*N.J.A.C. 7:7A-10.3(c) (c) In order to rebut the presumption established in (b) above, an applicant must demonstrate all of the following:*

1. *That the basic project purpose cannot reasonably be accomplished using one or more other sites in the general region that would avoid or reduce the adverse impact on an aquatic ecosystem;*

The basic Project purpose cannot reasonably be accomplished using one or more other sites in the general region that will avoid or reduce the impact on an aquatic ecosystem. Refer to Appendix A, Alternatives Analysis, for a discussion on the selected routes that avoid or reduce the adverse impact on freshwater wetlands.

2. *That the basic project purpose cannot reasonably be accomplished if there is a reduction in the size, scope, configuration, or density of the project as proposed;*

Appendix A discusses the Project alternatives and how the basic purpose cannot reasonably be accomplished using one or more other sites in the general region that will avoid or reduce the adverse impact on an aquatic ecosystem. Appendix A, Alternatives Analysis, also discusses how the Project cannot be reasonably accomplished should there be a reduction in size, scope and configuration.

3. *That the basic project purpose cannot reasonably be accomplished by an alternative design that would avoid or reduce the adverse impact on an aquatic ecosystem;*

The basic project purpose cannot be reasonably accomplished by an alternative design that will avoid or reduce the adverse impact on an aquatic ecosystem. The routes and installation methods were selected to avoid and minimize impacts to wetlands and other resources to the maximum extent practicable while also incorporating engineering feasibility.

4. *That in cases where the applicant has rejected alternatives to the project as proposed due to constraints such as inadequate zoning, infrastructure, or parcel size, the applicant has made reasonable attempts to remove or accommodate such constraints; and*

Ocean Wind 1 has made reasonable attempts to remove or accommodate such constraints. Please refer to Appendix A for the Alternatives Analysis. The Alternatives Analysis did not identify a practicable alternative that will have less adverse impact on the aquatic ecosystem or will not involve a freshwater wetland, and will not have other significant environmental consequences while taking into consideration cost, existing technology, logistics, and real estate in light of the overall project purpose. Other alternatives were eliminated based on these considerations.

Refer to Appendix A for the alternatives considered and how constraints were addressed.

5. *If any portion of the proposed activity will take place in an exceptional resource value wetland or in trout production waters, that the requirements of N.J.A.C. 7:7A-10.4 are met.*

There are no activities proposed in exceptional resource value wetlands or trout production waters, therefore this policy is not applicable.

3.4.5 Additional Requirements for a Non-Water Dependent Activity in Exceptional Resource Value Wetlands or Trout Production Waters (N.J.A.C. 7:7A-10.4)

*7:7A-10.4(a) If an applicant proposes a non-water-dependent activity in wetlands of exceptional resource value or in trout production waters, the applicant, in addition to complying with all other requirements in this subchapter, shall also demonstrate either:*

1. *That there is a compelling public need for the proposed activity greater than the need to protect the freshwater wetland or trout production water, and that the need cannot be met by essentially similar projects in the region which are under construction or expansion, or which have received the necessary governmental permits and approvals; or*
2. *That denial of the permit would impose an extraordinary hardship on the applicant brought about by circumstances peculiar to the subject property.*

3.4.6 There are no activities in exceptional resource value wetlands or trout production waters, therefore this policy is not applicable. Statement of Project Compliance with Line Delineation and/or Line Verification Letters of Interpretation (N.J.A.C. 7:7A-4)

The Project has submitted a prior line verification LOI to the Department for some locations of wetlands and watercourses delineated as part of the field activities of this Project. The LOI has since been withdrawn. A line verification LOI is being submitted concurrently with this application for all wetland and watercourses. Information previously submitted as part of this LOI can be found in Appendix I.

