

# Appendix J Finding of Adverse Effect for Section 106 Consultation

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## Abbreviations and Acronyms

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ACHP	Advisory Council on Historic Preservation
ADLS	aircraft detection lighting system
APE	area of potential effects
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
DPL	Delmarva Power and Light
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
HDD	horizontal directional drill
MHT	Maryland Historical Trust
MOA	Memorandum of Agreement
MW	megawatt
NAACP	National Association for the Advancement of Colored People
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPS	National Park Service
NRHP	National Register of Historic Places
O&M	operations and maintenance
OCS	Outer Continental Shelf
OREC	Offshore Renewable Energy Credit
OSS	offshore substation
PAPE	preliminary area of potential effects
PDE	Project design envelope
PRDP	Post-Review Discovery Plan
Project	Maryland Wind Project
SHPO	State Historic Preservation Officer
TSS	traffic separation scheme
USC	U.S. Code
WTG	wind turbine generator
ZTV	zone of theoretical visibility

## J.1 Introduction

The Bureau of Ocean Energy Management (BOEM) has made a Finding of Adverse Effect (Finding) under Section 106 of the National Historic Preservation Act (NHPA) pursuant to Code of Federal Regulations, Title 36, Section 800.5 (36 CFR § 800.5) for the US Wind/Maryland Wind Project (proposed Project), consisting of construction and installation (construction), operations and maintenance (O&M), and conceptual decommissioning (decommissioning) of an offshore wind energy project, as described in the proposed Project's Construction and Operations Plan (COP). BOEM finds that the undertaking would adversely affect the following historic properties:

- Archaeological Site **REDACTED**, Delaware;
- Fort Miles Historic District, Lewes, Delaware (Section J.4.3.1, Assessment of Effects on Historic Properties in the Visual area of potential effects [APE]);
- U.S. Coast Guard Tower, Ocean City, Maryland (Section J.4.3.2, Assessment of Effects on Historic Properties in the Visual APE); and
- U.S. Life Saving Station Museum, Ocean City, Maryland (Section J.4.3.3, Assessment of Effects on Historic Properties in the Visual APE).

The Project would also cause visual effects and contribute to cumulative effects from Offshore Project component visibility on three historic aboveground resources that are historic properties in the visual portion of the APE (COP Volume II, Appendix II-I3; US Wind 2024; and Appendix I, *Historic Resources Visual Effects Assessment* of the Final EIS). These resources have ocean views that are character-defining features contributing to their National Register of Historic Places (NRHP) eligibility; these ocean views are subject to adverse effects by the Project.

BOEM elected to use the National Environmental Policy Act (NEPA) substitution process for Section 106 purposes, as described in 36 CFR 800.8(c), during its review. The regulations at 36 CFR 800.8(c) provide for use of the NEPA substitution process to fulfill a federal agency's NHPA Section 106 review obligations in lieu of the procedures set forth in 36 CFR 800.3 through 800.6. The NEPA substitution process is described at [A Brief Explanation of NEPA and Section 106 Reviews](#). Both NEPA and Section 106 allow participation of consulting parties. Consistent with use of the NEPA substitution process to fulfill Section 106 requirements, BOEM will document the mitigation measures to resolve the adverse effects in a Memorandum of Agreement (MOA) pursuant to 36 CFR 800.8(c)(4)(i)(B). See Attachment J-1, Memorandum of Agreement, for the Draft MOA.

## J.2 Project Overview

In the proposed Project COP (originally submitted on August 11, 2020, and comprehensively revised in November 2021, March 2022, May 2022, November 2022, July 2023, February and May 2024), US Wind proposes construction, O&M, and decommissioning of an offshore wind energy project that would generate up to 2.2 gigawatts of wind energy in three phases including MarWin, a wind farm of approximately 300 megawatts (MW) for which the State of Maryland awarded to US Wind offshore renewable energy credits (ORECs) in 2017; Momentum Wind, consisting of approximately 808 MW for which the State of Maryland awarded additional ORECs in 2021; and build out of the remainder of the Lease Area to fulfill ongoing, government-sanctioned demands for offshore wind energy within BOEM Renewable Energy Lease Area OCS–A 0490 hereafter together referenced as the Lease Area (Figures J-1 and J-2). If approved by BOEM, US Wind would construct and operate wind turbine generators (WTG) and offshore substations (OSSs), an export cable to shore, and associated facilities for a 35-year term. BOEM is conducting its environmental and technical reviews of the COP (US Wind 2024) under NEPA for its decision regarding approval, disapproval, or approval with modifications of the proposed Project COP. The Final Environmental Impact Statement (EIS) and COP for the proposed Project are available on the Project-specific website ([Maryland Offshore Wind state activities](#)). The Final EIS considers the potential impacts of the proposed Project, including impacts on cultural resources.

BOEM has determined that construction, O&M, and decommissioning constitute an undertaking subject to Section 106 of the NHPA (U.S. Code, Title 54 Section 306108 [54 USC § 306108]) and its implementing regulations (36 CFR Part 800), and that the activities proposed under the COP have the potential to affect historic properties.

### J.2.1 Background

In 2012, BOEM prepared an environmental assessment to analyze the environmental impacts associated with issuing commercial wind leases and approving site assessment activities within the Atlantic Outer Continental Shelf (OCS), this included areas offshore Delaware, Maryland, New Jersey, and Virginia (BOEM 2012a). On January 31, 2012, BOEM executed the Mid-Atlantic Programmatic Agreement (BOEM 2012b). In June 2012, BOEM conducted NHPA Section 106 review of its decision to issue commercial leases within the Maryland wind energy area (BOEM 2012c). Through a competitive leasing process under 30 CFR 585.211, BOEM awarded US Wind with Commercial Lease OCS–A 0490 covering an area offshore Maryland (Lease Area) in 2014. During the same competitive lease sale, BOEM also awarded US Wind with Commercial Lease OCS–A 0489. By a lease amendment, made effective March 1, 2018, US Wind’s Commercial Leases OCS–A 0489 and OCS–A 0490 were merged into a single lease, Lease OCS–A 0490. Lease OCS–A 0489 automatically terminated. Subsequently, US Wind submitted a Site Assessment Plan for the installation of meteorological buoys, which BOEM reviewed under NHPA Section 106, resulting in its April 12, 2016, *Finding of No Historic Properties Affected* (BOEM 2016).

## J.2.2 Undertaking

The Project would generate up to 2,000 MW of wind energy to the Delmarva Peninsula, including Maryland, in fulfillment of state and federal clean energy standards and targets (COP, Volume I, Section 1.1.2; US Wind 2024). The Project (full build out) includes (1) MarWin, a wind farm of approximately 300 MW for which US Wind was awarded ORECs in 2017 by the State of Maryland; (2) Momentum Wind, consisting of approximately 808 MW for which the State of Maryland awarded additional ORECs in 2021; and (3) future development of approximately 600 to 800 MW of the remainder of the Lease Area to fulfill ongoing, government-sponsored demands for offshore wind energy.

If approved by BOEM and other agencies with authority to approve Project components outside of BOEM's jurisdiction, US Wind would be allowed to construct and operate WTGs, export cables to shore, and associated facilities, including those outside BOEM's jurisdiction, for a specified term. BOEM is now conducting its environmental and technical reviews of the COP under NEPA; its decision regarding approval of the plan is provided in this Final EIS. A detailed description of the proposed Project can be found in Chapter 2, Alternatives, Section 2.1.2, Alternative B – Proposed Action (Preferred Alternative), of the Final EIS. This Final EIS considers reasonably foreseeable impacts of the Project, including impacts on cultural resources, which include historic properties.