*N.J.A.C. 7:7A-4.7 Conditions that apply to an issued letter of interpretation delineation or verification*

*(a) Within 90 calendar days after the Department issues a delineation or verification letter of interpretation on a privately owned lot, or on a publicly owned lot other than a right-of-way, the recipient of the delineation or verification shall submit the following information to the Office of the County Clerk or the registrar of deeds and mortgages in which the site is located, and shall send proof to the Department in accordance with (b) below that this information is recorded on the deed of each lot referenced in the delineation or verification letter of interpretation:*

1. *The Department file number for the letter of interpretation;*
2. *The approval and expiration date of the letter of interpretation;*
3. *A metes and bounds description of the wetland boundary approved under the letter of interpretation;*
4. *The width and location of any transition area approved under the letter of interpretation; and*
5. *The following statement: "The State of New Jersey has determined that all or a portion of this lot lies in a freshwater wetland and/or transition area. Certain activities in wetlands and transition areas are regulated by the New Jersey Department of Environmental Protection and some activities may be prohibited on this site or may first require a freshwater wetland permit Contact the Division of Land Use Regulation at (609) 292- 0060 or https://www.nj.gov/dep/landuse for more information prior to any construction onsite."*

A letter of interpretation for line verification is not being sought as part of this permit application. Approval of this permit application will authorize impacts to resources. Mapped wetlands verified by NJDEP or USACE as part of this application will be filed with the necessary parties and deeds updated appropriately.

*(b) Proof that the information at (a) above has been recorded on the deed of each lot referenced in the letter of interpretation shall be in the form of either a copy of the complete recorded document or a*

*receipt from the clerk or other proof of recordation provided by the recording office. However, if the initial proof provided to the Department is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the Department within 180 calendar days of the issuance or reissuance of the letter of interpretation.*

Proof that the information provided in N.J.A.C. 7:7-4A-4.7(a) has been recorded on the deed of each lot referenced in the LOI will be in the form of a copy of the complete recorded document.

### 3.5 Certificate of Filing, a Certificate of Completeness, or a resolution approving an application for public development issued by the Pinelands Commission

The Pinelands Commission was granted the authority to preserve the Pinelands through the passage of the National Parks and Recreation Act of 1978 and the New Jersey Pinelands Protection Act in 1979. The Pinelands include the New Jersey designated Pinelands Area and the federally designated Pinelands National Reserve. The entirety of the Project Area falls outside of the New Jersey Pinelands Area; however, portions of the onshore facilities and inshore export cable fall within the Pinelands National Reserve. The Commission protects the Pinelands through its implementation of the Pinelands Comprehensive Management Plan, which contains the rules that guide land-use, development and natural resource protection programs in the Pinelands.

The NJ Pineland's Commission entered into a Memorandum of Understanding (MOU) with NJDEP dated 8 February 1988 that states how the two agencies shall coordinate on development applications that involve PMAs, which provides that NJDEP will implement the Pinelands Comprehensive Management Plan in portions of the Pinelands National Reserve located in the coastal zone in consideration of comments submitted by the Pineland Commission. The MOU states that NJDEP will provide a copy of the development application to the Pinelands Commission staff, and the Pinelands Commission staff will provide comments on the application regarding the compliance of the development with the intent and objectives of the Pinelands Comprehensive Management Plan.

A meeting was held on October 27, 2021, with NJ Pinelands Commission, NJDEP, Orsted, HDR Engineering Inc., Rutter and Roy, LLP., and PSEG, to seek guidance and clarification on the applicability of the PMA rules to the portions of the Project that intersect Forest Management Areas within the Pinelands National Reserve; and to confirm how NJDEP will coordinate review of the Division of Land Resource Protection (DLRP) permit applications with the Pinelands Commission. The proposed cables are considered public service infrastructure.

In a letter dated December 7, 2021, the Pinelands Commission notes that the Pinelands Comprehensive Management Plan defines the proposed cables as public service infrastructure (Appendix F). The Pinelands Commission indicates that public service infrastructure is a permitted land use in the Pinelands Regional Growth Management Area and Pinelands Rural Development Management Area. The Pinelands Commission notes that within the Pineland Forest Management Area, "…the proposed development does not raise an issue that rises to a level that it causes the proposed development to be inconsistent with the intent, policies and objectives of the National Parks and Recreation Act of 1978 creating the Pinelands National Reserve and the Pinelands Protection Act of 1978." (The Pineland Commission 2021, Appendix F). In an email dated January 4, 2023, the Pinelands Commission indicated that with the relocated BL England substation within the former coal pile area, the proposed development remains consistent with the guidance provided in the December 7, 2021 letter. The Pinelands Commission will review the NJDEP CAFRA IP concurrently with NJDEP and provide any comments they may have.