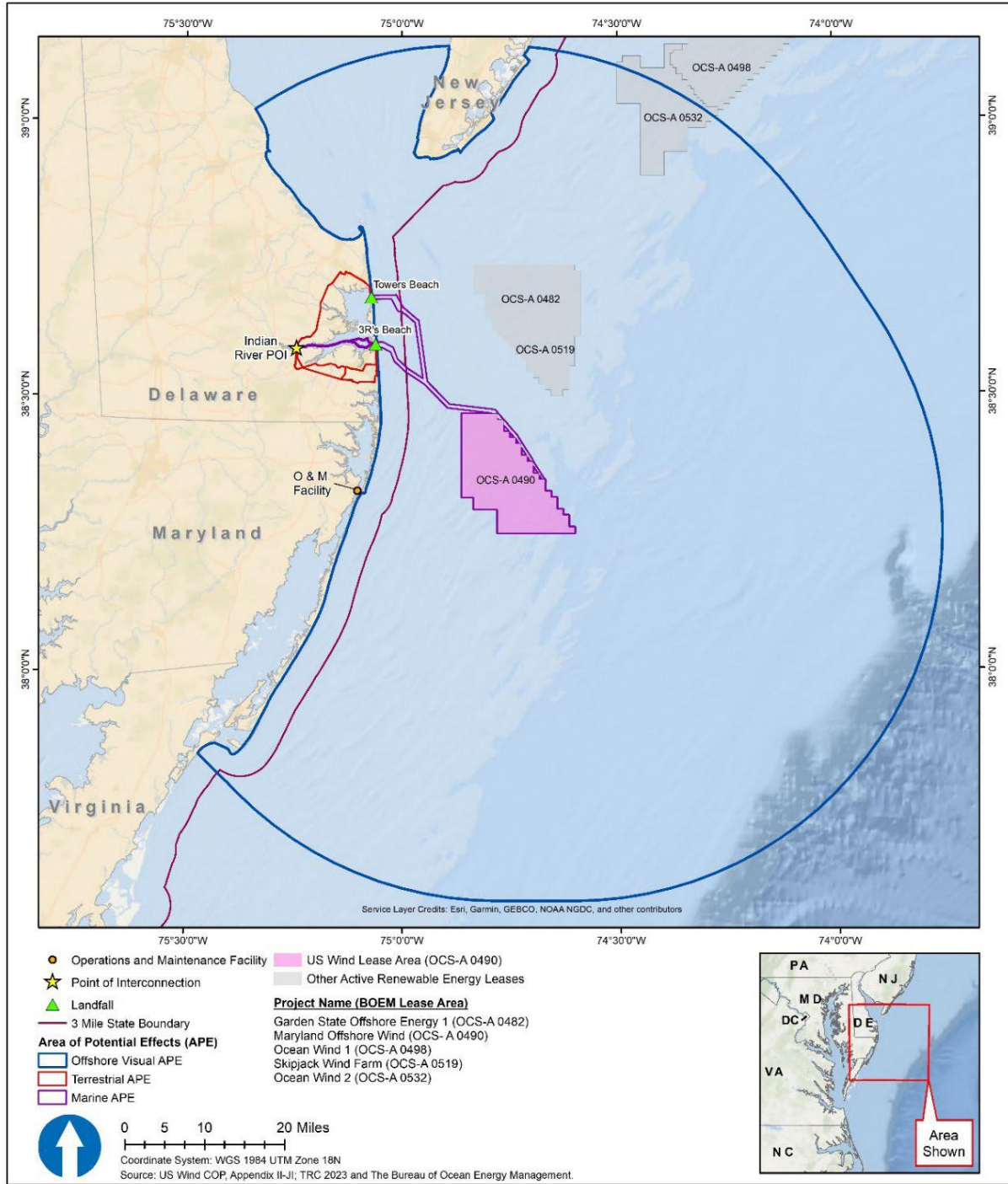
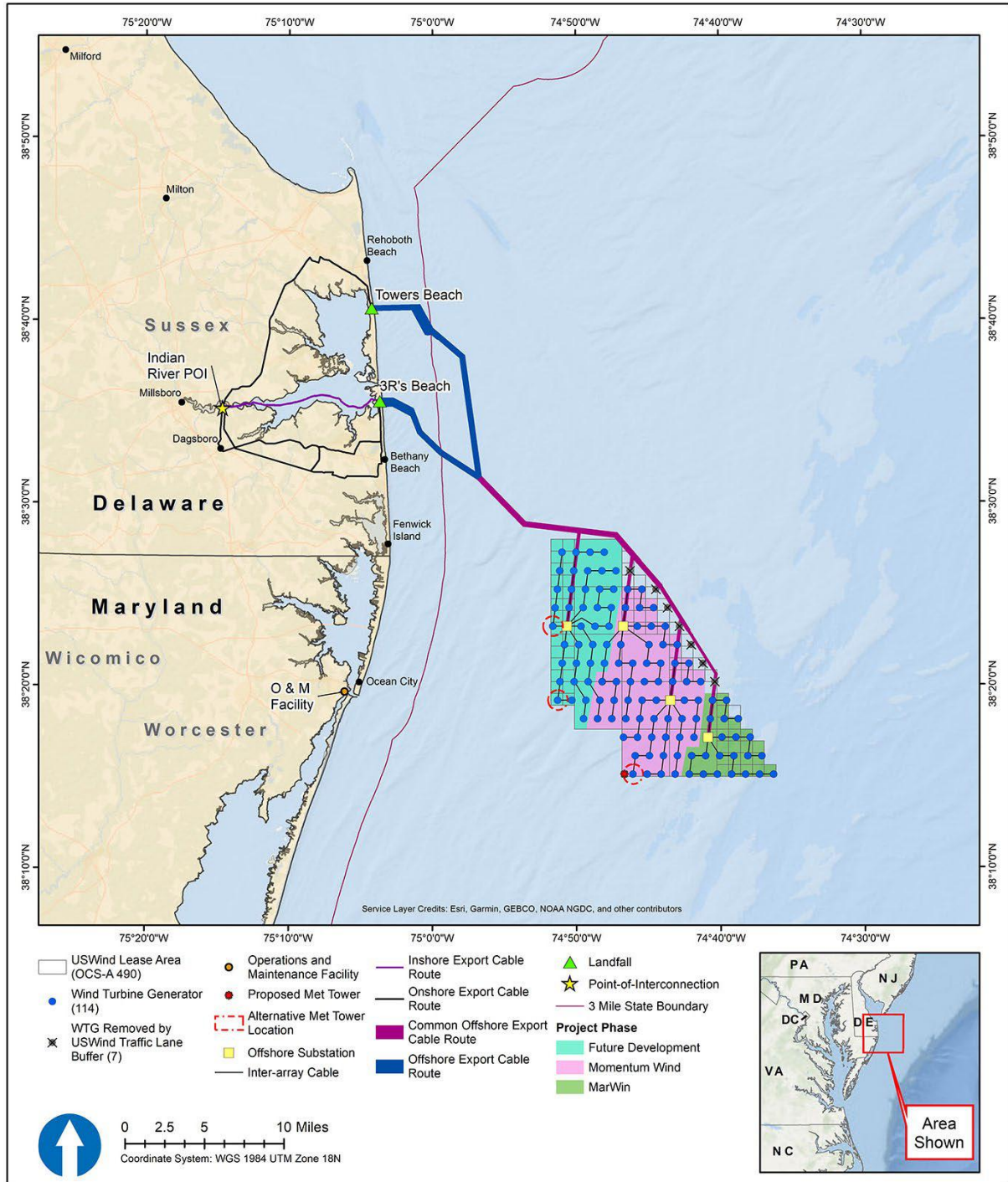


Figure J-1. Proposed wind development area relative to Mid-Atlantic lease areas



**Figure J-2. Proposed Project overview showing the Proposed Action (Preferred Alternative) and alternatives**



The Proposed Action is to construct, operate, maintain, and decommission an up to 2.2-GW wind energy facility in the Lease Area, 10.1 miles (16.2 kilometers) off the coast of Maryland. The project design envelope (PDE) would consist of up to 114 WTGs—ranging from 14 to 18 MW each, up to four offshore substations (OSSs), inter-array cables in strings of four to six linking the WTGs to the OSSs, and substation interconnector cables linking the OSSs to each other. The Proposed Action includes a 1 nautical mile (1.9 kilometer) setback from the traffic separation scheme (TSS) from Delaware Bay which removes seven of the 121 WTG positions, resulting in a total of 114 WTGs). Up to four offshore export cables (installed within one Offshore Export Cable Route) would transition to a landfall at 3R's Beach via horizontal directional drilling (HDD). From the landfall, the cables would continue along the Inshore Export Cable Route within Indian River Bay to connect to an onshore substation adjacent to the point of interconnection (POI) at the Indian River Substation owned by Delmarva Power and Light (DPL) in Dagsboro, Delaware. The POI will include an expansion of the existing substation and construction of three new substations adjacent to the existing substation. An O&M Facility is also proposed in Ocean City, Maryland. Development of the wind energy facility would occur within the range of design parameters outlined in the COP (US Wind 2024).

### **J.2.3 Area of Potential Effects**

The APE for this undertaking is defined by the Section 106 implementing regulations (36 CFR § 800.16[d]).

*The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.*

BOEM (2020) defines the undertaking's APE as the following:

- The depth and breadth of the seabed potentially affected by any bottom-disturbing activities, constituting the marine archaeological resources portion of the APE;
- The depth and breadth of terrestrial areas potentially affected by any ground disturbing activities, constituting the terrestrial archaeological portion of the APE;
- The viewshed from which renewable energy structures, whether offshore or onshore, would be visible, constituting the viewshed portion of the APE; and
- Any temporary or permanent construction or staging areas, both onshore and offshore.

The Lease Area, inter-array cables, Offshore Export Cable Route, and terrestrial facilities make up the footprint of the Proposed Action. The terrestrial archaeological resources portion of the APE (terrestrial APE), the marine archaeological resources portion of the APE (marine APE), and the APE for visual effects analysis (visual APE) are defined based on these Proposed Action component footprints.

### J.2.3.1 Marine Area of Potential Effects

The marine APE for the Proposed Action is the depth and breadth of the seabed potentially affected by any bottom-disturbing activities and temporary or permanent offshore construction or staging areas, including the PDE’s range of Project designs. The marine APE includes the footprint for activities within the areas affected by vessel anchors, the workspaces of the WTG, OSS and Met Tower positions, inter-array cables, and export cables. The exact footprint of the marine APE will be dependent on which Offshore Export Cable Route and landfall site (3R’s Beach or Towers Beach) is used (Figure J-3).

Water depths in the Lease Area range from 46 to 135 feet (14 to 41 meters), and effects on the seafloor resulting from lift boat/jack-up vessels would be contained to the work zone around the WTGs, Met Tower, and OSSs positions and export and inter-array cable routes. The vertical marine APE is based on the maximum proposed disturbance depth defined within the PDE and varies by component, while the horizontal extent reflects the impacted surface area. Table J-1 summarizes the vertical and horizontal marine APE from each Proposed Action offshore component.

**Table J-1. Summary of the vertical and horizontal extent of the marine area of potential effects for Proposed Action facilities**

Facility	APE	Extent
Cables (inter-array, and export cables)	vertical (below seafloor surface)	13 feet (4 meters)
Cables (inter-array, and export cables)	horizontal	Entire Project area and export cables <sup>b</sup>
WTGs	vertical	938 feet (285.9 meters) above mean sea level
WTGs	horizontal <sup>a</sup>	820 feet (249.9 meters)
OSSs	vertical	128 and 144 feet (39.0 and 43.9 meters) above mean sea level
OSSs	horizontal <sup>a</sup>	591 feet (180.1 meters)

APE = area of potential effects; OSS = offshore substation; WTG = wind turbine generator

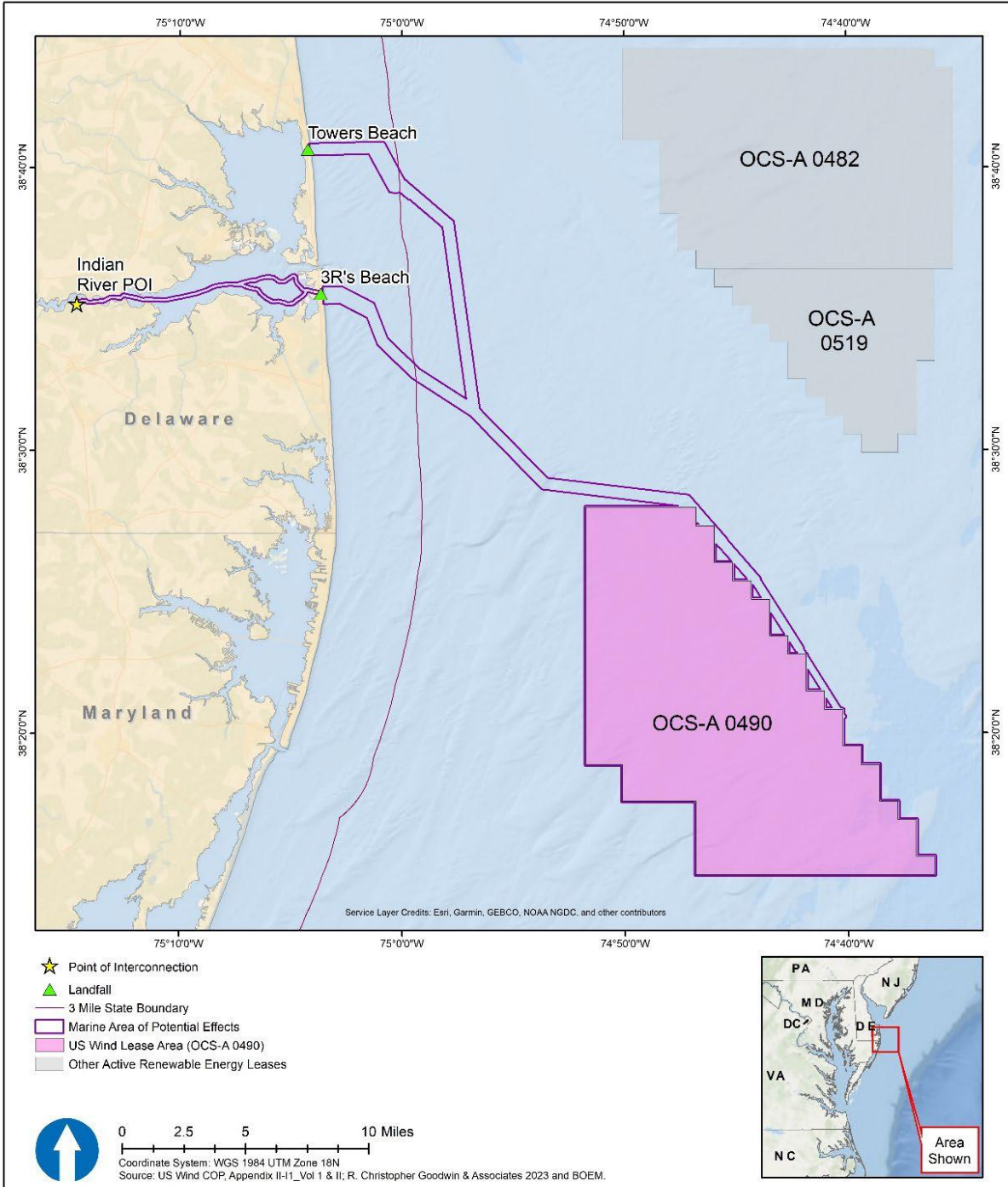
<sup>a</sup> This is the maximum radius work zone around which each WTG and OSS’s foundation, where construction will occur.

<sup>b</sup> The proposed Offshore Export Cable Route extends up to 1,968 ft from the OSSs to landfall locations at 3R’s Beach or Towers Beach, Delaware, with width of 1,968 ft (COP Volume II, Appendix II-11; R. Christopher Goodwin & Associates 2023c).

The diameter of each WTG is based on several factors, including water depth and geotechnical conditions. Installation will be conducted using either a jack-up installation vessel and/or dynamically positioned crane vessel. If an anchored vessel is used for installation, seabed impacts would be contained within the installation area (US Wind 2024). Seabed disturbance resulting to jacking and anchoring will be confined to a 984.25-foot (300-meter) radius centered on the installation location. The four OSSs will be installed using either monopile or jacket foundations (COP Volume II, Appendix II-11; R. Christopher Goodwin & Associates 2023c). The inter-array cables, which connect the WTGs to the OSSs, will connect between four and six WTGs in a string. Based on the PDE layout, up to 125.6 miles (202.2 kilometers) of inter-array cable will be used for the Proposed Action. The inter-array cables will be buried between 3.3 to 9.8 feet (1 to 3 meters), but no deeper than 13.1 feet (4 meters).

Two Offshore Export Cable Routes with a maximum length of 142.5 miles (229.3 kilometers) running

from the OSSs to the planned landfall at 3R's Beach or Towers Beach (barrier beach landfalls) are being considered. Each will contain up to four offshore export cables. US Wind anticipates using a jet plow to bury the cable to target depths of approximately 3.3 to 9.8 feet (1 to 3 meters), but no deeper than 13.1 feet (4 meters) (COP Volume II, Appendix II-I1; R. Christopher Goodwin & Associates 2023c).



**Figure J-3. Marine area of potential effects**

### J.2.3.2 Terrestrial Area of Potential Effects

The terrestrial APE includes areas of potential ground disturbance associated with the onshore construction and O&M of the Proposed Action. The terrestrial APE is presented as part of the proposed PDE, which includes the onshore substation sites, including the three proposed and one existing, and areas in and around the proposed landfall sites (including the Proposed Action landfall at 3Rs Beach and the alternative landfall site at Towers Beach), the O&M Facility in Ocean City, Worcester County, Maryland, as well as Onshore Export Cable Routes. The Proposed Action includes an Inshore Export Cable Route extending from the transition vault at 3R's Beach parking lot via HDD and transverse Indian River Bay (the cable route through Indian River Bay is included in the marine APE described above); to an HDD exit location near the US Wind substations, while other alternatives involve terrestrial routes north and south of Indian River, in Sussex County, Delaware (COP Volume II, Appendix II-I2; R. Christopher Goodwin & Associates 2023d).

US Wind has produced a preliminary area of potential effects (PAPE) which consists of the PDE for all preferred onshore Project elements and all alternatives currently under consideration. This includes temporary and permanent easements, areas of ground clearance, and laydown areas. Table J-2 summarizes the terrestrial APE from each Proposed Action onshore component.

**Table J-2. Summary of the terrestrial area of potential effects for Proposed Action facilities**

Facility	APE	Extent
Inshore Export Cable Route (Preferred Route)	HDD corridor from 3R's Beach to the Indian River Bay ( <i>Total Area: 8.71 acres/ 3.53 hectares</i> ); HDD corridor from Indian River to Indian River substation ( <i>Total Area: 7.81 acres/ 3.16 hectares</i> )	The only terrestrial portions of the Inshore Export Cable Route APE are the areas of the HDD corridors that cross unsubmerged land
Onshore Export Cable Route 1a (Alternative Route)	South of Indian River in mostly DDOT ROWs ( <i>Total Distance: 16 miles/ 26 kilometers</i> )	50-ft (15-m) buffer along the route centerline
Onshore Export Cable Route 1b (Alternative Route)	South of Indian River in DDOT and Transmission Line ROWs ( <i>Total Distance: 16.5 miles/ 26.5 kilometers</i> )	50-ft (15-m) buffer along the route centerline
Onshore Export Cable Route 1c (Alternative Route)	South of Indian River in DDOT and Transmission Line ROWs ( <i>Total Distance: 17 miles/ 27 kilometers</i> )	50-ft (15-m) buffer along the route centerline
Onshore Export Cable Route 2 (Alternative Route)	North of Indian River in DDOT, utility, and transmission line ROWs ( <i>Total Distance: 18 miles/ 29 kilometers</i> )	50-ft (15-m) buffer along the route centerline
3Rs Beach, Delaware HDD Corridor	Total Area: 4.36 acres/3.53 hectares	
Towers Beach, Delaware HDD Corridor	Total Area: 7.6 acres/3.1 hectares	

Facility	APE	Extent
Substation – Indian River substation, Delaware	Total Area: 28.01ac/11.34ha	
O&M Facility – Ocean City Harbor in West Ocean City, Maryland	Total Area 1.7ac/0.7ha	

APE = area of potential effects

The Proposed Action includes a landfall and transition vault located within the parking lot at 3R’s Beach, and an alternative location within the parking lot at Towers Beach. Onshore export cables would be installed in one or more of the Onshore Export Cable Routes. The Proposed Action would include an Inshore Export Cable Route that would enter Indian River Bay using HDD and would cross the bay to an HDD exit location in Indian River near the proposed US Wind substations. The proposed vaults are each approximately 40 feet (12 meters) long, 10 feet (3 meters) wide, and 10 feet (3 meters) deep. The HDD ducts will be connected to the transition vaults and backfilled with the excavated material or the appropriate clean fill. The transition vaults, when fully installed, will be accessed from ground-level access points. Alternative terrestrial Onshore Export Cable Routes would exit the transition vaults at the landfall sites and be buried in the previously disturbed rights-of-way along the designated corridor (COP Volume II, Appendix II-I2, Chapter 1; R. Christopher Goodwin & Associates 2023d).

Previously disturbed rights-of-way used for the terrestrial onshore export cables may include other infrastructure, such as utility lines. Depending on the configuration, a trench would be excavated in the ROW to install a duct bank approximately 80-105 inches (203-267 centimeters) wide and approximately 30 – 90 inches (76-228 centimeters) high, depending on the configuration, with up to 18 inches (45 centimeters) of additional excavation on either side of the duct bank during construction. Up to four cables would be installed in duct banks of cement-bound sand in either horizontal or vertical configuration. The duct banks would be buried such that the top of the bank is a minimum of 36 inches (91 centimeters) below grade (COP Volume II, Appendix II-I2, Chapter 1; R. Christopher Goodwin & Associates 2023d).

The three proposed onshore substations would be constructed adjacent to the existing Indian River substation, within an approximately 35-acre (14.2-hectare) area northwest and southwest of the existing Indian River substation with a 262.5-foot (80-meter) wide HDD corridor. The proposed O&M Facility would consist of quayside facilities near the intersection of the Ocean City Harbor and Sinepuxent Bay, in Ocean City, Worcester County, Maryland. The proposed O&M Facility would be developed through the combination of two adjacent, partially developed parcels, providing an overall property of approximately 350 feet (106.7 meters) of quayside buildable land that is approximately 142-feet (43.3 meters) deep. The combined properties would accommodate three buildings (main office building, secondary warehouse, and crew support building) as well as parking, a laydown yard, and an approximately 628-foot (191.4-meter) long fixed pier for the mooring of up to four crew vessels. The proposed main office and crew support buildings may be up to three stories but would not exceed the 45-foot (13.7-meter) municipal building height limit (COP App II-13; R. Christopher Goodwin 2023a). Figures J-4 – J-7 show the terrestrial APE.



**Figure J-4. Terrestrial area of potential effects**



Figure J-5. Terrestrial area of potential effects; landfall 3R's Beach



Figure J-6. Terrestrial area of potential effects; landfall Towers Beach





### J.2.3.3 Visual Area of Potential Effects

Using BOEM's (2020) definitions, the visual area of potential effects is the viewshed from which renewable energy structures, whether offshore or onshore, would be visible (Figures J-7 – J-8). As such, the APE will include areas from which the proposed undertaking would, with some certainty, be visible and recognizable under a reasonable range of meteorological conditions.

#### *Offshore Area of Potential Effect for Direct Visual Effects*

The WTGs would be the tallest and most visible component of the Proposed Action's offshore renewable energy structures with a nacelle-top height of 528 feet (161 meters) and a maximum vertical blade-tip extension of 938 feet (285.9 meters). As a result, the visual APE for the WTGs encompasses that of the OSSs. With this height, curvature of the earth, and during optimal viewing conditions (i.e., an absence of haze, fog, sea spray), the maximum theoretical distance from which the top of the nacelles (where required Federal Aviation Administration hazard lighting would be placed) could potentially be visible is 43 miles (62.9 kilometers). The nacelle and support structure are used as the reference point for the visual APE due to the slender nature of the blades and low contrast paint used on the entire WTG structure. Mainland landfall sites, export cables, and inter-array and inter-link cables would not generate visual effects (beyond the temporary presence of construction vessels), as they would be submerged.