## 4. Mitigation

Per N.J.A.C. 7:7-17.1, mitigation means activities carried out in accordance with this subchapter in order to compensate for the loss or disturbance of wetlands, intertidal and subtidal shallows, submerged aquatic

vegetation, riparian zones, or shellfish habitat. The NJDEP has several means of mitigation in which a project can perform to meet compliance with N.J.A.C. 7:7-17, as well as N.J.A.C. 7:7A-11. Projects that are defined as smaller disturbance are less than 1.5 acres of freshwater wetlands or State open water; or a disturbance affecting only ordinary resource value wetlands. While Ocean Wind 1 has collective permanent freshwater wetland impacts at the proposed BL England ECR (0.243 acres) and Oyster Creek onshore substation (0.059 acres) and ECR (1.220 acres) total approximately 1.279 acres, they are two distinct areas located approximately 45 miles apart and are in separate watersheds and watershed management areas with no hydrologic or ecological connectivity. Therefore, wetland impacts would be considered a smaller disturbance and subject to mitigation hierarchy placing preference for purchase of in-kind credits from a mitigation bank with a service area that includes the site of disturbance (N.J.A.C. 7:7A-11.9c), as onsite creation, restoration or enhancement mitigation is not feasible at either location. Therefore, Ocean Wind 1 proposes the purchase of credits from the Evergreen Great Bay Mitigation Bank to compensate for unavoidable losses to wetlands and state open waters. Per N.J.A.C. 7:7-17.7(a) and N.J.A.C. 7:7A-11.6(a), a mitigation proposal shall be submitted at least 90 calendar days prior to the commencement of regulated activities authorized by a permit. Ocean Wind 1 will coordinate with all necessary agencies to prepare a full mitigation proposal for the Project to cover all required regulated activities prior to 90 days of commencement of regulated activities for approval.

## 4.1 Mitigation Hierarchy

### 4.1.1 Wetlands

The NJDEP mitigation hierarchy for a smaller wetland disturbance, per N.J.A.C. 7:7A-11.9, states that the preferred method of mitigation is in-kind credits from an approved mitigation bank as it is presumed for a smaller disturbance onsite mitigation is not feasible. If in-kind credits from a mitigation bank is not feasible, then mitigation shall be performed via onsite restoration, creation or enhancement. If that is not feasible, then offsite restoration, creation or enhancement in the same WMA as the area of disturbance is the next preference. Should none of those options be feasible, then the NJDEP will allow a monetary contribution to the NJDEP In-Lieu Fee (ILF) Program or upland preservation. Lastly, if mitigation described above is not feasible then mitigation shall be in the form of a land donation approved by the Wetlands Mitigation Council. Mitigation ratios are provided in **Table 4.1.1-1**. FWW mitigation will be performed through the purchase of wetland mitigation bank credits from an approved bank in the Project service area.

**Table 4.1.1-1. Wetlands Mitigation Ratio**

| N.J.A.C. 7:7A-11, N.J.A.C. 7:7-17 | Mitigation Ratio/Cost |
|---|---|
| Purchase in-kind credits from a mitigation bankin the same HUC | Case by case determined by NJDEP |
| Perform onsite restoration (N.J.A.C. 7:7A-11.10(c), N.J.A.C. 7:7-17.13(b)) | 2:1 Ratio |
| Perform onsite creation (N.J.A.C. 7:7A-11.10(c), N.J.A.C. 7:7-17.13(b)) | 2:1 Ratio |
| Perform onsite enhancement (N.J.A.C. 7:7A-11.10(c), N.J.A.C. 7:7-17.13(c)) | Case by Case determined by NJDEP |
| Perform restoration, creation, or enhancement offsite in the same WMA | Case by Case determined by NJDEP |
| Purchase in-kind credits from a mitigation bankin the same HUC | Case by Case determined by NJDEP |
| In- Lieu Fee (N.J.A.C. 7:7A-11.16, N.J.A.C. 7:7-17.14(c)) | Case by Case determined by NJDEP |

| N.J.A.C. 7:7A-11, N.J.A.C. 7:7-17 | Mitigation Ratio/Cost |
|---|---|
| Upland Preservation (N.J.A.C. 7:7A-11.13 N.J.A.C. 7:7-17.14(c)) | Case by Case determined by NJDEP |
| Land Donation N.J.A.C. 7:7-17.14(d) | Case by Case determined by NJDEP |