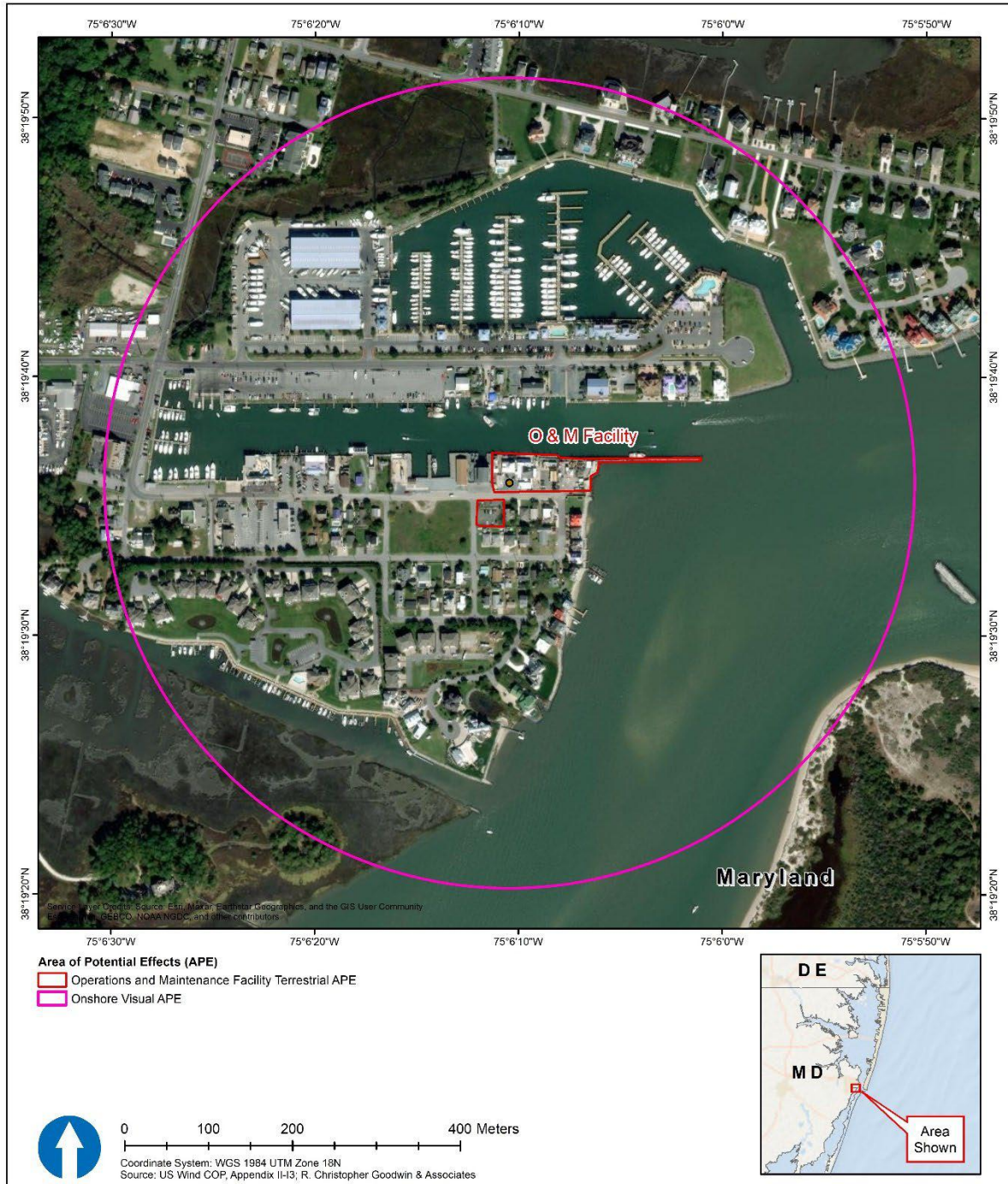
Taking into consideration this range of visibility, US Wind identified a zone of theoretical visibility (ZTV). The ZTV includes land areas within the 43-mile (69.2 kilometer) maximum theoretical area of nacelle visibility where Proposed Action WTGs could be visible, based on topography, vegetation, and existing structures. US Wind identified the ZTV using distance from shore, the earth curvature, and the atmospheric conditions that could screen some or all the foundation, and portions of the WTG tower, nacelle, and rotor (COP Volume II, Appendix II-J1; US Wind 2024) (Figure J-1).

#### *Onshore Area of Potential Effects for Direct Visual Effects*

The Proposed Action's onshore facilities would generate direct visual effects near the three proposed onshore substation sites with their 5-mile APE (Figure J-7) and an O&M with its 0.5-mile APE facility (Figure J-8).

The three proposed onshore substations would be placed adjacent to the existing Indian River Substation in Dagsboro, Delaware. The Inshore Export Cable Route within Indian River will transition onshore via HDD exit pit into the proposed onshore substation site adjacent to the POI at the Indian River Substation. This portion of the export cable will be buried underground. The three proposed US Wind substations would connect to the Indian River Substation via overhead line. The transmission line between the proposed US Wind substations and the Indian River Substation POI is expected to be a short overhead transmission line that would be less than 500 feet (152 meters) long. If the final designs of the substations are gas insulated, they would have a maximum height of approximately 60 feet (18 meters) and a maximum footprint of approximately 351 feet by 434 feet (107 meters by 132 meters). If the final designs of the substations are air insulated, they would have a maximum height

of approximately 29 feet (9 meters) and a maximum footprint of approximately 380 feet by 672 feet (116 meters by 205 meters).



**Figure J-8. Terrestrial area of potential effects and Onshore visual area of potential effects, O&M Facility**

The proposed substations would be connected to the Indian River Substation via a 262.5-foot (80-meter) wide HDD corridor to a POI adjacent to the substation (COP Volume II, Appendix II-12; US Wind 2024). This is consistent with the existing substation visual character and appearance in terms of components and height (COP Volume II Appendix II-J1, Section 2.6; US Wind 2024). The new substations would be constructed to the northwest and southwest of the Indian River substation. Although limited tree clearing may be required for the new substations, the area surrounding the existing Indian River Substation is highly industrialized.

The O&M Facility would consist of quayside facilities near the intersection of the Ocean City Harbor and Sinepuxent Bay, in Ocean City, Worcester County, Maryland. The proposed O&M Facility would be developed through the combination of two adjacent, partially developed parcels, providing an overall property of approximately 350-feet (106.7-meter) of quayside buildable land that is approximately 142-feet (43.3-meter) deep. The combined properties would accommodate three buildings (main office building, secondary warehouse, and crew support building) as well as parking, a laydown yard, and an approximately 628-feet (191.4-meter) long fixed pier for the mooring of up to four crew vessels.

## **J.3 Steps Taken to Identify Historic Properties**

### **J.3.1 Technical Reports**

US Wind has conducted onshore and offshore cultural resource investigations (Table J-3) to identify known and previously undiscovered cultural resources within the marine, terrestrial, and visual portions of the APE. BOEM has reviewed all the reports summarized in Table J-3 and found them to be sufficient. Collectively, BOEM finds that these reports represent a good-faith effort to identify historic properties within the proposed undertaking's APEs. All the documents summarized in Table J-3 will be shared with consulting parties and are hereby incorporated by reference.

#### **J.3.1.1 Early Coordination**

In 2009, the United States Department of the Interior announced final regulations for the OCS Renewable Energy Program, which was authorized by the Energy Policy Act of 2005. The Energy Policy Act provisions implemented by BOEM provide a framework for issuing renewable energy leases, easements, and rights-of-way for OCS activities (see Section 1.3 of the Final EIS). BOEM's renewable energy program occurs in four distinct phases: (1) regional planning and analysis, (2) lease issuance, (3) site assessment, and (4) construction and O&M. The history of BOEM's planning and leasing activities offshore Maryland is summarized in Table 1-1 of the Final EIS.

Since 2010, BOEM has coordinated OCS renewable energy activities offshore Maryland with its federal, tribal, state, and local government partners through its Intergovernmental Renewable Energy Task Force. BOEM also hosts public information meetings to help keep interested stakeholders updated on major renewable energy milestones. Information pertaining to BOEM's Maryland Intergovernmental Renewable Energy Task Force meetings is available at [Maryland Offshore Wind state activities](#), and information pertaining to BOEM's overall stakeholder engagement efforts (separate from stakeholder engagement associated with individual offshore wind projects) is available at [Public information meetings](#).

**Table J-3. Summary of cultural resources investigations and cultural resources for the Proposed Action**

Project Area/APE	Studies <sup>a</sup>	Summary of Findings
Offshore	Marine Archaeological Resource Assessment: Volume I Federal Waters (COP Volume II, Appendix II-11; R. Christopher Goodwin & Associates 2024b)	<ul style="list-style-type: none"> <li>• US Wind’s cultural resources consultant conducted a marine archaeological resources assessment of high-resolution geophysical survey data collected by third party marine survey contractors within the Lease Area and Offshore Export Cable Route.</li> <li>• Geotechnical surveys were conducted in 2021 and 2022.</li> <li>• Recommended minimum avoidance zones for the 14 potential cultural resources were identified during remote sensing analysis and interpretation: 13 in the Lease Area and one in the export cable Offshore Export Cable Route. The 14 resources include five shipwrecks and nine clustered anomalies.</li> <li>• 14 preserved paleolandforms were identified within the Lease Area and none in the Offshore Export Cable Route. Avoidance is recommended to the extent feasible.</li> <li>• Due to the preliminary nature of the findings, additional data review and research will be necessary to determine if any of the shipwrecks or paleolandforms are likely to yield historical information warranting consideration for listing in either the NRHP, the Maryland Historical Trust, or the Delaware Division of Cultural Affairs.</li> </ul>
Offshore	Marine Archaeological Resources Assessment: Volume II Delaware State Waters (COP Volume II, Appendix II-11; R. Christopher Goodwin & Associates 2023b)	<ul style="list-style-type: none"> <li>• US Wind’s cultural resources consultant conducted a marine archaeological resources assessment of high-resolution geophysical survey data collected by third-party marine survey contractors within the Lease Area and Offshore Export Cable Route in state waters.</li> <li>• Geotechnical investigations were completed in 2021 and 2022.</li> <li>• Recommended minimum avoidance zones for the four target resources were identified during the survey, all of which are located outside the PAPE for the state waters portion of the Project.</li> <li>• Two targets are likely wrecks, and two are likely debris fields.</li> <li>• Additional consultation may be necessary to develop mitigation plans.</li> </ul>
Onshore (including Inshore Export Cable Route)	Terrestrial Archaeological Resource Assessment (COP Volume II, Appendix II-12; R. Christopher Goodwin & Associates 2023d)	<ul style="list-style-type: none"> <li>• The desktop study examined online databases maintained by the Delaware Division of Historical and Cultural Affairs, Cultural and Historical Resources Information System (CHRIS), and Maryland’s Cultural Resources Information System (Medusa). Additionally, NPS data and historic maps were consulted to provide an assessment of the archaeological sensitivity of each component of the Project.</li> <li>• The desktop study area, which consisted of the PAPE and a 0.5-mile (0.8-kilometer) buffer, was recommended as having high probability for containing archaeological resources.</li> </ul>

Project Area/APE	Studies <sup>a</sup>	Summary of Findings
Onshore (cont'd)	Continued from above	<ul style="list-style-type: none"> <li>• Four previously recorded archaeological sites intersects Onshore Export Cable Route 1a: <b>REDACTED</b> Three intersect Onshore Export Cable Route 1b: <b>REDACTED</b>. Five intersect Onshore Export Cable Route 1c: <b>REDACTED</b>. Additionally, four previously recorded sites intersect the Onshore Export Cable Route 2 route: <b>REDACTED</b>. One previously recorded archaeological site, <b>REDACTED</b>, was located within 0.5 mile of Inshore Export Cable Route.</li> <li>• The preferred route, Onshore Export Cable Route 1, contains only one previously recorded archaeological site within the 0.5-mile PAPE. Site <b>REDACTED</b> was revisited as part of the Phase I assessment. Historic and precontact artifacts were recovered and archaeological site boundaries have been expanded. The site is considered eligible under Criteria A, B, and D. As a result of the assessment, an additional survey of two supplemental areas of the preferred PAPE took place in August 2023 and results submitted in an addendum report. <ul style="list-style-type: none"> <li>• Avoidance is being recommended, however, if it is not feasible, Phase II investigations and evaluations are recommended in consultation with the Section 106 Consulting Parties.</li> <li>• Recommended temporary avoidance measures for Site <b>REDACTED</b> during construction include protective barriers such as snow fencing and cultural and tribal monitoring. A Terrestrial Archaeological Monitoring Plan will be developed and included in the final MOA to ensure site protection of Site <b>REDACTED</b> during construction.</li> </ul> </li> </ul> <hr/> <ul style="list-style-type: none"> <li>• A historic property archaeological protection plan will be developed and included in the final MOA for Site <b>REDACTED</b> to ensure site protection measures during ongoing operation and maintenance.</li> <li>• No previously recorded archaeological sites, districts, or historic properties were recorded within the O&amp;M Facility PAPE.*</li> </ul>

Project Area/APE	Studies <sup>a</sup>	Summary of Findings
Visual	Maryland Offshore Wind Project Offshore Project Components Historic Resources Visual Effects (COP Volume II, Appendix II-13; R. Christopher Goodwin & Associates 2024c)	<ul style="list-style-type: none"> <li>• US Wind’s consultants prepared an Historic Resources Visual Effects Assessment to support consideration of potential visual effects to aboveground historic properties caused by the introduction of Offshore Project elements that may diminish the integrity of a historic property’s character-defining features.</li> <li>• Archival research was undertaken to identify and develop a comprehensive inventory of previously identified historic properties within the initial 43-mile (69.2-kilometer) study area for the WDA.</li> <li>• Online databases examined were maintained by the Delaware Division of Historical and Cultural Affairs Cultural and Historical Resources Information System (CHRIS), New Jersey Historic Preservation Office (Lucy), Virginia Department of Historic Resources (Virginia Cultural Resource Information System), Maryland Historical Trust (Medusa), and NPS’s NHL database.</li> <li>• A total of 394 identified properties were within the 43-mile (69.2-kilometer) viewshed radius for the wind development area (WDA). A total of 147 properties were recommended ineligible, 117 properties were unevaluated (considered eligible for Project), 16 were already listed in the NRHP (including one NHL), 26 were NRHP eligible, five were recommended eligible, one was state listed, 57 were demolished, and 25 were not eligible.</li> <li>• A total of 162 properties will experience no effects from the Project, including: 117 properties that were unevaluated (considered eligible for Project), 15 that were already NRHP listed (including one NHL), one that was state listed, 26 that were NRHP eligible, and three that were recommended eligible.</li> <li>• A total of three historic properties may experience visual adverse effects: one NRHP listed and two that were recommended following SHPO consultation from November 2023.</li> </ul>
Visual	Built Resources Investigations for Onshore Components of the Maryland Offshore Wind Project at Sussex County, Delaware, and Worcester County, Maryland. Historic Resources Visual Effects Analysis (COP Volume II, Appendix II-13; R. Christopher Goodwin & Associates 2023a)	<ul style="list-style-type: none"> <li>• A total of 15 properties were identified, and 12 properties were evaluated within the onshore visual APE, which covered a 5-mile (8.05-kilometer) study area around the Indian River Substation, all of which were recommended ineligible by US Wind’s consultants.</li> <li>• A total of 62 properties were identified, and 28 properties evaluated within the visual APE of 0.3mile around the O&amp;M Facility, as per guidance from MHT. All 28 properties were recommended ineligible by US Wind’s consultants.</li> </ul>

Project Area/APE	Studies <sup>a</sup>	Summary of Findings
Visual	Maryland Offshore Visual Impact Assessment (COP Volume II, Appendix II-J1; US Wind 2024); (COP Volume II, Appendix II-J1; TRC 2023)	<ul style="list-style-type: none"> <li>• US Wind’s consultants established a visual study area of 43 miles (69.2 kilometers), which was used to establish the APE.</li> <li>• US Wind’s consultant used The Historic Properties Visual Impact Assessment (COP Volume II, Appendix II-I3; R. Christopher Goodwin &amp; Associates 2023a, 2023d) to identify historic properties that the Proposed Action may affect.</li> <li>• Visual impacts are dependent on the distance from shore, earth’s curvature, and the atmospheric conditions that could screen some or all the foundation and portions of the WTG tower, nacelle, and rotor.</li> </ul>
Visual	Maryland Offshore Wind Project Maryland Intensive-Level Architectural Survey in Ocean City, Worcester County (R. Christopher Goodwin & Associates 2024b)	<ul style="list-style-type: none"> <li>• US Wind’s consultant completed the survey to identify and assess the eligibility of all built resources over 45 years of age located within the Survey Area and Preliminary Area of Potential effects (PAPE) overlay defined for the Offshore Project Components and approved by the Maryland Historical Trust (MHT).</li> <li>• The original survey recommended that three properties were eligible for listing in the NRHP: the Oceanside North Ocean City Survey District, Henry’s Hotel, and the U.S. Coast Guard Tower.</li> <li>• The original survey recommended that the Oceanside North Ocean City was a potential historic district eligible for listing in the NRHP; through consultation with MHT and BOEM, it has been determined the Oceanside North Ocean City Survey Districts is not eligible for inclusion in the NRHP.</li> <li>• BOEM, in consultation with MHT, determined the Joseph Edward Collins house is eligible for inclusion with the NRHP under Criteria A and C as an intact example of the Art Deco style.</li> <li>• The revised report recommended four properties eligible for listing in the NRHP: the Joseph Edward Collins House, Henry’s Hotel, U.S. Coast Guard Tower, and the U.S. Life-Saving Station Museum.</li> <li>• The revised report determined Henry’s Hotel and the Joseph Edward Collins House would not be affected by the project.</li> </ul>



Project Area/APE	Studies <sup>a</sup>	Summary of Findings
Visual	Maryland Offshore Wind Project New Jersey Intensive-Level Architectural Survey in the Boroughs of Cape May Point, Cape May, Wildwood Crest, Wildwood, North Wildwood, and Stone Harbor in Cape May County, New Jersey (R. Christopher Goodwin & Associates 2024d).	<ul style="list-style-type: none"> <li>• US Wind’s consultant completed the survey to identify and assess the eligibility of all built resources over 45 years of age located within the Preliminary Area of Potential effects (PAPE).</li> <li>• The original survey report identified 11 previously identified properties subject to survey within the PAPE (three bridges, two historic districts, two lodging facilities, one recreational structure, one maritime structure, one defense structure, and one dwelling).</li> <li>• In consultation with the New Jersey Historic Preservation Office (NJHPO) and BOEM, the revised survey report (January 2024) identified an additional 15 previously identified properties that were subject to survey (five districts, four bridges, two maritime structures, one lodging facility, one recreational structure, one defense structure, and one dwelling).</li> <li>• Per the revised report, BOEM in consultation with NJHPO determined the dwelling at 206 Cape May Avenue to be ineligible for listing in the NRHP; determined the MarLane Motel and Acacia Motor Inn both eligible under Criteria A and C as set forth in the Multi-Property District Form (MPDF) for Motels of the Wildwoods; and determined the Middle Thorofare Bridge remained eligible under Criterion C.</li> </ul>
Visual	Maryland Offshore Wind Project Delaware Evaluation – Level Architectural Survey in the Towns of Fenwick Island, Bethany Beach, Dewey Beach, Lewes, and Rehoboth Beach in Sussex County, Delaware	<ul style="list-style-type: none"> <li>• US Wind’s consultant completed the survey to identify and assess the eligibility of all built resources over 45 years of age located within the survey area and PAPE.</li> <li>• Desktop survey identified 72 built resources over 45-years of age, five of which are listed in the National Register of Historic Places (NRHP).</li> <li>• During field investigations, the five listed resources were photographed and surveyed to determine potential effects, but not reevaluated. Three previously inventoried properties were formally evaluated for inclusion in the NRHP. 34 of identified properties within the survey area were demolished or redeveloped, and the remaining 30 have not been subject to previous survey and evaluation.</li> <li>• Of the newly surveyed properties, all three were found eligible (99 Parkwood Street, 909 Bunting Avenue, and 1305 Bunting Avenue) and it was determined there would be no adverse effect to these properties.</li> </ul>

APE = area of potential effects; COP = Construction and Operations Plan; DPL = Delmarva Power and Light; MHT = Maryland Historical Trust; NHL = National Historic Landmark; NPS = National Park Service; NRHP = National Register of Historic Places; O&M = operations and maintenance; PAPE = preliminary area of potential effects; WTG = wind turbine generator

<sup>a</sup> Not all reports are publicly available due to sensitive information.

### J.3.1.2 National Environmental Policy Act Scoping and Public Hearings

On June 8, 2022, BOEM issued a Notice of Intent (NOI) to prepare an EIS consistent with NEPA regulations (42 USC § 4321 et seq.) to assess the potential impacts of the Proposed Action and alternatives (86 *Federal Register* 34901 [June 8, 2022]). The NOI commenced a public scoping process for identifying issues and potential alternatives for consideration in the EIS. During the formal scoping period, from June 8 through July 8, 2022, three virtual public scoping meetings were held on the dates as outlined in Table J-4. The recordings are available at [US Wind Scoping Virtual Meetings](#).