4.1.2 Riparian Zone

A riparian zone is the land and vegetation within and adjacent to a regulated water. A riparian zone exists along both sides of every regulated water and includes the regulated water itself, except in several cases including within or along the Atlantic Ocean and barrier islands such as Island Beach State Park. Riparian zones also require mitigation with a similar hierarchy to the wetland mitigation described above in **Table 4.1.1-1**.

4.1.3 Submerged Aquatic Vegetation

The Ocean Wind 1 Project is anticipated to impact SAV (see Section 2.2.4) based on maps prepared by the Division of Fish and Wildlife, Bureau of Shellfisheries, Rutgers and from physical site surveys conducted in 2020 and 2021 by HDR, Inc. As mentioned previously, Ocean Wind 1 conducted additional in-water video collection in summer 2022 to further refine the delineations of SAV beds near the Project footprint, document percent cover, and identify species. The results were used to inform final Project design to minimize impacts to SAV. Additionally, within six months before cable installation begins (within the growing season), a focused pre-construction SAV survey will be conducted to characterize the SAV condition (e.g., shoot density) within the Project's potential area of impact.

Unavoidable impacts to this regulated resource will be mitigated for based on a viable and feasible option agreed upon by the NJDEP, USACE, NMFS and other appropriate stakeholders. Ocean Wind is coordinating with these agencies and stakeholders to determine the most appropriate mitigation and restoration ratios to ensure no net loss of spatial coverage and shoot density for this sensitive resource. Open cut trenching will be used to install the cables from the maintenance/storage yard at IBSP into a previously disturbed channel in Barnegat Bay. Use of open cut installation allows for a reduced cable separation (20 m for open cut rather than 50 m for HDD), which keeps the majority of workspace within the prior channel in areas without SAV.

HDD will be used to install the cables at the Holtec Property Lacey Township Landing, if it is determined that the risk of inadvertent returns can be adequately reduced. Open cut may be used at the Holtec landfall if it is determined to minimize potential impacts. All long-term impacts to SAV will be mitigated for in accordance with N.J.A.C.7:7-17, in that mitigation shall be similar in type and location to the resource(s) lost or impacted, to the extent practicable shall compensate for unavoidable ecological loss. The Department will consider proposals for out-of-kind mitigation provided the mitigation meets the goals and objective of this subchapter and will result in ecological functions and values equal to the ecological functions and values of the resource(s) prior to loss or impact.

Per N.J.A.C. 7:7-17.10(c), for a temporary disturbance to a submerged vegetation habitat, Ocean Wind 1 will submit a schedule describing in detail the sequence of mitigation activities and estimated dates for completion of the restoration of the temporary disturbance, and a restoration plan, at least 30 calendar days prior to the start of activities authorized by the permit.

4.1.4 Shellfish Habitat

Shellfish habitat, per N.J.A.C. 7:7-9.2 (a), is defined as an estuarine bay or river bottom which currently supports or has a history of production for hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), or blue mussels (*Mytilus edulis*) or other areas listed further in the regulation.

While impacts to shellfish habitat from the proposed activities are not covered under N.J.A.C. 7:7-17.9, the Project's adverse direct impact to the benthic community, including shellfish habitat, from installation of the export cable will be temporary and minor. The benthic community will recover quickly to pre-construction conditions such that there will be no permanent impact (See Appendix S). As the Project will not result in condemnation of shellfish beds, no monetary mitigation will be required.

### 4.1.5 Intertidal and Subtidal Shallows

In accordance with N.J.A.C. 7:7-17.11(b), mitigation for the filling of intertidal and subtidal shallows or tidal waters shall be performed through the creation, at a creation to loss ratio of 1:1, of intertidal and subtidal shallows or tidal waters on the site where the filling occurred. If that is not feasible then the mitigation hierarchy described in Section 4.1 will be implemented to find the most feasible mitigation option for the site for intertidal and subtidal shallows.

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