**Table J-4. Public scoping meetings**

Date	Time
June 21, 2022	Presentation, public statements, and Q&A at 5:00 p.m. eastern daylight time
June 23, 2022	Presentation, public statements, and Q&A at 5:00 p.m. eastern daylight time
June 27, 2022	Presentation, public statements, and Q&A at 1:00 p.m. eastern daylight time

Q&A = questions and answers

During the formal scoping period, federal agencies, state and local governments, and the general public had the opportunity to submit written and oral comments that would help BOEM identify potential significant resources and issues, impact-producing factors, reasonable alternatives (e.g., size, geographic, seasonal, or other restrictions on construction and siting of facilities and activities), and potential mitigation measures to analyze in the EIS, as well as to provide additional information. BOEM also indicated its intent to use the NEPA process to fulfill its review obligations under Section 106 of the NHPA (54 USC § 300101 et seq.), in lieu of the procedures set forth in 36 CFR §§ 800.3 through 800.6 for the proposed undertaking, as permitted by 36 CFR § 800.8(c), which requires federal agencies to assess the effects of projects on historic properties. Additionally, BOEM informed its Section 106 consultation by seeking public comment and input through the NOI regarding the identification of historic properties or potential effects on historic properties from activities associated with approval of the COP.

Through the NEPA scoping process, BOEM received a total of seven comments regarding cultural, historical, and archaeological, or tribal resources during the public scoping periods. These are presented in BOEM’s Scoping Summary Report for the proposed undertaking (BOEM 2022), available at [US Wind Construction and Operations Plan Scoping Summary Report](#).

### J.3.1.3 National Historic Preservation Act Section 106 Consultations

After receipt of the COP submission from US Wind, BOEM contacted 81 governments and organizations, providing information on the proposed undertaking and inviting each of them to be a consulting party to the NHPA Section 106 review of the COP (Attachment J-2). Entities that responded positively to BOEM’s invitation or were subsequently made known to BOEM and added as consulting parties are listed in Attachment J-2. BOEM initiated NHPA Section 106 consultation with letters to these entities with the

NOI notification on June 8, 2022. BOEM used this correspondence to also notify these parties of the intention to use the NEPA substitution process for Section 106 consultation purposes, as described in 36 CFR § 800.8(c), and provided its *National Environmental Policy Act (NEPA) Substitution for Section 106 Consulting Party Guide* (BOEM 2021a). The first Section 106 Consulting Parties meeting was held on December 5, 2022. The second Section 106 Consulting Parties meeting was held on November 2, 2023. The third Section 106 Consulting Parties meeting was held on February 20, 2024.

BOEM has held the following government-to-government consultation meetings as of the time of publication of this Finding:

- September 30, 2022, and attendees included: the Chickahominy Indian Tribe, the Delaware Nation, and the Shinnecock Indian Nation.

In these letters and consultation meetings, BOEM requested information from consulting parties on historic properties that may be potentially affected by the proposed undertaking.

BOEM intends to send technical reports pertinent to Section 106 consultation, including a memorandum summarizing the methodology for identifying the APE (ERM 2024), to consulting parties prior to publication of the Final EIS. BOEM plans to continue consulting with federally recognized Tribal Nations, State Historic Preservation Officers (SHPO), the Advisory Council on Historic Preservation (ACHP), National Park Service (NPS), state recognized tribes and consulting parties to seek their comments and input regarding the effects of the undertaking on historic properties and the resolution of adverse effects including the development and implementation of treatment plans. BOEM intends to have at least two additional consultation meetings with all parties to receive final input about BOEM's plans for mitigations.

#### **J.4 Application of the Criteria of Adverse Effect**

The Criteria of Adverse Effect under NHPA Section 106 (36 CFR § 800.5(a)(1)) states that an undertaking has an adverse effect on a historic property:

*when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association...Adverse Effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.*

Adverse effects on historic properties include, but are not limited to (36 CFR § 800.5(a)(2)):

- i. Physical destruction of or damage to all or part of the property;
- ii. Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR Part 68) and applicable guidelines;
- iii. Removal of the property from its historic location;

- iv. Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- v. Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- vi. Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- vii. Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Based on the studies conducted to identify historic properties within the Proposed Action's marine APE, terrestrial APE and visual APE and the assessment of effects upon those properties determined with consulting parties, BOEM has found the Proposed Action would have an adverse effect on three historic properties within the visual APE, an adverse effect on one historic property within the terrestrial APE, no adverse effect on the 18 submerged cultural resources, and no adverse effect on ancient submerged landform features identified within the marine APE, including the Lease Area and Offshore Export Cable Route. The assessment of visual effects considers the findings of US Wind's visual simulations and visual effects simulations of the Proposed Action (COP Volume II, Appendix II-J1; TRC 2023), as well as BOEM's Cumulative Historic Resources Visual Effects Assessment (Appendix I, *Cumulative Historic Resources Visual Effects Assessment* of the Final EIS), which evaluated the visual effects of the proposed undertaking in relation to the visual effects from all other offshore wind projects in the Atlantic OCS Lease Areas. The assessments in this section consider the four criteria established for potential inclusion in the National Register of Historic Places (NRHP) (NPS 1995), which identify historic properties:

- Criterion A—That are associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B—That are associated with the lives of persons significant in our past;
- Criterion C—That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;  
or
- Criterion D—That have yielded or may be likely to yield, information important in prehistory or history.

#### **J.4.1 Assessment of Effects on Historic Properties in the Marine Area of Potential Effects**

This section discusses effects on marine cultural resources (i.e., marine archaeological resources and ancient submerged landform features) in the marine APE. The extent of marine cultural investigations performed for the Proposed Action does not enable conclusive determinations of eligibility for listing of identified resources in the NRHP; as such, BOEM is considering all identified marine archaeological resources and ancient submerged landform features eligible and, therefore, historic properties. Based on the information presented below, BOEM finds that no historic properties within the marine APE would be adversely affected by the Proposed Action.

#### J.4.1.1 Marine Archaeological Resources

Marine geophysical archaeological surveys within the marine APE identified a total of 14 targets representing potential marine archaeological resources such as charted and uncharted wrecks located with federal waters of the Lease Area (COP Volume II, Appendix II-I1; R. Christopher Goodwin & Associates 2024a). Marine geophysical archaeological surveys within the marine APE identified a total of four targets representing potential marine archaeological resources such as potential cultural resources located with state waters of the Indian River Bay and along the proposed export cable route (R. Christopher Goodwin & Associates 2023b). All potential cultural resources will be avoided with sufficient buffers by all Proposed Action activities that are part of the undertaking; as a result, there would be no adverse effects on these potential historic properties.

#### J.4.1.2 Ancient Submerged Landform Features

Marine geophysical archaeological surveys within the marine APE identified a total of 14 ancient submerged landform features within federal waters of the Lease Area and export cable route (COP Volume II, Appendix II-I1; R. Christopher Goodwin & Associates 2024a). Geophysical archaeological surveys identifying geomorphic features representing potential ancient, submerged landform features that are archaeologically and culturally significant were conducted as part of the marine APE cultural resource investigations and demonstrate that submerged portions of the Proposed Action area were subaerial during and immediately following the last glacial maximum. The cultural resources investigations in the marine APE identified ancient submerged landform features (including stream channel, lake, and estuarine landscape features) within the marine APE that have the potential to contain precontact Native American archaeological sites dating prior to the inundation of the OCS during the late Pleistocene and early Holocene (COP Volume II, Appendix II-I1; R. Christopher Goodwin & Associates 2024a). A total of 14 ancient submerged landform features were identified in the marine APE for the Lease Area (P-01, P-02, P-03-A, P-03-B, P-03-C, P-03-D, P-03-E, P-04-A, P-04-B, P-05-A, P-05-B, P-05-C, P-05-D, and P-05-E) while no ancient submerged landform features were identified in the marine APE for state waters of Indian River Bay and along the proposed Offshore Export Cable Route. No archaeological material was identified during the geophysical surveys. Any archaeological information preserved within these sites, if present, would likely yield significant information important in the precontact history of the region, making the sites eligible for NRHP listing under Criterion D.

The Proposed Action would be able to avoid all 14 ancient submerged landform features present within the marine APE. Direct physical effects on these resources would threaten the viability of the affected portion of these resources as both potential repositories of archaeological information as well as the cultural significance of these landforms to Native American tribes in the region. The severity of effects would depend on the horizontal and vertical extent of effects relative to the size of the intact ancient submerged landform features. Due to the size of the offshore remote sensing survey areas, the full extent or size of individual ancient landforms cannot be defined. All identified ancient submerged landform features will be avoided with sufficient buffers by all Proposed Action activities that are part of the undertaking; as a result, there would be no adverse effects on these potential historic properties.

If avoidance is not possible, the proposed undertaking would result in the physical damage or destruction of at least a portion of the identified resources that cannot be avoided and adverse effects on these ancient submerged landform features.

Based on the information available from the marine archaeological resources surveys of the marine APE and the assessment of effects upon those properties, BOEM has found that the undertaking would result in direct adverse physical effects on none of the ancient submerged landform features in the Offshore Export Cable Route and Lease Area. All 14 ancient submerged landform features will be avoided and would not be adversely affected.

#### **J.4.2 Assessment of Effects on Historic Properties within the Terrestrial Area of Potential Effects**

Background research identified 13 previously recorded archaeological resources intersecting the terrestrial APE. Of these, one site **REDACTED** in the preferred route portion of the terrestrial APE is eligible for NRHP listing and considered a historic property for the purposes of the project. To date, intensive level subsurface terrestrial archaeological investigations have only been conducted in the preferred route portions of the terrestrial APE. As such, potential, presently undiscovered terrestrial archaeological resources may be present in the Alternate Onshore Export Cable Routes (1a, 1b, 1c, 2) and subject to adverse effects, should these variants be selected.

Previously recorded Site **REDACTED** was reinvestigated for the current project, resulting in an expansion of the archaeological site boundaries. The site is considered eligible for NRHP listing under Criteria A and B for its association with former Indigenous reservation land and affiliation with resident Indigenous groups, and under Criterion D, for its potential to yield information important in history or prehistory. Based on the information available from the terrestrial archaeological resources surveys and the assessment of effects, BOEM has found that the undertaking would result in direct adverse physical effects to Site **REDACTED**. The severity of effects would depend on the extent to which integral or significant components of the affected resource are disturbed, damaged, or destroyed, resulting in the loss of contributing elements to the historic property's eligibility for listing in the NRHP. Avoidance of **REDACTED** has been recommended. If avoidance is not feasible, Phase II testing evaluation; mitigation in the form of Phase III data recovery excavation in portions of the sites that cannot be avoided; installation of temporary site protective fencing prior to the start of construction; and archaeological construction monitoring has been recommended.

In the event that one or more of the Alternate Onshore Export Cable Routes (1a, 1b, 1c, 2) are selected for the final Project design, US Wind will be required to complete archaeological investigations of these areas according to the process of phased identification and evaluation of historic properties as defined in 36 CFR 800.4(b)(2) and as outlined in the Project MOA. BOEM will use the MOA to establish commitments for reviewing the sufficiency of any supplemental terrestrial archaeological investigations; assessing effects on historic properties; and implementing measures to avoid, minimize, or mitigate effects in these areas prior to construction (MOA Stipulation IV, Attachment J-1).

### J.4.3 Assessment of Effects on Historic Properties in the Visual Area of Potential Effects

#### J.4.3.1 Fort Miles Historic District

The Fort Miles Historic District (CRS: 06048) is a former US Army installation in Lewes, Delaware consisting of 51 contributing buildings and nine structures. Constructed between 1938 and 1941, the site was originally intended to defend Delaware Bay and is today a historical area and part of Cape Henlopen State Park. The historic district is listed in the NRHP under Criteria A and C and is identified in *Evaluation of Visual Impact on Cultural Resources/Historic Properties: North Atlantic, Mid-Atlantic, South Atlantic, and Florida Straits: Volume II: Appendices* as possessing a significant maritime setting and views to the ocean (COP Volume II, Appendix II-13; R. Christopher Goodwin & Associates 2023c).

US Wind's assessment of the visual effects of the Proposed Action on the Fort Miles Historic District found that the Proposed Action would adversely affect the maritime setting of the Fort Miles Historic District and its viewshed through the introduction of new elements out of character with the historic setting, feeling, and association, thereby diminishing its integrity under Criterion C.

BOEM's cumulative Historic Properties Visual Effects Assessment (Appendix I of the Final EIS) concluded that the Proposed Action comprised up to 119 of 298 total WTGs that would be (wholly or partially) theoretically visible during daytime hours (approximately 40 percent of all theoretically visible WTGs). The assessment also analyzed the number of WTGs theoretically visible from the Fort Miles Historic District using three different tiered distances (10 to 20, 20 to 30, and 30 nautical miles or more [18.5 to 37.0, 37.0 to 55.6, and 55.6 nautical miles or more]). This part of the assessment found that the proposed WTGs would comprise none of all WTGs visible beyond 30 nautical miles (55.6 kilometers).

Due to distance and the view angle, the Project's WTGs would be less noticeable to observers than WTGs associated with other projects, which would be closer and visible more directly to the east (i.e., the assumed prevailing direction of most land-based ocean views). The Project WTGs would disappear from the field of view as the observer turns to the north.

In summary, WTGs from other projects would occupy a larger portion of the horizon line than those from the Project and would be substantially closer to Battery Herring and other portions of the Fort Miles Historic District. While the Project's WTGs would contribute to visual impacts on clear days by creating additional visual clutter on the southeast horizon, they would be visible less often due to weather conditions, and less visually prominent than other projects' WTGs due to distance (Appendix I of the Final EIS).

#### J.4.3.2 U.S. Coast Guard Tower

The U.S. Coast Tower (WO-347) is a five story, braced metal observation tower located on the south end of Ocean City. The tower is considered eligible under Criterion C for potential local architectural significance (COP Volume II, Appendix II-13; R. Christopher Goodwin & Associates 2023c).

US Wind's visual effects assessment concluded that the Proposed Action would adversely affect the maritime setting of the U.S. Coast Guard Tower and its viewshed through the introduction of new

elements out of character with the historic setting, feeling, and association, thereby diminishing its integrity under Criterion C. US Wind's assessment found that 121 WTGs (PDE) would be partially or fully visible from the U.S. Coast Guard Tower in views toward the east.

BOEM's cumulative Historic Properties Visual Effects Assessment (Appendix I of the Final EIS) concluded that the Proposed Action comprised up to 121 of 234 total WTGs that would be (wholly or partially) theoretically visible during daytime hours (approximately 52 percent of all WTGs). The assessment also analyzed the number of WTGs theoretically visible from the U.S. Coast Guard Tower using three different tiered distances (10 to 20, 20 to 30, and 30 nautical miles or more [18.5 to 37.0, 37.0 to 55.6, and 55.6 kilometers or more]). This part of the assessment found that the proposed WTGs would comprise all of the WTGs visible within 20 nautical miles (37.0 kilometers), 13 percent of all WTGs visible at 20 to 30 nautical miles (37.0 to 55.6 kilometers), and 26 percent of all WTGs visible beyond 30 nautical miles (55.6 kilometers). In clear weather, Project WTGs would occupy a substantial portion of the view from the U.S. Coast Guard Tower location. Due to distance and the view angle, the Projects' WTGs would be substantially more noticeable to observers than the WTGs associated with other projects, which would be farther away and visible to the northeast. The other project WTGs would disappear from the field of view as the observer turns to the southeast.

In summary, the undertaking would contribute approximately three-quarters of the cumulative visual effects of offshore wind projects on the U.S. Coast Guard Tower. The Project's WTGs would occupy a substantial portion of the open ocean horizon visible in 124-degree east-northeastward views from the U.S. Coast Guard Tower. WTGs associated with other projects are situated behind, adjacent to, and farther away than the Project's WTGs. The Project's WTGs would be substantially more visible than those from other projects, especially if less than ideal viewing conditions diminish the more distant views of WTGs from other projects (Appendix I of the Final EIS).

#### J.4.3.3 U.S. Life Saving Station Museum

The U.S. Life Saving Station Museum is a late nineteenth century, two-and-a-half story, T-shaped structure that faces south with the principal gable oriented on a north/south axis. Originally located on North Division Street as an ocean-facing lifesaving station, the structure was relocated to its present site and converted to a city museum in 1977. The museum is considered eligible under Criterion A and C for its role as the lifesaving station for Ocean City and its beachfront. Its present setting retains the character-defining views of the ocean, access to water, and urban beachfront environment. (COP Volume II, Appendix II-I3; R. Christopher Goodwin & Associates 2023c).

US Wind's visual effects assessment concluded that the Proposed Action would adversely affect the maritime setting of the U.S. Life Saving Station Museum and its viewshed through the introduction of new elements out of character with the historic setting, feeling, and association, thereby diminishing its integrity under Criterion A and C. US Wind's assessment found that 121 WTGs (PDE) would be partially or fully visible from the U.S. Life Saving Station Museum in views toward to the east.

BOEM's cumulative Historic Properties Visual Effects Assessment (Appendix I of the Final EIS) concluded that the Proposed Action comprised up to 121 of 234 total WTGs that would be (wholly or partially) theoretically visible during daytime hours (approximately 51.7 percent of all WTGs). The assessment also



analyzed the number of WTGs theoretically visible from the U.S. Life Saving Station Museum using three different tiered distances (10 to 20, 20 to 30, and 30 nautical miles or more [18.5 to 37.0, 37.0 to 55.6, and 55.6 kilometers or more]). This part of the assessment found that the proposed WTGs would comprise all of the WTGs visible within 20 nautical miles (37.0 kilometers), 13 percent of all WTGs visible at 20 to 30 nautical miles (37.0 to 55.6 kilometers), and 26 percent of all WTGs visible beyond 30 nautical miles (55.6 kilometers). In clear weather, Project WTGs would occupy a substantial portion of the view from the U.S. Life Saving Station location. Due to distance and the view angle the Projects' WTGs would be substantially more noticeable to observers than the WTGs associated with other projects, which would be farther away and visible to the northeast. The other project WTGs would disappear from the field of view as the observer turns to the southeast.

In summary, the undertaking would contribute approximately three-quarters of the cumulative visual effects of offshore wind projects on the U.S. Life Saving Station Museum. The Project's WTGs would occupy a substantial portion of the open ocean horizon visible in 124-degree east-northeastward views from the U.S. Life Saving Station Museum. WTGs associated with other projects are situated behind, adjacent to, and farther away than the Project's WTGs. The Project's WTGs would be substantially more visible than those from other projects, especially if less than ideal viewing conditions diminish the more distant views of WTGs from other projects (Appendix I of the Final EIS).

#### J.4.3.4 Visual Effects from Lighting

US Wind's Historic Resources Visual Effects Assessment for the Proposed Action did not identify any properties for which a dark nighttime sky is a contributing element to historical integrity (COP Volume II, Appendix II-13; R. Christopher Goodwin & Associates 2023c). The three resources in Maryland and Delaware are likely to have views of vessel lighting from Proposed Action construction, due to distance. All three of the historic properties described in Section J.4.3 would have views of the Federal Aviation Administration (FAA) obstruction warning lights on top of the Proposed Action's WTGs.

US Wind has committed to installing aircraft detection lighting system (ADLS) on WTGs, which would activate the hazard lighting system in response to detection of nearby aircraft but would leave the FAA warning lights off when no aircraft is nearby. US Wind estimates that ADLS for the Proposed Action would be activated for approximately 5 hours, 46 minutes, 22 seconds in a one-year period (Capitol Airspace Group 2023), which is approximately 0.1 percent of all annual nighttime hours. As a result, nighttime lighting during Proposed Action O&M would have negligible effects on historic properties. Because a dark nighttime sky is not a contributing element to historical integrity for any of the historic properties, lighting from the Proposed Action would not adversely affect those properties.

## J.5 Summary of Adversely Affected Historic Properties

### J.5.1 Adverse Effects on Historic Properties in the Marine APE

BOEM has determined the undertaking would have no adverse effect on the 18 marine archaeological resources and 14 ASLFs identified in the marine APE due to US Wind's commitments to avoid effects on these historic properties.

### J.5.2 Adverse Effects on Historic Properties in the Terrestrial APE

BOEM has determined the undertaking would have an adverse effect on Site **REDACTED** within the terrestrial APE for the Project's preferred route option. Avoidance has been recommended for this historic property; avoidance of a historic property would result in no effect on the historic property. However, development of the final Project design is ongoing, and it is currently unclear whether US Wind would be able to avoid adverse effects. If avoidance is not feasible, Phase II testing evaluation; mitigation in the form of Phase III data recovery excavation in portions of the sites that cannot be avoided; installation of temporary site protective fencing prior to the start of construction; and archaeological construction monitoring has been recommended (additional information pending revised TARA and HPTP submittal). Therefore, BOEM has determined the undertaking would have adverse effects on historic properties in the terrestrial APE.

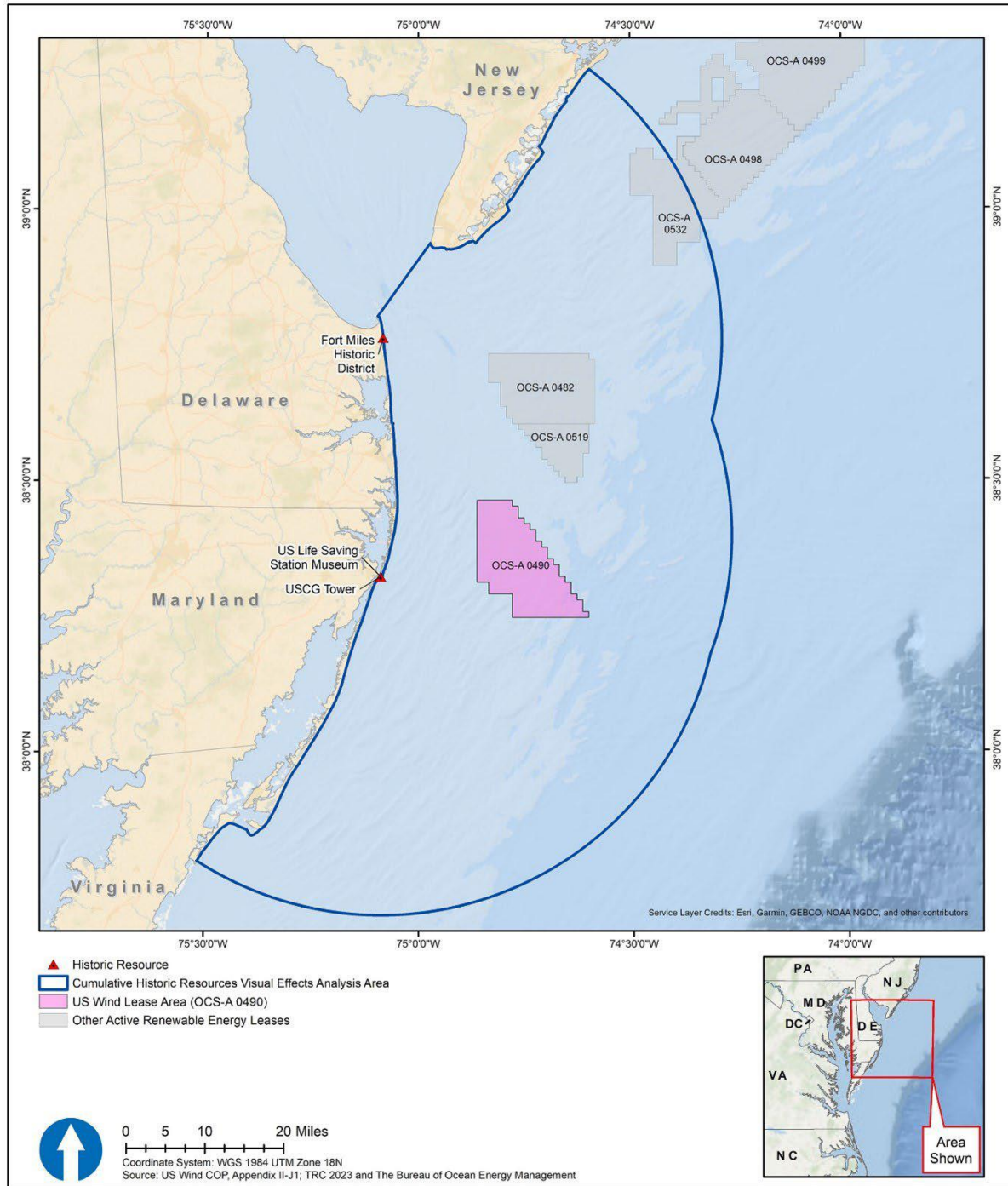
Additional terrestrial archaeological resources subject to adverse effects from the Project may be identified during the process of phased identification as defined in 36 CFR 800.4(b)(2). Additional avoidance, minimization, and mitigation measures will be determined or refined following the completion of the remaining terrestrial archaeological investigations, should one or more of the Alternate Onshore Export Cable Routes (1a, 1b, 1c, 2) be selected for the final Project design. BOEM will use the MOA to establish commitments for reviewing the sufficiency of any supplemental terrestrial archaeological investigations completed through the phased identification process; assessing effects on historic properties; and implementing measures to avoid, minimize, or mitigate effects in these areas prior to construction.

### J.5.3 Adverse Effects on Historic Properties in the Visual APE

Based on the information available to BOEM from the studies conducted to identify historic properties within the visual APE for the undertaking and the assessment of effects upon those properties determined in consultation with the consulting parties, BOEM finds that the undertaking would have a direct adverse visual effect on three properties (see Figure J-9) including the Fort Miles Historic District, the U.S. Coast Guard Tower, and the U.S. Life Saving Station Museum (Appendix I, *Cumulative Historic Resources Visual Effects Assessment* of the Final EIS). Per BOEM's cumulative Historic Resources Visual Effects Analysis, the undertaking would affect the character-defining features of the properties' setting that contributes to their historic significance by introducing visual elements that are out of character with the historic beachfront or maritime setting of the properties and unobstructed ocean views. However, BOEM determined that due to the distance and open viewshed, the integrity of the properties would not be so diminished as to disqualify any of them for NRHP eligibility (Appendix I, *Cumulative Historic Resources Visual Effects Assessment* of the Final EIS).

The adverse effects on the viewshed of the aboveground historic properties would occupy the space for approximately 35 years, but they are unavoidable for reasons discussed in Section J.4.3, *Assessment of Effects on Historic Properties in the Visual APE* and BOEM's cumulative historic Resources Visual Effects Analysis (Appendix I of the Final EIS). This application of the Criteria of Adverse Effect and determination that the effects are direct is based on pertinent NRHP Bulletins, subsequent clarification, and guidance by the NPS and ACHP, and other documentation, including professionally prepared viewshed assessments and computer-simulated photographs and video.

Where BOEM determined adverse effects would occur from Offshore Project actions on historic properties, BOEM then assessed if those effects would add to the potential adverse effects of other reasonably foreseeable actions and thereby result in cumulative effects, which are additive effects. Where BOEM found adverse visual effects on historic properties in the visual APE for Offshore Project components, BOEM also determined that the undertaking would cause cumulative visual effects (Appendix I, *Cumulative Historic Resources Visual Effects Assessment* of the Final EIS).



**Figure J-9. Three visually adversely affected properties; the Fort Miles Historic District, the U.S. Coast Guard Tower, and U.S. Life Saving Station Museum**

## J.6 Measures to Avoid, Minimize, or Mitigate Adverse Effects

BOEM will stipulate measures to avoid, minimize, or mitigate adverse effects on historic properties identified in the APE as adversely affected by the Proposed Action (Preferred Alternative). Specifically, BOEM will stipulate measures for known terrestrial archaeological resources, submerged archaeological resources and ancient submerged landform features, and historic aboveground resources determined to be historic properties listed or eligible for listing in the NRHP. BOEM will also stipulate measures that would be triggered in cases where there is post-review discovery of previously unknown terrestrial or marine archaeological resources that are not currently found to be adversely affected by the Project.

BOEM, with the assistance of US Wind, will develop and implement Historic Property Treatment Plans (HPTPs) in consultation with consulting parties who have demonstrated interest in specific historic properties to address effects on these resources if they cannot be avoided. HPTPs will also provide details and specifications for actions consisting of mitigation measures to resolve adverse effects. See Attachment J-1 for the Draft MOA and Attachment 3 of the Draft MOA for draft HPTPs prepared by US Wind.

As part of the NRHP Section 106 process, US Wind has committed to the following measures to avoid, minimize, or mitigate adverse effects, as conditions of approval of the COP:

1. Painting the WTGs, no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey in accordance with *Federal Aviation Administration Advisory Circular 70/7460-1M* (Federal Aviation Administration 2020) and BOEM's (2021b) *Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development* to minimize daytime visibility.
2. Installing an ADLS to reduce the duration of nighttime lighting. The system would activate aviation warning lights only when an aircraft is in the vicinity of the Lease Area. Although a dark nighttime sky is a not contributing element to historical integrity for any of the historic properties, ADLS would greatly reduce FAA obstruction lighting during Proposed Action O&M to approximately 0.1 percent of annual nighttime hours (Capitol Airspace Group 2023).
3. Conducting archaeological monitoring of construction activities in areas of moderate or high archaeological sensitivity in the terrestrial archaeological APE, including **REDACTED**.
4. [Additional measures to mitigate Site **REDACTED** pending revised HPTP submittal]
5. Preparation of an Archaeological Historic Property Protection Plan for Site **REDACTED** which will document agreed upon measures to protect the site during ongoing Operations and Maintenance at the US Wind substations and surrounding property which US Wind is acquiring.
6. Avoidance measures, including 50-meter buffers around the ASLFs.
7. Micro-siting to avoid identified paleo features as follows:
  - a. WTG locations UA-01 and UA-03 (formerly A1 and C1)
    - i. US Wind would shift all turbines within the "UA row," i.e., UA-01, UA-02, UA-03, and UA-04, to the north and northeast up to 5% of the inter-turbine spacing distance (+/- 75 meters in the east-west direction, and about 95 meters in the north-south direction). Shifting the positions of the entire row would maintain orientation relative to other positions in the other columns of WTG locations.

- ii. US Wind currently estimates shifting the WTG locations by 30 meters to the north-northeast of the previously planned locations, which would entirely avoid impacting the buffered feature areas.
  - b. WTG location UD-03 (formerly C4)
    - i. US Wind would shift the WTG foundation at UD-03 up to 5% of the inter-turbine spacing distance (+/- 75 meters in the east-west direction, and about 95 meters in the north-south direction)
    - ii. US Wind currently estimates shifting the WTG location 35 meters to the east of the previously planned location, which would entirely avoid impacting the buffered feature area.
- 8. Prepare a Terrestrial Post-Review Discovery Plan (PRDP) for outlining the protocol/steps for dealing with potential unanticipated discoveries of cultural resources, including archaeological resources and human remains.
- 9. Prepare a Marine Post-Review Discovery Plan outlining the protocol/steps for dealing with potential unanticipated discoveries of cultural resources, including archaeological resources and human remains.

The NHPA Section 106 consultation process is ongoing for the Proposed Action and will culminate in an MOA (see Attachment J-1) detailing avoidance, minimization, and mitigation measures to resolve adverse effects on historic properties to which the consulting parties agree. BOEM will continue to consult in good faith with the Delaware, Maryland, New Jersey, and Virginia State Historic Preservation Offices and other consulting parties to resolve adverse effects.

## J.7 References

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Attachment J-1. Memorandum of Agreement (provided under separate cover)